

MIG WELDING MACHINES

USER'S MANUAL

READ MANUAL CAREFULLY BEFORE USING

MIG WELDING MACHINES

Congratulations on buying your new Wolf Weld MIG Welder. With this welding unit you can now experience many advantages of the MIG welding process. This welder will enable you to obtain a professional finish in welding, car bodywork, and many other thin steel welding processes for which this machine is ideal.

WARRANTY

This welder is fully warranted against manufacturing or component defects for a period of 12 months from the original date of purchase and would be repaired free of charge. The warranty is invalid if there is damage to the unit caused by lack of maintenance, misuse or unauthorised tatapering with it. Consumable items, which are subject to wear and tear including tips, shrouds, liners, and torches, are specifically excluded from the warranty cover.

If your welder develops a fault during the warranty period, it should be returned to where you bought it from together with the original receipt.

SAFETY



BEFORE OPERATING THE WELDER, YOU MUST OBSERVE THE SAFETY NOTICE GIVEN BELOW.

GENERAL

- Electrical repairs must only be carried out by a qualified or approved engineer and only with the welder disconnected from the power supply.
- Operating the welder with the covers removed MUST BE AVOIDED.
- The unit must be correctly set up.
- Disconnect from the mains supply before undertaking servicing or repairs.
- MIG welders are simple and safe to operate under normal circumstances. DO NOT operate in rain or very damp conditions.
- Do not attempt to lift the welder with the gas cylinder mounted on the rear platform. Always remove the gas cylinder before lifting (Not applicable to No Gas models).
- The unit can be used on a sloping flat surface up to 15°. If wheels are fitted, chock the wheels.

IF IN ANY DOUBT PLEASE SEEK OUR PROFESSIONAL ADVICE.

Check the MIG Welder and loose parts and accessories for transport damage.

Save these instructions for future reference.

ROUTINE MAINTENANCE

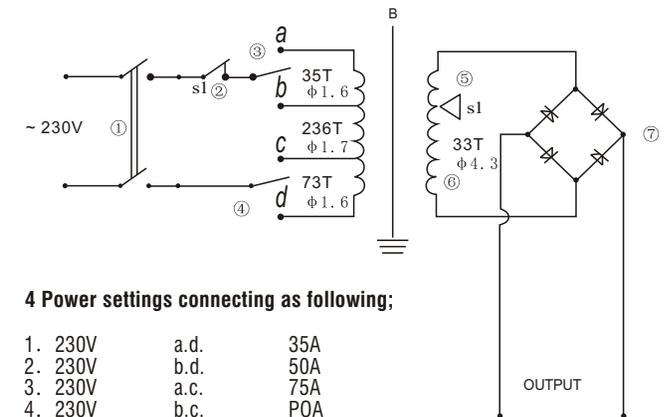
Electrical repairs must only be carried out by a qualified or approved engineer.

Welding Cables: Regularly inspect their connections.

Torch: Regularly clean the contact tip and shroud to remove spatter that will eventually disturb 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 the wire passes freely through it. If this has no effect the liner should be replaced.

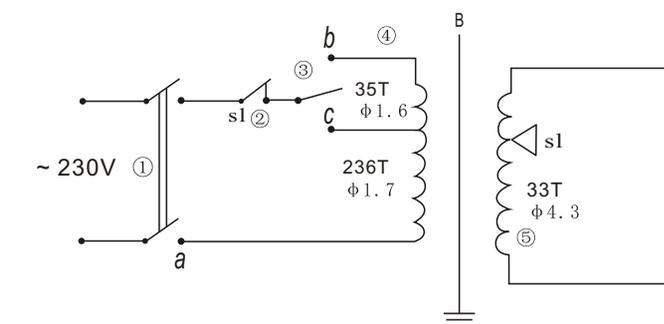
NB. Ensure the torch lead is held in a straight line and fully extended when feeding the wire through the torch, otherwise there is risk of the wire puncturing the wire feed liner and torch hose.

