MP200STDVI

OWNER'S MANUAL

4/2017

WARNING:

Read carefully and understand all **ASSEMBLY AND OPERATION**

INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

MATCO TOOLS

EFFECTIVE APRIL 1, 2015

LIMITED WARRANTY

This warranty applies to the original purchaser and is subject to the terms and conditions listed below. This Limited Warranty is for new equipment sold after the above date, providing coverage for defects in material and workmanship at the time it is shipped from the factory.

Limited to the warranty periods below, MATCO TOOLS will repair or replace the item under warranty that fails due to defects in material and workmanship. MATCO TOOLS must be notified within 30 days of the failure, so as to provide instructions on how to proceed with the repair of your welder and warranty claim processing. Warranty period begins at the time the welder is purchased from an Authorized MATCO TOOLS distributor. **Keep your receipt as proof of purchase.**

Warranty Periods

Limited Warranty is divided into three categories. No Warranty, 1 year and 3 year.

No Warranty

Normal wear items, MIG gun parts (contact tips, nozzle, contact tip adapter, MIG gun liner), drive roll, electrode holder, ground clamps, and plasma torch parts (nozzle, electrode, diffuser, cover) are considered consumable items and are not covered under warranty.

1 Year Accessories Warranty

Parts and Labor on MIG gun parts (except those listed under normal wear items), cables, regulator, and plasma torch (except those listed under normal wear items) are covered for 1 year. Any shipping related to warranty repair is the responsibility of the customer.

1 Year/3 Year Welder Warranty

Please see your product information to determine if your product has a 1 year or 3 year warranty. This warranty covers Parts and Labor on items such as: transformer, reactor, rectifier, solenoid valve, PC board, switches, controls, gas valve, drive motor, drive system other than drive roll and any other component that requires the removal of the sheet metal to access. Any shipping related to warranty repair is the responsibility of the customer.

Voiding Warranty

Warranty does not apply to: shipping damage, misuse and abuse of the unit and alteration of the unit in any way.

Warranty Claim

This is a Parts and Labor warranty. **Contact the MATCO TOOLS distributor you purchased the unit from**. Retain your receipt in the case a warranty claim is needed. No warranty will be provided without the original receipt from an authorized MATCO TOOLS distributor. To make a warranty claim, contact your MATCO TOOLS distributor. That MATCO TOOLS distributor will contact the customer service department for warranty instructions.

GENERAL SAFETY RULES

 **WARNING: Read and understand all instructions.** Failure to follow all instructions listed below may result in serious injury or death.

 **CAUTION: Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of how this unit works.**

 **WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur.** It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY CONSIDERATIONS

1.1 Your Welding Environment

- Keep the environment you will be welding in free from flammable materials.
- Always keep a fire extinguisher accessible to your welding environment.
- Always have a qualified person install and operate this equipment.
- Make sure the area is clean, dry and ventilated. Do not operate the welder in humid, wet or poorly ventilated areas.
- Always have your welder maintained by a qualified technician in accordance with local, state and national codes.
- Always be aware of your work environment. Be sure to keep other people, especially children, away from you while welding.
- Keep harmful arc rays shielded from the view of others.
- Mount the welder on a secure bench or cart that will keep the welder secure and prevent it from tipping over or falling.

1.2 Your Welder's Condition

- Check ground cable, power cord and welding cable to be sure the insulation is not damaged. Always replace or repair damaged components before using the welder.
- Check all components to ensure they are clean and in good operating condition before use.

1.3 Use of Your Welder

⚠ CAUTION

Do not operate the welder if the output cable, electrode, torch, wire or wire feed system is wet. Do not immerse them in water. These components and the welder must be completely dry before attempting to use them.

- Follow the instructions in this manual.
- Keep welder in the off position when not in use.
- Connect ground lead as close to the area being welded as possible to ensure a good ground.
- Do not allow any body part to come in contact with the welding wire if you are in contact with the material being welded, ground or electrode from another welder.

- Do not weld if you are in an awkward position. Always have a secure stance while welding to prevent accidents. Wear a safety harness if working above ground.
- Do not drape cables over or around your body.
- Wear a full coverage helmet with appropriate shade (see ANSI Z87.1 safety standard) and safety glasses while welding.
- Wear proper gloves and protective clothing to prevent your skin from being exposed to hot metals, UV and IR rays.
- Do not overuse or overheat your welder. Allow proper cooling time between duty cycles.
- Keep hands and fingers away from moving parts and stay away from the drive rolls.
- Do not point MIG gun at any body part of yourself or anyone else.
- Always use this welder in the rated duty cycle to prevent excessive heat and failure.

1.4 Specific Areas of Danger, Caution or Warning

Electrical Shock

⚠WARNING

Electric arc welders can produce a shock that can cause injury or death. Touching electrically live parts can cause fatal shocks and severe burns. While welding, all metal components connected to the wire are electrically live. Poor ground connections are a hazard, so secure the ground lead before welding.

- Wear dry protective apparel: coat, shirt, gloves and insulated footwear.
- Insulate yourself from the work piece. Avoid contacting the work piece or ground.
- Do not attempt to repair or maintain the welder while the power is on.
- Inspect all cables and cords for any exposed wire and replace immediately if found.
- Use only recommended replacement cables and cords.
- Always attach ground clamp to the work piece or work table as close to the weld area as possible.
- Do not touch the welding wire and the ground or grounded work piece at the same time.
- Do not use a welder to thaw frozen pipes.

Fumes and Gases

⚠WARNING

-Fumes emitted from the welding process displace clean air and can result in injury or death.

