MIG Welder

User Manual

RETAIN THIS MANUAL FOR FUTURE REFERENCE

PLEASE READ THIS MANUAL CAREFULLY BEFORE USE

Table of Contents

PREFACE **1**
SAFETY **2**
General 2
Fire Precautions 2
Welding 2
Arc Glare 2
Heat 2
Additional Protective Clothing 3
Important 3
SETTING UP THE WELDER **4**
MMA Function 4
Output Cable Connection 4
Power Cable Connection 4
Checklist 4
MIG Function 5
Feeding the Wire 5
Fitting a Cylinder Mounting Bracket 5
Connecting the Gas Tube to the Regulator 5
Fitting the Gas Regulator to a Disposable Cylinder (Not Supplied) 5
Setting the Gas Flow Regulator 6
Voltage Setting 6
USING THE WELDER **8**
MMA Function 8
MIG Function 8
MAINTENANCE **9**
Welding Cables 9
Torch 9
TROUBLESHOOTING **10**
MMA Function 10
MIG Function 11
SPECIFICATIONS **13**

Preface

Thanks for buying the MIG Welder, another high-quality machine from our company.

To get the most out of your purchase, please read this manual before using the welder.

We ask that you please read this manual carefully beforehand in order to familiarise yourself with this product and after reading, please store this instructional manual for future reference. Failure to follow the proper protocols listed in this manual may cause personal injury to the operator or damage to equipment.

Safety

Before operating the welder, observe the safety instructions as detailed below. Complete the required training before using this welder if you do not have adequate experience.

General

- Electrical repairs must only be carried out by a qualified or approved engineer and only with the welder disconnected from the power supply.
- Never operate the welder with the covers removed.
- The unit must be correctly set up.
- Disconnect the welder from the main supply first before undertaking any servicing or repairs.
- MIG welders are simple and safe to operate under normal circumstances. Do not operate in rainy or damp conditions.
- Do not attempt to lift the welder with the gas cylinder mounted on the rear platform. Always remove the gas cylinder mounted on the rear platform. Always remove the gas cylinder before lifting. (Not applicable to non-gas models).
- Ensure that the welder is on a flat, smooth, level and firm surface before use.
- Check the MIG Welder and accessories for transport damage.

If in any doubt, please seek professional advice.

Fire Precautions

- All flammable materials must be removed from the welding area.
- Do not strike an arc on or near the gas cylinder.
- Do not attempt to weld fuel or gas containers unless adequate procedures have been taken to ensure that no vapour or residue remains. Fuel tanks should be thoroughly steam-cleaned before welding.

Welding

- Toxic gases are given off during the MIG welding process. Always use the welder in a well-ventilated area.

Arc Glare

- Always use a face shield or welding helmet fitted with the correct glass fitter. Never use damaged safety equipment.

Heat

- Wear welding gloves at all times while welding. They will protect the hands from ultra-violet radiation and direct heat from the arc. It is also recommended that overalls should be worn.

Additional Protective Clothing

- When welding at higher settings, wear a leather apron as self-protection from spatter.
- When welding in the overhead position, a suitable cap should be worn to protect the head and neck.
- We recommend that you wear industrial footwear including steel toe caps.

Important

- The welder should never be exposed to rain or snow.
- Do not use the welder in a wet or damp environment.
- Do not use the welder to thaw pipes.

Setting Up the Welder

MMA Function

Output Cable Connection

1. Every machine has been equipped with a pair of fasten plugs, another end of pincer cable is connected to a black fasten plug and another grounding cable pincer is connected to a red fasten plug. They must be tightened by a spanner. Make sure that the secondary cables (holder and grounding cable) are connected to the fasten plugs firmly, or the mobile plug will burn up.
2. After the fasten plug is inserted in the fasten socket, make sure that they have been tightened reliably. Otherwise the plugs and sockets will burn up if they are operated for long periods of time with high current. This is very important!
3. Pay attention to the electrode of the cable. As a DC welding machine, it has two connection methods: positive and negative. A positive connection is when the work piece is connected to the positive electrode and the holder is connected to the negative electrode; the negative connection is when the work piece is connected to the regular electrode and the holder is connected to the positive electrode. Choose the connection method according to the welding process of the work piece. If the wrong choice has been made, it will cause an unstable arc, a lot of spatter and the electrode will stick. On reviewing the fault, try to replace the fasten plugs with each other. User does not think that the welding machine is damaged.