WIRING DIAGRAMS



4 Power settings connecting as following;

1. 230V	a.d.	35A
2. 230V	b.d.	50A
3. 230V	a.c.	75A
4. 230V	b.c.	P0A



2 Current settings connecting as following;

1.	a.c.	Po Amp
2.	a.b.	bo Amp

1. Switch
2. Thermal Protection
3. Settings
4. Settings
5. Primary Winding
6. Secondary Winding
7. Rectifier

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSES
Weld deposit too thick.	<ul style="list-style-type: none"> • Welding voltage too low. • Torch moved over the work piece too slowly.
Weld deposit incomplete and stringy.	<ul style="list-style-type: none"> • Gas flow incorrect. • Torch moved over the work piece too quickly.
Arc unstable, excessive spatter and weld porosity.	<ul style="list-style-type: none"> • Rust, paint or grease on the work piece. • Torch held too far from the work piece. • No gas – check bottle content, connections & regulator settings. • Incorrect gas for material.
Wire repeatedly burns back.	<ul style="list-style-type: none"> • Torch held too close to the work piece. • Break in the welding circuit. Possible causes: <ul style="list-style-type: none"> - Incorrect size of contact tip for wire. - Contact tip damaged – replace. - Contact tip loose – tighten. - Feed rollers worn – replace. - Welding wire corroded – replace. - Pressure roller adjustment incorrect – adjust. - Pressure roller sticking – lubricate or replace. - Wire tangled on reel.
Lack of weld penetration.	<ul style="list-style-type: none"> • Welding output too low. • Wire feed speed too low. • Torch moved too fast.
Burning holes in work piece.	<ul style="list-style-type: none"> • Welding out put too high. • Torch moved erratically or too slowly.
No arc produced.	<ul style="list-style-type: none"> • Earth lead or torch cable in open circuit. • Poor earth clamp connection.
Welder does not operate(mains indicator not lit).	<ul style="list-style-type: none"> • Check mains connection. • Check supply fuse.
Welder does not operate with trigger pressed.	<ul style="list-style-type: none"> • Check torch trigger and it's connections. • Thermal overload cut out – allow to cool.



MIG



FLUX

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 remains. Fuel tanks should be thoroughly steam cleaned before welding.

WELDING FUMES

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

ARC GLARE

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

HEAT

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

ADDITIONAL PROTECTIVE CLOTHING

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

IMPORTANT:

1. These units should never be exposed to rain or snow.
2. Do not use in a wet or damp environment.
3. Do not use to thaw pipes.
4. These units should be connected to the mains supply through a circuit breaker with the following ratings:

Model	Circuit Breaker
NO GAS MIG's 100, 130	10A
MIG 105, 135	13A
MIG 150	16A
MIG 175, 195	20A

SETTING UP THE WELDER

1. Electrical: Your MIG welder must be earthed. Connection to a suitable fused isolator switch, with the wires connected as follow:

BROWN = Live
 BLUE = Neutral
 GREEN/YELLOW = Earth

2. Feeding the Wire

When fitting a new reel adopt the following procedure:

1. Remove the shroud from the torch and unscrew the contact tip.
2. Fit the wire reel onto the spindle. The spring mounting must be correctly fitted.
3. Locate the free end of the wire 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 down ensuring that the MIG 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. To reverse the roller, unscrew the two screws securing the roller, supporting bracket and remove the bracket. The roller can then be removed from it's shaft and reversed.
7. Hold the torch straight. Switch the machine on 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 the tip is the correct size for the diameter of wire being used), tighten it and replace the shroud.

IMPORTANT: THE FOLLOWING SET UP PROCEDURES DO NOT APPLY TO THE NO GAS MACHINES.

3. Fitting Cylinder Mounting Bracket: To fit the gas cylinder-mounting bracket (where provided), fit the brackets to the rear of the machine.

4. 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.

5. Fitting The Gas Regulator To The Disposable Cylinder

- Remove the cover from the cylinder thread, make sure your eyes are protected, and carefully screw on the regulator. Note, gas will escape until the regulator is fully fitted.
- IMPORTANT:** 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.

6. Setting The Gas Flow Regulator

Turn the control knob fully clockwise and then turn back anti-clockwise approximately 1/2 to 1 turn depending on welding conditions.

For the larger MIG welders, a large gas cylinder regulator is supplied. This regulator is supplied with a fitting suitable for connecting the regulator to a CO2 and a second suitable for connecting to an Argon/CO2 mixed gas cylinder.

7. Voltage Setting

The machine will have 2 or 4 output settings depending on the model. These are controlled by the rocker switch(es) on the front panel (see Fig. A)

FIG. A



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

NOTE: The wire feed speed is automatically adjusted when the output is selected. The wire speed setting control provides fine-tuning. (See Fig. B)

WIRE SPEED SETTING

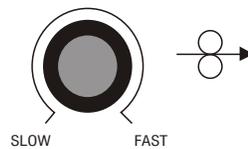


FIG. B

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 is an adequate fire-fighting appliance close by.
- Connect the earth clamp onto the metal to be welded.
 - Set output and wire feed speed by turning or pressing the appropriate controls (see Fig. A and B), taking into account the material type and thickness and the wire size.
 - Plug in and switch the welder on.
 - Cut off excess wire to 3mm from the end of the tip.
 - Position the tip 6mm from the point where the welding is to start.
 - Hold the mask in front of your eyes.
 - Press the trigger and when the arc strikes, slowly move the torch in the desired direction.
 - If the arc produces a humming sound and a blob forms on the end of the wire, there is insufficient wire speed and it should be increased. If an erratic sound is given with a feel that the wire is stubbing against the work and excessive spatter, there is too much wire speed. When the speed is correct there will be a steady smooth crackling sound. If a porous weld results there is insufficient gas flow and it should be increased.
 - Check the rating plate on welder's cover for the duty cycle, the welder can be set to deliver different output currents at a duty cycle (written as a percentage). The percentage represents the welding time in a 10 minute cycle, for example 60% means that the welding time is 6 minutes and the rest time is 4 minutes. If the welder is used beyond its duty cycles, the temperatures of some components might become too high due to over use, then the internal thermal protector will prevent the welder from operating. If this happens, allow it to cool down. The thermal protector will reset automatically after a short period when the components have cooled, and then you are able to resume welding.
Note: Keep the machine switched on, the fan will cool it quicker