- Do not breathe in fumes emitted by the welding process. Make sure your breathing air is clean and safe.
- Work only in a well-ventilated area or use a ventilation device to remove welding fumes from the environment where you will be working.
- Do not weld on coated materials (galvanized, cadmium plated or containing zinc, mercury or barium). They will emit harmful fumes that are dangerous to breathe. If necessary, use a ventilator/respirator with air supply or remove the coating from the material in the weld area.
- The fumes emitted from some metals when heated are extremely toxic. Refer to the material safety data sheet for the manufacturer's instructions.
- Do not weld near materials that will emit toxic fumes when heated. Vapors from cleaners, sprays and degreasers can be highly toxic when heated.

UV and IR Arc Rays

⚠ DANGER

The welding arc produces ultraviolet (UV) and infrared (IR) rays that can cause injury to your eyes and skin. Do not look at the welding arc without proper eye protection.

- Always use a helmet that covers your full face from the neck to top of head and to the back of each ear.
- Use a lens that meets ANSI standards and safety glasses. For welders under 160 amps output, use a shade 10 lens; for above 160 amps, use a shade 12. Refer to the ANSI standard Z87.1 for more information.
- Cover all bare skin areas exposed to the arc with protective clothing and shoes. Flame-retardant cloth or leather shirts, coats, pants or coveralls are available for protection.
- Use screens or other barriers to protect other people from the arc rays emitted from your welding.
- Warn people in your welding area when you are going to strike an arc so they can protect themselves.

Fire Hazards

⚠WARNING

Do not weld on containers or pipes that contain or have had flammable, gaseous or liquid combustibles in them. Welding creates sparks and heat that can ignite flammable and explosive materials.

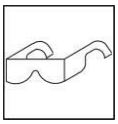
- Do not operate an electric arc welder in areas where flammable or explosive materials are present.
- Remove all flammable materials within 35 feet of the welding arc. If removal is not possible, tightly cover them with fireproof covers.
- Take precautions to ensure that flying sparks do not cause fires or explosions in hidden areas, cracks or areas you cannot see.
- Keep a fire extinguisher close in the case of fire.
- Wear garments that are oil-free with no pockets or cuffs that will collect sparks.
- Do not have on your person any items that are combustible, such as lighters or matches.
- Keep work lead connected as close to the weld area as possible to prevent any unknown, unintended paths of electrical current from causing electrical shock and fire hazards.
- To prevent any unintended arcs, cut wire back to stick out ¼" after welding.

Hot Materials

⚠ CAUTION

Welded materials are hot and can cause severe burns if handled improperly.

- Do not touch welded materials with bare hands.
- Do not touch MIG gun nozzle after welding until it has had time to cool down.



Sparks/Flying Debris

⚠ CAUTION

Welding creates hot sparks that can cause injury. Chipping slag off welds creates flying debris.

- Wear protective apparel at all times: ANSI-approved safety glasses or shield, welder's hat and ear plugs to keep sparks out of ears and hair.

Electromagnetic Field

⚠ CAUTION

- Electromagnetic fields can interfere with various electrical and electronic devices such as pacemakers.

- Consult your doctor before using any electric arc welder or cutting device.
- Keep people with pacemakers away from your welding area when welding.
- Do not wrap cable around your body while welding.
- Wrap MIG gun and ground cable together whenever possible.
- Keep MIG gun and ground cables on the same side of your body.

Shielding Gas Cylinders Can Explode

⚠WARNING

High pressure cylinders can explode if damaged, so treat them carefully.

- Never expose cylinders to high heat, sparks, open flames, mechanical shocks or arcs.
- Do not touch cylinder with MIG gun.
- Do not weld on the cylinder.
- Always secure cylinder upright to a cart or stationary object.
- Keep cylinders away from welding or electrical circuits.
- Use the proper regulators, gas hose and fittings for the specific application.
- Do not look into the valve when opening it.
- Use protective cylinder cap whenever possible.

1.5 Proper Care, Maintenance and Repair

⚠ DANGER

- Always have power disconnected when working on internal components.
- Do not touch or handle PC board without being properly grounded with a wrist strap. Put PC board in static proof bag to move or ship.
- Do not put hands or fingers near moving parts such as drive rolls of fan**.**

USE AND CARE

- **Do not modify this unit in any way.** Unauthorized modification may impair the function and/or safety and could affect the life of the equipment. There are specific applications for which this unit was designed.
- **Always check for damaged or worn out parts before using this unit.** Broken parts will affect the operation. Replace or repair damaged or worn parts immediately.
- **Store idle.** When this unit is not in use, store it in a secure place out of the reach of children. Inspect it for good working condition prior to storage and before re-use.

TECHNICAL SPECIFICATIONS

Item	Description
Power Supply	120V, 20A, 50/60 Hz, Single Phase
	230V, 40A, 50/60 Hz, Single Phase
No-Load Voltage	82V DC
Output Range	15 to 75A DC with 120V Input Power
	15 to 200A DC with 230V Input Power
Duty Cycle	100% @ 75A with 120V Input Power
	15% @ 200A with 230V Input Power
Suggested Electrodes	E6013, E7014, E7018, Stainless Steel
Electrode Diameter	1/16" to 5/32"
Dimensions	17-3/4" x 9-5/8" x 15-1/2"
Weight	11-1/4 lb.

