



Weldclass
Be Outstanding

Weldforce 131GL Weldforce 141GL

Gasless MIG Welder



OPERATING INSTRUCTIONS



IMPORTANT!

To qualify for full 6 month warranty, you must register within 30 days of purchase. See inside for details.



Congratulations & thank you for choosing Weldclass

The WeldForce range from Weldclass provides market leading value, features and durability. WeldForce machines have been designed with emphasis on robust construction, with simple and functional operation.

Register Your Warranty Now

Standard warranty without registration is 3 months. To qualify for an extended full 6 month warranty your purchase you must register within 30 days of purchase.

Please register your warranty now by going to:



www.weldclass.com.au/weldforcewarranty

You will need;

- a. A copy of your purchase invoice / receipt.
- b. Your machine serial number which can be found on the technical data plate on the back of the machine, or on the outside of the box that your machine came in.

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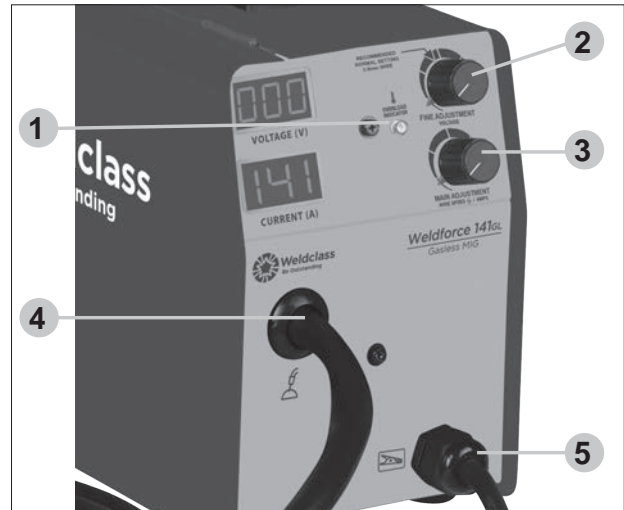
Specifications



Model	141GL	131GL
Output Power	140A	130A
Duty Cycle	140A @ 15%	130A @ 20%
MIG Wire Size	0.8mm (Gasless)	
Spool Size	100mm (1kg)	
Input Power	240V, 10A	

Know Your Machine

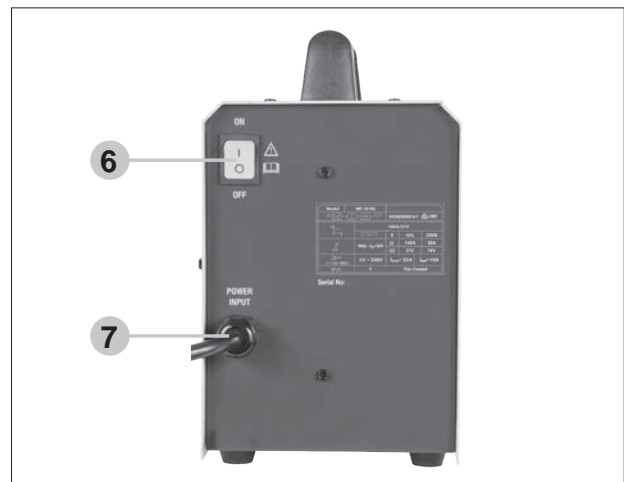
1. Thermal overload indicator
2. Fine (Voltage) control knob
3. Main control knob
4. MIG torch cable
5. Welding earth lead
6. Mains power switch
7. Power input lead (240V, 10A plug)
8. Spool hub assembly
9. Wire inlet tube
10. Tension adjustment knob
11. Tension arm & idle roller
12. Drive roller & retaining cap



Controls Explained

LCD Current & Voltage Display Meters

The voltage (V) meter will display voltage output, based on setting/position of fine/top adjustment knob. The current (A) meter will display amperage output, based on setting/position of main/bottom adjustment knob. The digital meters are very sensitive and accurate, so it is not abnormal to observe some fluctuations them.

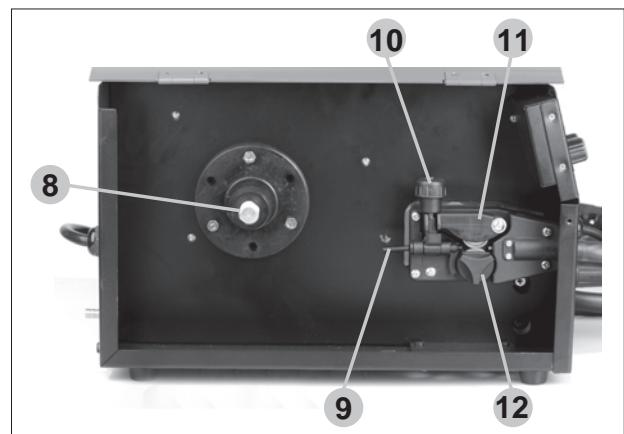


Controls

The MIG voltage control is essentially the power in the welding arc that sets the heat. The wire speed feed simply controls the rate at which the welding wire is fed into the weld pool.