Power Cable Connection

1. Every welding machine has been equipped with a power cable; make sure that the voltage class is adequate according to the input voltage of the machine. If the welding machine of 220V power source is connected to an AC 380V power source, that will cause the machine to go into an over-voltage protection situation .Please turn the power switch off and re-connect it again. The machine can be operated again after 2-3 minutes.
2. Make sure that once the power is connected, coordinate the contact of the power or the socket reliably to prevent it from oxidizing.
3. Measure the voltage amount if it is within a waved arrangement by the AVO meter.

Checklist

1. Welding machine should be grounded reliably according to the required specifications.
2. All contacts and plugs should be connected firmly, especially between the grounding cable pincer and the work piece.
3. Secondary output cable should be firmly connected to the grounding cable.
4. Make sure that the secondary output electrode is correct.
5. If the circuit protect device runs, leakage current must be max. 30A.
6. The spatter from the welding machine can cause fire; make sure that there are no combustible materials in the welding environment.

MIG Function

Feeding the Wire

When fitting a new reel, please adopt the following procedures:

1. Remove the shroud from the torch and unscrew the tip cover.
2. Fit the wire reel onto the spindle. The spring mounting must be correctly fitted.
3. Locate the free end of the wire, which is usually positioned in a hole on the reel rim. Remove the end of the wire from the hole and use sharp wire cutters to remove any distorted wire. Do not allow the wire to become slack on the reel.
4. Hinge back the pressure arm and feed the end of the wire into the hole in the end of the liner. Ensure that the wire is fitted so that it is fed into the wire feed mechanism in a straight line.
5. Fasten the pressure arm and feed the end of the wire is in the groove in the feed roller. Ensure that the correct groove is used depending on the diameter of the wire i.e. one groove is for 0.6mm and the other for 0.8mm.
6. Then reverse the roller, unscrew the two screws securing the roller and the supporting bracket. Remove the bracket. The roller can then be removed from its shaft and reversed.
7. Hold the torch straight. Switch on the machine and operate the torch trigger, the wire feed roller will turn, feeding the wire through the torch.
8. The wire will emerge from the far end of the torch, then feed the tip onto the wire (make sure that the tip is the correct size for the diameter of wire being used), tighten it and replace the shroud.

The welder can be used with a flux wire/CO2 wire.

Fitting a Cylinder Mounting Bracket

To fit the gas cylinder-mounting bracket (if provided), fit the brackets to the rear of the machine.

Connecting the Gas Tube to the Regulator

Connect the gas tube by pushing the free end into the connector on the regulator. If necessary, the tube can be detached again by pushing the tube and the small ring around it into the fitting, and then pulling the tube whilst maintaining pressure on the ring.

Fitting the Gas Regulator to a Disposable Cylinder (Not Supplied)

1. Remove the cover from the cylinder thread, make sure that your eyes are protected, and carefully screw on the regulator. Note, gas will escape until the regulator is fully fitted.
2. Always detach the regulator from the cylinder when you have finished welding. This will avoid small leakages that may occur in time which will empty the cylinder in the long term.

Setting the Gas Flow Regulator

1. Fully turn the control knob clockwise and then turn it back counter-clockwise approximately 1/2 to 1 turn depending on the welding conditions.
2. For the larger MIG welders, a large gas cylinder regulator may be supplied. This regulator may be supplied with a fitting suitable for connecting the regulator to a CO2 and a second suitable for connecting to an Argon/C02 mixed gas cylinder.

Voltage Setting

The machine will have 2 or 4 output settings depending on the model. These are controlled by the rocker switches on the front panel (See Figure 1).

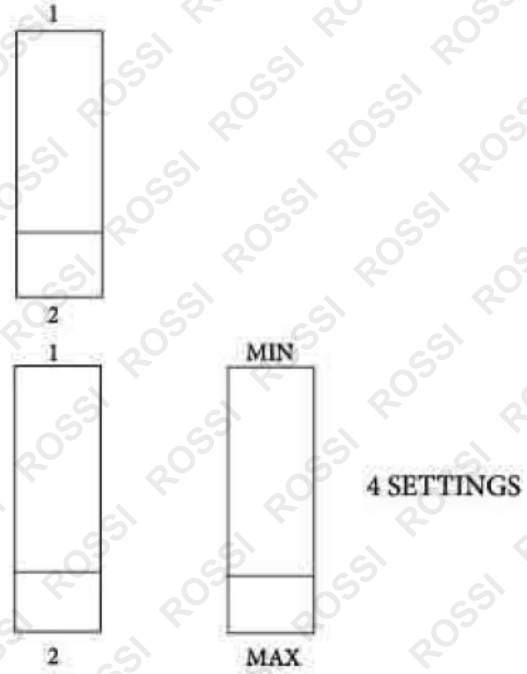


Figure 1

Switching from one setting to another automatically increases/decreases the wire speed and therefore the welding output. On material that are from 0.6mm up to 1.3mm, select "Low" setting(s) and for thicker materials select "High" setting(s).