DESCRIPTION

The MATCO TOOLS MP200STDVI is a dual input voltage, DC only, inverter stick welder with an exceptionally smooth DC stick welding performance. It's intended for welding steel, stainless steel, cast iron, and hard surfacing, using electrodes from 1/16 inch to 5/32 inch. This unit can also perform lift start DC TIG welding on steel and stainless steel materials with the optional TIG Torch MATACTT2. Argon shielding gas along with a regulator, gas hose, and TIG filler rod is also required for TIG welding. The MATCO TOOLS MP200STDVI uses leading edge Inverter Technology to provide high quality welds that are crisp, clean, and consistent with plenty of power and will impress the most experienced of welders. The Inverter Technology is evident from the moment you take this unit out of the box. One of the many advantages of inverter technology is creating more welding power from a smaller transformer. This unit is intended to be used on a 50 amp 230V AC circuit or 120V, 20A AC circuit, without the use of an extension cord. This unit is supplied with a NEMA Class 6-50P plug and will require a NEMA Class 6-50R receptacle. Do not remove the power plug! Use the supplied 120V adapter when running off 120V power.

POWER INDICATOR LIGHT

In the “OFF” position no power is being supplied to the electrode holder. In the “ON” position power is supplied to the main transformer, control circuit and weld output is being supplied to the electrode holder.

ALARM INDICATOR LIGHT

If the duty cycle of the welder is exceeded, the internal temperature will exceed safe temperatures and the machine will shut down. The thermal overload light will come on indicating this. Leave the unit on and allow 15 minutes for cool down before the light will go off and the temperature to fall into an allowable operating range.

DIGITAL AMPERAGE DISPLAY

Digital meter provides welding amperage while welding.

PROCESS SELECTOR SWITCH

When DC stick welding, the switch will be in the "stick" position (Left). When performing Lift Start DC TIG welding, this switch will be in the TIG position (Right).

POSITIVE WELD OUTPUT CONNECTOR

This is the connector for the electrode holder and cable, most often, when STICK welding. When this machine is used for TIG welding, this connector is for the grounding cable.

NEGATIVE WELD OUTPUT CONNECTOR

This is the connector for the ground cable and clamp, most often, when STICK welding. When this machine is used for TIG welding, this connector is for the TIG torch.

ELECTRODE HOLDER AND CABLE

The Electrode Holder holds the stick welding electrode. The cable most often connects to the Positive (+) weld output connection for stick welding.

GROUND CABLE AND CLAMP

The ground cable and clamp are attached to the work piece to complete the circuit allowing the flow of current needed to weld.

WELDING AMPERAGE CONTROL

This front panel adjustment allows you to adjust the welder amperage output.

INSTALLATION

Electrical Shock

⚠WARNING

• High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle. This welder must be grounded while in use to protect the operator from electrical shock.

• Do not remove grounding prong or alter the plug in any way. Use only the supplied adapter between the welder's power cord and the power source receptacle. Make sure the POWER switch is OFF when connecting your welder's power cord directly to a properly grounded 230 VAC, 60 Hz, single phase, 50 amp input power supply. Or, when using the supplied adapter, connect the 120V adapter to a properly grounded 120V, 20 amp input power supply.

1. POWER REQUIREMENT 230V - AC single phase 230V (200-240V) 50/60 Hz fused with a 50 amp time delayed fuse or circuit breaker is required. DO NOT OPERATE THIS UNIT if the ACTUAL power source voltage is less than 215 volts AC or greater than 240 volts AC. This unit is supplied with a NEMA Class 6-50P plug and will require a NEMA Class 6-50R receptacle.
2. POWER REQUIREMENT 120V - AC single phase 120V (110-130V) 50/60 Hz fused with a 20 amp time delayed fuse or circuit breaker is required. DO NOT OPERATE THIS UNIT if the ACTUAL power source voltage is less than 110 volts AC or greater than 130 volts AC.
    a. When connecting this unit to 120V power, connect the 120V adapter cord to the power cord pigtail that is attached to the machine.
3. EXTENSION CORD - We do not recommend an extension cord because of the voltage drop they produce. This drop in voltage can affect the performance of the welder. If you need to use an extension cord, it must be a size #12 or larger. Check with a qualified electrician and your local electrical codes for your specific area. Do not use an extension cord over 25 ft. in length.
4. INSTALLATION OF OPTIONAL TIG TORCH
    a. Remove the ground cable and the electrode holder from the weld output connections. Install the ground cable to the Positive (+) weld output connection.
    b. Secure the ground clamp to the work piece
    c. Connect a regulator to a bottle of ARGON gas. Then connect the gas connection from the TIG torch to the regulator.
    d. Connect the TIG torch weld cable to the Negative (-) weld output connection.
    e. Set desired amperage on the amperage control knob on the front panel of the welder.
    f. Turn on the input power switch on the welder.

⚠ CAUTION

Be aware that the TIG torch will be electrically HOT when the Input Power Switch on the welder is turned on.

g. Turn on the regulator on the bottle of shielding gas and adjust the regulator to approximately 20 CFH. Then open the shielding gas valve on the torch to start the flow of shielding gas.

⚠WARNING

EXPOSURE TO A WELDING ARC IS EXTREMELY HARMFUL TO THE EYES AND SKIN! Prolonged exposure to the welding arc can cause blindness and burns. Never strike an arc or begin welding until you are adequately protected. Wear flame-proof welding gloves, a heavy long sleeved shirt, trousers without cuffs, high topped shoes, and an ANSI approved welding helmet.

h. Touch the tungsten that is installed in the TIG torch, to the work piece and quickly pull away approximately 1/4" to create an arc.

DC STICK OPERATION

⚠WARNING

• High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle. This cutter must be grounded while in use to protect the operator from electrical shock.

• Do not remove grounding prong or alter the plug in any way. Use only the supplied adapter between the welder's power cord and the power source receptacle. Make sure the POWER switch is OFF when connecting your plasma cutter's power cord directly to a properly grounded 230 VAC, 60 Hz, single phase, 50 amp input power supply. Or, when using the supplied adapter, connect the 120V adapter to a properly grounded 120V, 20 amp input power supply.

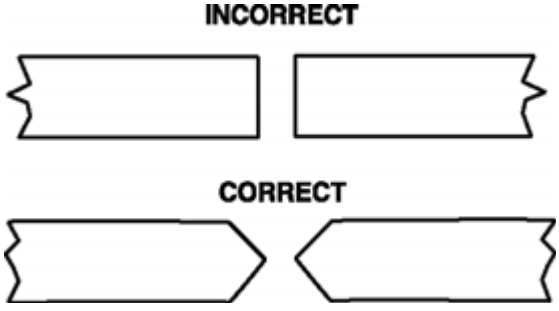
1. SETTING UP THE WORK PIECE

1.1 Welding positions:

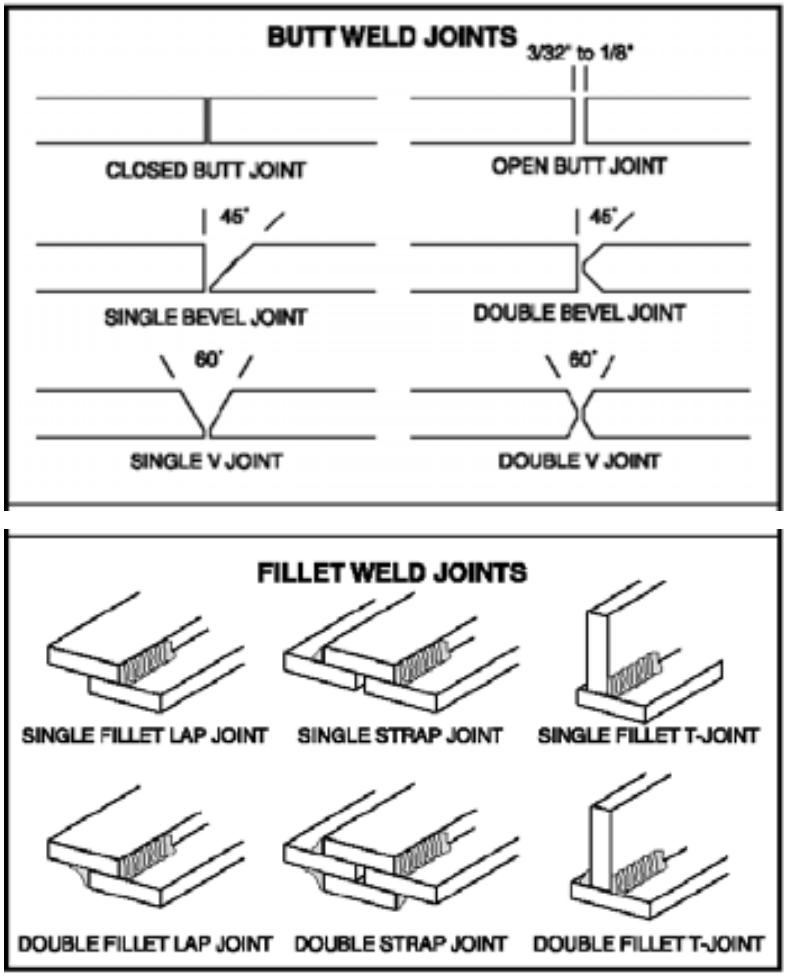
There are two basic positions, for welding: Flat and Horizontal. Flat welding is generally easier, faster, and allows for better penetration. If possible, the work piece should be positioned so that the bead will run on a flat surface.

1.2 Preparing the joint:

Before welding, the surface of work piece needs to be free of dirt, rust, scale, oil or paint or it will create brittle and porous welds. If the base metal pieces to be joined are thick or heavy, it may be necessary to bevel the edges with a metal grinder. The correct bevel should be around 60 degrees. See following picture:



Based on different welding positions, there are different welding joints. See following images for more information.



2. GROUND CLAMP CONNECTION

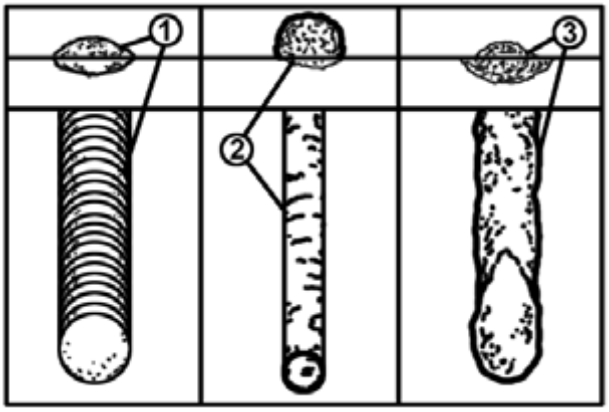
Clear any dirt, rust, scale, oil or paint on the ground clamp. Make certain you have a good solid ground connection. A poor connection at the ground clamp will waste power and heat. Make sure the ground clamp touches the metal.

3. ELECTRODE

The welding electrode is a rod coated with a layer of flux. When welding, electrical current flows between the electrode (rod) and the grounded metal work piece. The intense heat of the arc between the rod and the grounded metal melts the electrode and the flux.

4. SELECTING THE PROPER ELECTRODE

There is no golden rule that determines the exact rod or heat setting required for every situation. The type and thickness of metal and the position of the work piece determine the electrode type and the amount of heat needed in the welding process. Heavier and thicker metals required more amperage. It is best to practice your welds on scrap metal which matches the metal you intend to work with to determine correct heat setting and electrode choice. See the following helpful trouble shooting tips to determine if you are using a correct electrode.