The speed of the wire feed is automatically adjusted when the output is selected. The wire speed setting control provides fine-turning. (See Figure 2).

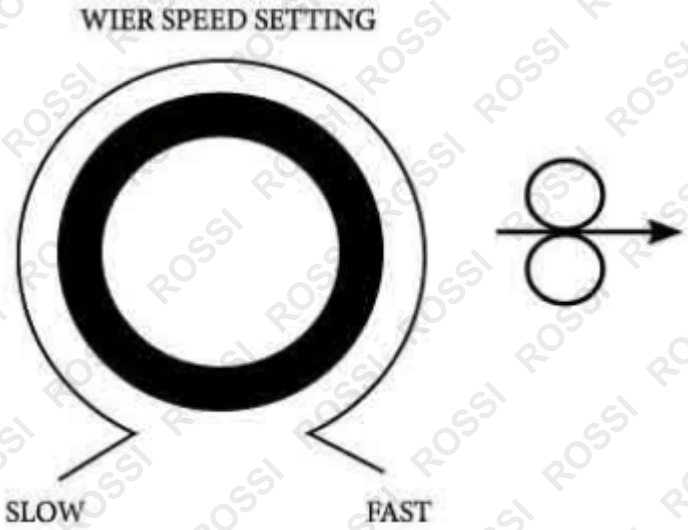


Figure 2

Using the Welder

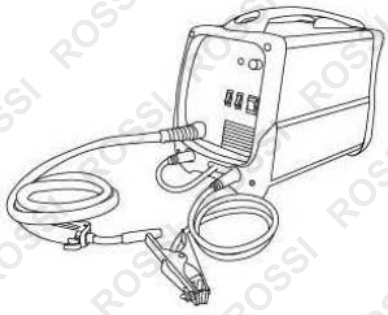
Before welding, ensure that:

- You have read and understood the safety section of this instruction manual.
- All flammable materials and containers have been removed from the work area.
- There is good ventilation, particularly at the front and rear of the welder.
- There are adequate fire-fighting equipment close by.

MMA Function

1. Use the electrode torch in ⊕ , the earth clamp in ⊖.
2. You can use the MMA function to weld materials immediately.

MIG Function



1. Use the plug in ⊕ , the earth clamp in ⊖.
2. You can use the MIG function to weld materials immediately.

Maintenance

Electrical repairs should only be carried out by a qualified or approved engineer.

Welding Cables

Inspect their connections regularly.

Torch

Clean the contact tip and shroud regularly to remove spatter that will eventually disrupt the gas flow. Spraying the tip and shroud with anti-spatter spray can reduce the build-up of spatter. Replace the tip periodically to maintain a good electrical contact between the tip and the wire. Blow clean, dry air through the torch liner from time to time to ensure that the wire passes freely through it. If this has no effect, the liner should then be replaced.

Ensure that the torch lead is held in a straight line and fully extended when feeding the wire through the torch, Otherwise there is a risk of the wire puncturing the wire feed liner and torch hose.

1. Remove any dust with compressed air regularly. If the machine is operated in an environment where there is a lot of dust and smoke, the welding machine must be checked for dust twice every month.
2. Pressure must be adequate to the welding machine in order to protect the little components inside.
3. Check the electric connectors and make sure that the connectors are connected firmly (especially connectors and inserts).Tighten the relaxing connector. If the components have been oxidized, remove the oxides and try re-connecting them again.
4. Avoid water and steam entering into the machine, if the machine has been affected with internal dampness, dry the insides of the machine and check the insulation of the machine.
5. If the machine will not be used for a long time, it must be put in its own storage box and placed in a dry environment.
6. Do not throw and bump the machine.