4.1. When proper rod is used:

4.1.a. The bead will lay smoothly over the work without ragged edges

4.1.b. The base metal puddle will be as deep as the bead that rises above it

4.1.c. The welding operation will make a crackling sound similar to the sound of eggs frying

4.2. When a rod too small is used:

4.2. a. The bead will be high and irregular

4.2. b. The arc will be difficult to maintain

4.3. When the rod is too large:

4.3. a. The arc will burn through light metals

4.3. b. The bead will undercut the work

4.3. c. The bead will be flat and porous

4.3. d. Rod may freeze or stick to work piece

Note: Rate of travel over the work also affects the weld. To ensure proper penetration and enough deposit of rod, the arc must be moved slowly and evenly along the weld seam.

5. SETTING THE AMPERAGE CONTROL

The welder has current control that is infinitely adjustable within its range. It is capable of welding with electrodes up to 3/32” diameter. There is no golden rule that determines the exact amperage required for every situation. It is best to practice your welds on scrap metal which matches the metals you intend to work with to determine correct setting for your job. The electrode type and the thickness of the work piece metal determine the amount of heat needed in the welding process. Heavier and thicker metals require more voltage (amperage), whereas lighter and thinner metals require less voltage (amperage). Consult the welding electrode packaging for recommended welding amperage range.

6. WELDING TECHNIQUES

The best way to teach yourself how to weld is with short periods of practice at regular intervals. All practice welds should be done on scrap metal that can be discarded. Do not attempt to make any repairs on valuable equipment until you are satisfied that the appearance of your practice welds are of good appearance and free of slag or gas inclusions.

6.1 Holding the electrode

The best way to grip the electrode holder is the way that feels most comfortable to you. Position the electrode to the work piece when striking the initial arc, it may be necessary to hold the electrode perpendicular to the work piece. Once the arc is started, the angle of the electrode in relation to the

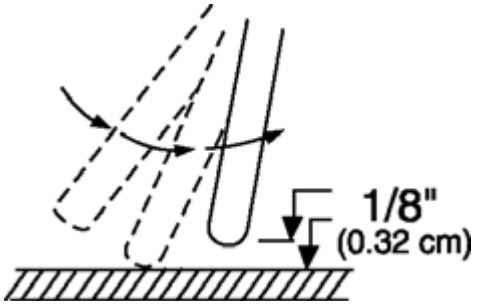
work piece should be between 10 and 30 degrees. This will allow for good penetration, with minimal spatter.

6.2 Striking the arc:

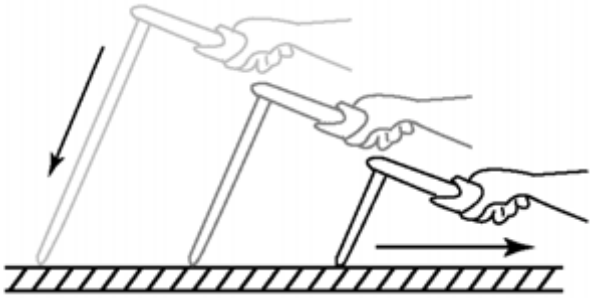
⚠WARNING

EXPOSURE TO A WELDING ARC IS EXTREMELY HARMFUL TO THE EYES AND SKIN! Prolonged exposure to the welding arc can cause blindness and burns. Never strike an arc or begin welding until you are adequately protected. Wear flame-proof welding gloves, a heavy long sleeved shirt, trousers without cuffs, high topped shoes, and an ANSI approved welding helmet.

Scratch the work piece with the end of electrode to start arc and then raise it quickly about 1/8 inch gap between the rod and the work piece. See following picture



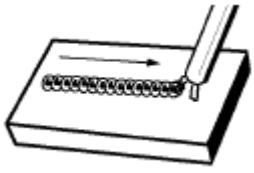
It is important that the gap be maintained during the welding process and it should be neither too wide nor too narrow. If too narrow, the rod will stick to the work piece. If too wide, the arc will be extinguished. It needs much practice to maintain the gap. Beginners may get stuck or arc will be extinguished. When the rod is stuck to the work piece, gently rock it back and forth to make them separate. If not, a short circuit will occur and it will break the welder. A good arc is accompanied by a crisp, cracking sound. The sound is similar to that made by eggs frying. To lay a weld bead, only 2 movements are required; downward (as the electrode is consumed) and in the direction the weld is to be laid, as in following figure:



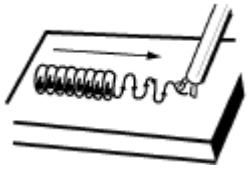
6.3 Types of weld bead:

The following paragraphs discuss the most commonly used arc welding beads.

The stringer bead**:** Formed by traveling with the electrode in a straight line while keeping the electrode centered over the weld joint.



Stringer Bead

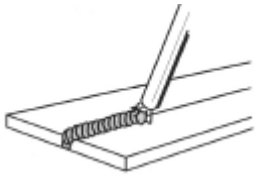


Weave Bead

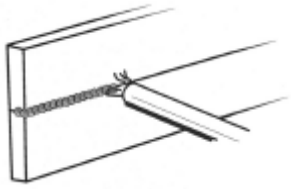
The weave bead: Used when you want to deposit metal over a wider space than would be possible with a stringer bead. It is made by weaving from side to side while moving with the electrode. It is best to hesitate momentarily at each side before weaving back the other way.

6.4 Welding position

Flat position: It is easiest of the welding positions and is most commonly used. It is best if you can weld in the flat position if at all possible as good results are easier to achieve.



Flat Position

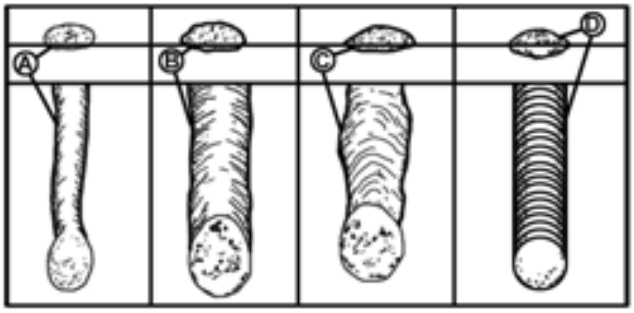


Horizontal Position

The horizontal position: it is performed very much the same as the flat weld except that the angle is different such that the electrode, and therefore the arc force, is directed more toward the metal above the weld joint. This more direct angle helps prevent the weld puddle from running downward while still allowing slow enough travel speed to achieve good penetration. A good starting point for your electrode angle is about 30 degrees DOWN from being perpendicular to the work piece.

6.5 Judge the good weld bead:

When the trick of establishing and holding an arc has been learned, the next step is learning how to run a good bead. The first attempts in practice will probably fall short of acceptable weld beads. Too long of an arc will be held or the travel speed will vary from slow to fast (see following).



A. Weld speed is too fast
B. Weld speed is too slow
C. Arc is too long
D. Ideal weld

A solid weld bead requires that the electrode be moved slowly and steadily along the weld seam. Moving the electrode rapidly or erratically will prevent proper fusion or create a lumpy, uneven bead.

⚠WARNING

ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH! To prevent ELECTRIC SHOCK, do not perform any welding while standing, kneeling, or lying directly on the grounded workpiece.

6.6 Finish the bead

As the coating on the outside of the electrode burns off, it forms an envelope of protective gases around the weld. This prevents air from reaching the molten metal and creating an undesirable

chemical reaction. The burning coating, however, forms slag. The slag formation appears as an accumulation of dirty metal scale on the finished weld. Slag should be removed by using a chipping hammer.

⚠WARNING

PEENING THE SLAG FROM A WELD JOINT CAUSES SMALL CHIPS OF METAL TO FLY THROUGH THE AIR! Metallic chips flying through the air can cause eye injury or injury to other parts of the head, hands or exposed portions of the body. Wear goggles or safety glasses with side shields and protect the hands and other exposed parts of the body with protective garments, or if possible, work with a shield between the body and the work piece.

The intense heat produced at the arc sets up strains in the metal joined by welding. Peening the weld not only removes the scale left behind in the welding but relieves the internal strains developed by the heating and cooling process.

DC TIG OPERATION

⚠WARNING

High voltage danger from power source! Consult a qualified electrician for proper installation of receptacle at the power source. This welder must be grounded while in use to protect the operator from electrical shock. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician. Do not cut off the grounding prong or alter the plug in any way and do not use any adapter between the welder's power cord and the power source receptacle. Make sure the POWER switch is OFF then connect your welder's power cord to a properly grounded 120 VAC, 60 Hz, single phase, 20 amp power source.

⚠WARNING

EXPOSURE TO A WELDING ARC IS EXTREMELY HARMFUL TO THE EYES AND SKIN! Prolonged exposure to the welding arc can cause blindness and burns. Never strike an arc or begin welding until you are adequately protected. Wear flame-proof welding gloves, a heavy long sleeved shirt, trousers without cuffs, high topped shoes, and an ANSI approved welding helmet.

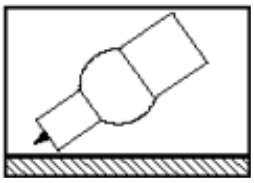
⚠ CAUTION

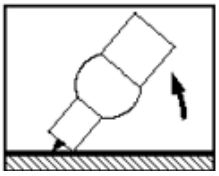
Be aware that the TIG torch will be electrically LIVE when the Input Power Switch on the welder is turned on.

1. Remove the ground cable and the electrode holder from the weld output connections. Install the ground cable to the Positive (+) weld output connection.
2. Secure the ground clamp to the work piece.
3. Connect a regulator to a bottle of ARGON gas. Then connect the gas connection from the TIG torch to the regulator.
4. Connect the TIG torch weld cable to the Negative (-) weld output connection.
5. Set desired amperage on the amperage control knob on the front panel of the welder.
6. Turn on the input power switch on the welder.

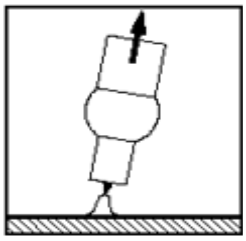
7. Turn on the regulator on the bottle of shielding gas and adjust the regulator to approximately 20 CFH. Then open the shielding gas valve on the torch to start the flow of shielding gas.
8. Follow these steps for striking an arc while TIG welding.

1. Open the shielding gas valve on the torch handle to begin gas flow.
2. Rest the TIG torch nozzle on the work piece making sure to not touch the installed tungsten electrode.





3. Twist the torch to make contact between the work piece and the tungsten.
4. Lift torch away from the work piece about 1/8 inch.



5. Move down the joint to be welded by pushing the torch.
6. Insert filler metal in the leading edge of the weld puddle as needed.