Troubleshooting

MMA Function

Trouble	Resolvable methods
1. Indicator of power switch is not lighting up, fan is not working and there is no welding output.	1. Make sure that the power switch is close. 2. Make sure that the electric wire net (which is connected to the input cable) is working.
2. Power indicator is lighting up, but fan isn't working and there is no welding output.	1. Probable faulty connection due to 380V power. It can cause the machine to go into protection circuit. Try connecting the machine to a 220V power outlet and operate the machine again. 2. 220V power is not stabilizing (input cable is too thin) or the input cable is connected to the electric wire net, which can cause the machine to go into protection circuit. Increase the section of input cable and tighten the input connector firmly. Close the machine for 2 – 3 minutes, and then open it again. 3. Turn the power switch on and off in a short span of time because the protection circuit is working. Close the machine and open it again after 2 – 3 minutes. 4. Cables are loose between the power switch and the power source board. Tighten them again. 5. Main circuit 24V relay of power source board is not closed and has been damaged. Check both the 24V power source and relay. If the relay is damaged, replace it.
3. Fan is working, but welding current is not stabilizing or out of potential control. Current fluctuates between low and high.	1. Quality of 1K potential has gone bad. Replace it. 2. The terminal of the output has a broken circuit or poor connection.
4. Fan is working and the abnormalities indicator isn't lighting up, but there is no welding output.	1. Check if the components have poor connections. 2. Check if the connector of the output terminal has a broken circuit or a poor connection. 3. Check that the voltage between the power source board and the MOS board (VH-07) is about DC 308V. a. Check if the silicon bridge has a broken circuit and if the cable of the silicon bridge is poorly connected. b. some of the four electrolysis capacitors (about 470uf/450V) is leaking. If so, replace it. 4. If the green indicator is not lighting up in the assistant power of MOS board, please contact the seller and replace it. If there are some questions with regards to the control circuit, please contact the seller and replace it.

Trouble	Resolvable methods
5. Fan is working and the abnormalities indicator is lighting up, but there is no welding output.	1. The over-voltage protection is probably working, turn off the machine and wait. After the abnormalities indicator turns off, turn on the machine. 2. The over-heating protection is probably working; wait for 2 – 3 minutes. 3. The inverter circuit is probably faulty, please pull the power plug of the main transformer (near the VH-07 fan) which is on the MOS board, then turn on the machine again. a. If the abnormalities indicator is still lighting up, some parts of the MOS board are damaged. Check and replace them. b. If the abnormalities indicator is not lighting up: i. The transformer of the middle board is probably damaged. Measure the primary inductance volume and Q volume of the main transformer by the inductance bridge. Primary volume is parallel circuit, L = 1.2 – 2.0Mh, Q > 40. If the inductance and Q volumes are low, replace them. ii. Some of the secondary rectifier tubes of the transformer are probably broken. Check and then replace the rectifier tubes. 4. The feedback circuit is probably faulty.

MIG Function

Problem	Causes	Solution
Weld deposit is too thick	Welding voltage is too low	
	Torch is moving over the work piece too slowly	
Weld deposit is incomplete and stringy	Gas flow is incorrect	
	Torch is moving over the work piece too quickly	
Arc is unstable; excessive spatter and weld porosity	There might be rust, paint or grease on the work piece	
	Torch is held too far from the work piece	
	No gas; check the bottle content, connections and regulator settings	
	Incorrect gas for the material	
Wire repeatedly burns the back	Torch is held too close to the work piece	
	There is a break in the welding circuit. Possible causes:	
	Incorrect size of contact tip for wire	
	Contact tip is damaged	Replace the contact tip

Problem	Causes	Solution
	Feed rollers are worn-out	Replace the feed rollers
	Welding wire is corroded	Replace the welding wire
	Pressure roller adjustment is incorrect	Adjust the pressure roller
	Pressure roller is sticking	
	Wire is tangled on the reel	
Lack of weld penetration	Welding output is too low	
	Wire feed speed is too low	
	Torch moves too fast	
Burning holes on the work piece	Welding output is too high	
	Torch moves erratically or too slowly	
No arc produced	Earth lead or torch cable in the open circuit	
	Poor earth clamp connection	
Welder isn't operating (indicator is not lighting up)	Check the main connection	
	Check the supply fuse	
Welder isn't operating while the trigger is pressed.	Check the torch trigger and its connections	
	Thermal overload has been cut out	Allow it to cool

Specifications

				IEC 60974-1	
	40A/16V-195A/24V				
S	Uo 33V DC	X	10%	60%	100%
		I_2	195A	74A	60A
		U_2	24V	18V	17V
1~50/60Hz	U1 240V		16A	I1max=32A	
IP21S		H		No	

Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death consult the points below and additionally, the information available at www.datastreamserver.com/safety

- Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product.
- Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable).
- Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing.
- Ensure all possible users of the product have completed an industry recognised training course before being given access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example) there is always a small chance of a technical issue that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee or could financially affect the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation.
- If this item has been purchased in error considering the points above simply contact the retailer directly for details of their returns policies if required.

edisons®
.com.au