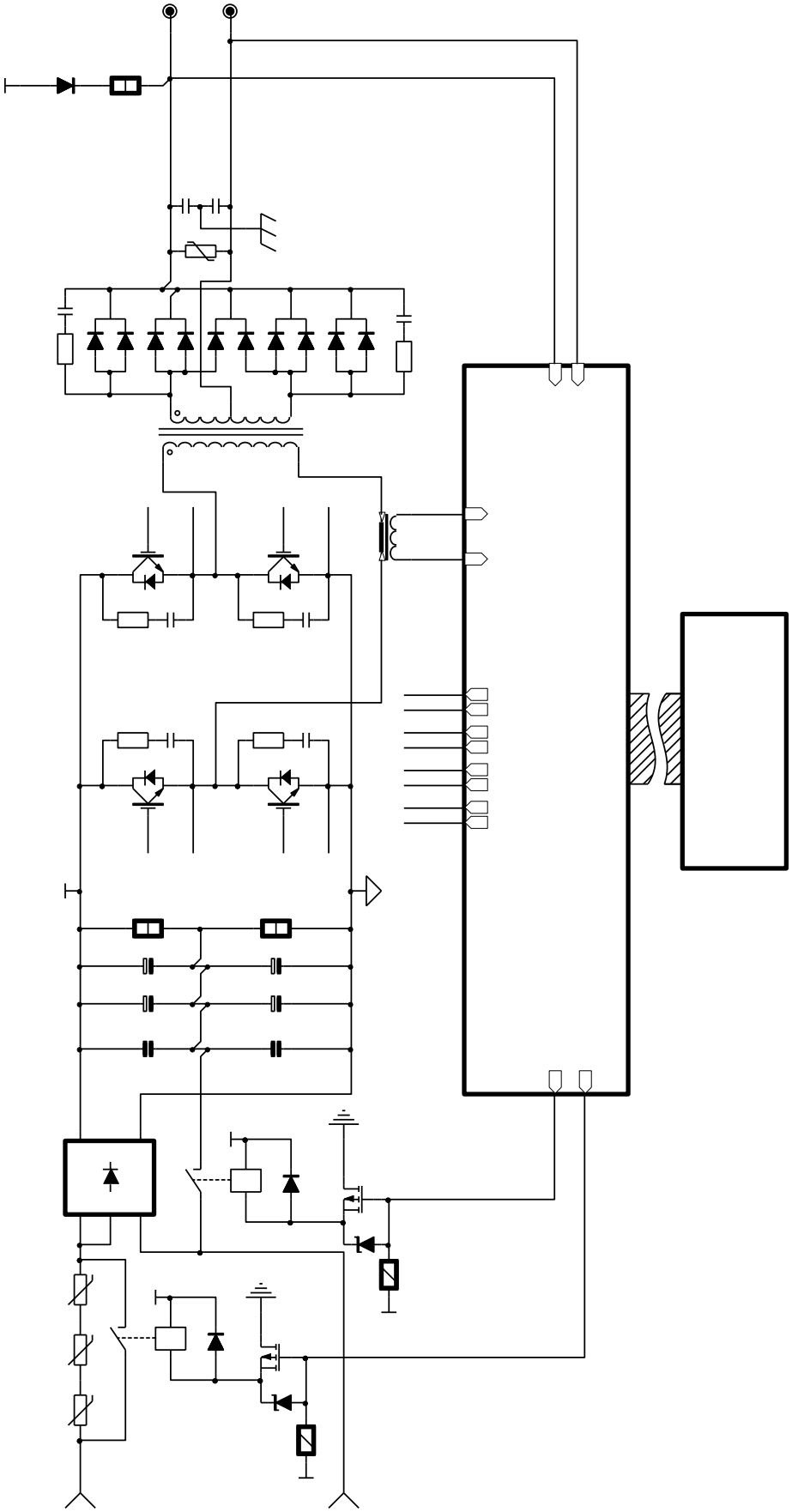
MAINTENANCE

- **Maintain your MATCO TOOLS MP200STDVI.** It is recommended that the general condition of any welder be examined before it is used. Keep your **MATCO TOOLS MP200STDVI** in good repair by adopting a program of conscientious repair and maintenance. Have necessary repairs made by qualified service personnel.
- Periodically clean dust, dirt, grease, etc. from your welder.
- Every six months, or as necessary, remove the cover panel from the welder and air-blow any dust and dirt that may have accumulated inside the welder.
- Replace power cord, ground cable, ground clamp, or electrode assembly when damaged or worn.

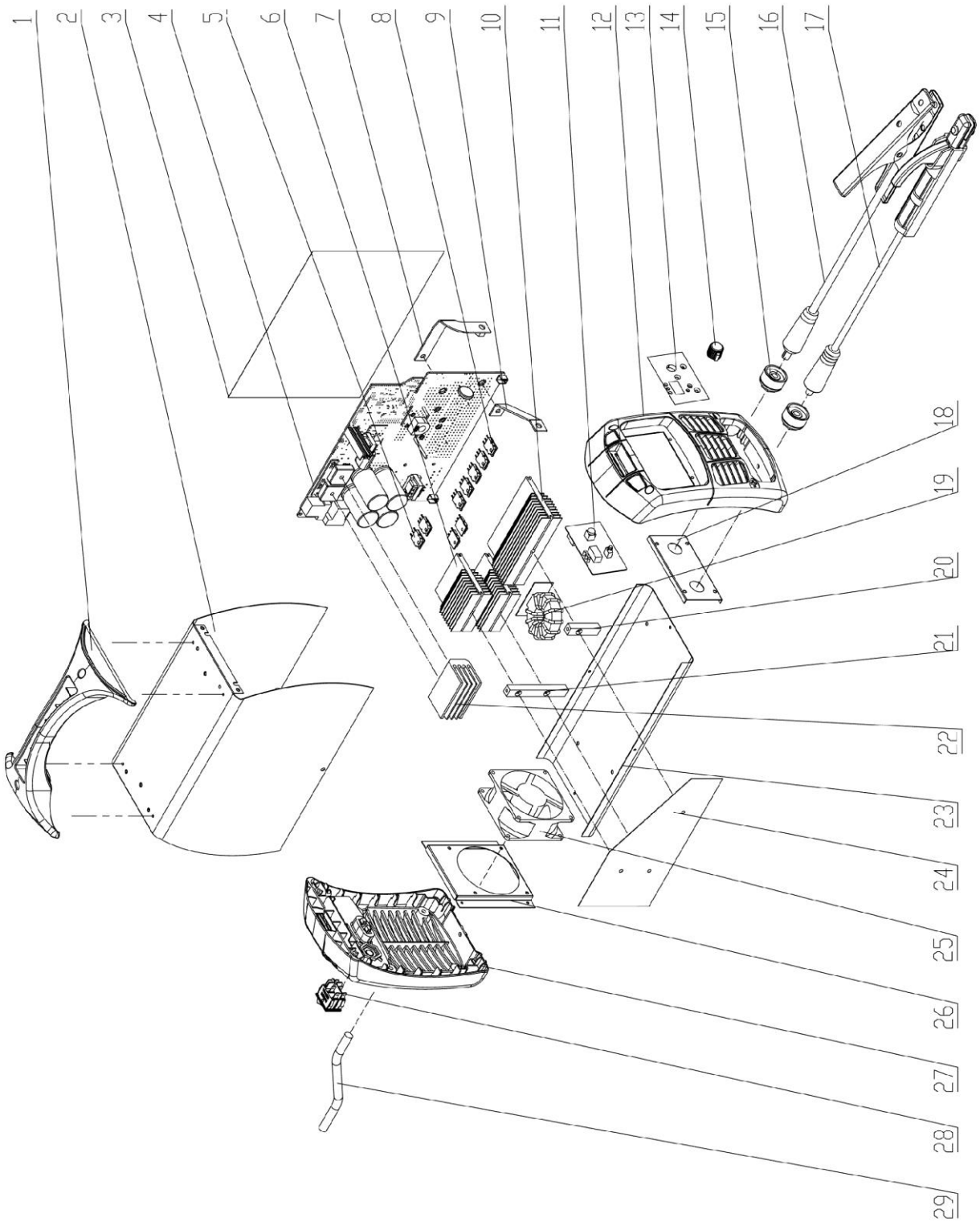
TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit does not power up	Unit is not plugged in	Plug in unit
	Input power circuit breaker is not on	Reset input power circuit breaker
	The main power switch is not working	Replace main power switch
Protection indicator is on	The internal temperature is too high	Leave power on and let the fan cool the unit. Output will continue when the unit has cooled
	Input power voltage is high or too low	Meter input power voltage. This unit must be used with input voltage that ranges from 230V AC plus or minus 15%
	Cooling fan is damaged	Replace the cooling fan
Can not create an arc	Work piece is painted or rusty	Remove all paint and rust
	Ground clamp is connected where there is paint or rust	Remove all paint and rust so ground clamp is connected to bare metal
	Ground clamp is not electrically connected to the work piece	Make certain the ground clamp in connected to the work piece
	The process selector switch is in the wrong position	Make certain the Stick/TIG selector switch is in the STICK position.
Electrode holder or ground cable is getting hot. Output connections are getting hot	Weld cable connections are loose	Check to make certain weld cables are tight
	Weld cable connections have corroded	Clean weld connections and reinstall
Poor welding performance, excessive spatter	Damp electrode	Use fresh and dry electrodes
Electrode sticks	The electrode is kept in contact with the work piece for too long while striking an arc	This will take practice. Keep trying
Welding bead is too thin	The welding travel speed is too fast	Reduce the welding travel speed. Maybe incorporate a slight weave over the joint
Welding bead is too thick	The welding travel speed is to slow	Increase the welding travel speed
For Assistance, Contact The Welder Helpline at 855-920-2399		

MAIN CIRCUIT CHART



SPARE PARTS LIST



Reference	Part Number	Item Description	Quantity
1	105400169	HANDLE	1
2	165200023	ENCLOSURE	1
	165200028	MATCO WELDER HELP LABEL	1
	105300039	WARNING LABEL	1
3	105300040	INSULATION BOARD	1
4	105300041	MAIN CONTROL PC BOARD	1
5	105300042	IGBT	4
6	105300043	HEAT SINK	2
7	105300044	NEGATIVE OUTPUT BUS BAR	1
8	105300045	DIODE	5
9	105300046	POSITIVE OUTPUT BUS BAR	1
10	105300047	HEAT SINK	1
11	105300048	FRONT PANEL PC BOARD MP200STDVI	1
12	105300075	FRONT PLASTIC BEZEL	1
13	105300076	FRONT PANEL NAMEPLATE SUPPORT	1
	165200024	FRONT PANEL NAMEPLATE MP200STDVI	1
14	105300050	POTENTIOMETER KNOB	1
15	105200058	OUTPUT QUICK CONNECT SOCKET	2
16	105300051	GROUND CABLE AND CLAMP	1
	105300052	GROUND CLAMP ONLY	1
17	105300053	ELECTRODE HOLDER AND CABLE	1
	105300035	ELECTRODE HOLDER ONLY	1
18	105300077	OUTPUT CONNECTION BOARD	1
19	105300055	MAIN TRANSFOMER	1
20	105300056	HEAT SINK SUPPORT	1
21	105300057	HEAT SINK SUPPORT	1
22	105300058	HEAT SINK	1
23	105300078	BOTTOM	1
24	105300060	WIND SHIELD	1
25	105300061	BOX FAN	1
26	105300062	FAN SUPPORT	1
27	105300079	BACK PLASTIC BEZEL	1
28	105200046	INPUT POWER SWITCH	1
29	105200211	INPUT POWER CORD 230V	1
	105200212	INPUT POWER CORD ADAPTER 120V	1
	165200025	OPERATOR'S MANUAL MP200STDVI	1

For Assistance, Contact The Welder Help Line at 855-920-2399

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