For any voltage position setting, there will be a specific corresponding 'sweet spot' in the wire feeding speed that will give the smoothest and most stable welding arc. The correct wire feeding speed for a given voltage setting is affected by welding wire type and size, shielding gas, welding material and joint type.

It is recommended to set the welding voltage as desired and then slowly adjust the wire speed until the arc is smooth and stable. When reaching this point, if the penetration/ heat input is too much/ not enough, adjust the voltage setting and repeat the process.



Overload Indicator Lamp

Lights when duty cycle is exceeded and thermal protection is activated. When thermal protection is activated, welding output will be disabled until machines cools sufficiently and overload indicator lamp goes out. Also may activate with inverter circuit failure issues.

Power Supply

Electrical Connection

The Weldforce 131GL & 141GL is designed to operate on a 10A 240V AC power supply.

Extension Leads

If an extension cord must be used, it should be minimum cable core size 2.0mm² for length of up to 10m, or minimum 2.5mm² for length up to 20m. Using extension leads of over 20m is not recommended.

Generator Use

This machine has a wide input power variation tolerance (~170-265V), allowing it to operate off generator power. However, this machine is NOT designed for *frequent* generator use and is NOT protected against poor quality power or voltage spikes. Any damage caused by generator power supply is not covered under warranty.

If generator power must be used, generator size should be not less than 7kva. Avoid using poor, low quality generators as these have the greatest risk of power spikes etc. A suitable quality generator should have a THD (total harmonic distortion) rating of not more than 6%. Most reputable generator supplier will be able to specify the THD ratings on their product.

Operating Environment

Adequate ventilation is required to provide proper cooling for the Weldforce 141GL. Ensure that the machine is placed on a stable level surface where clean cool air can easily flow through the unit. The Weldforce 141GL has electrical components and control circuit boards which may be damaged by excessive dust and dirt, so a clean operating environment is essential.

Set Up Guide

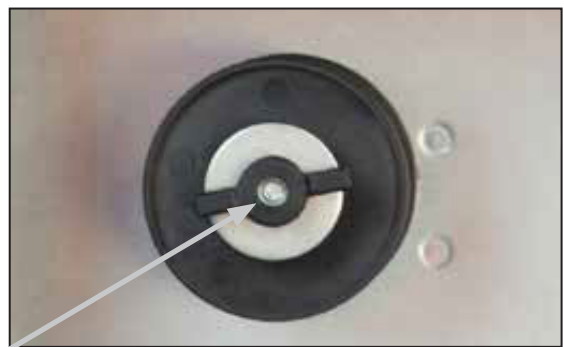


WARNING!

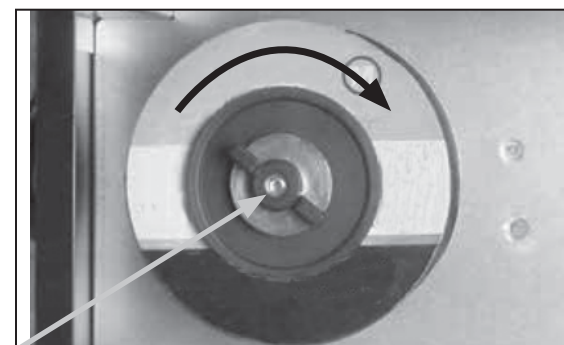
Before changing the feed roller or wire spool, ensure that the mains power is switched off.



- 1 Open the side door of the machine.



- 2 Remove the Spool Hub Nut and place spool of wire on spool hub.



- 3 Replace Spool Hub Nut and adjust firmly - without too much pressure.

Note: Wire to roll from over top of spool into wire feeder.



WARNING!

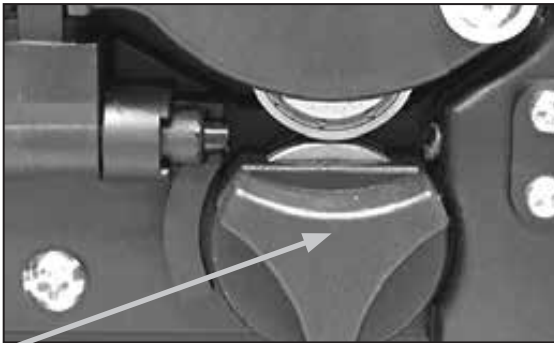
Excessive spool brake tension will cause wire feeding issues and affect welding performance as well as premature failure/wear of wire feed components.



- ④ Release the Wire Feed Tensoning Knob by pulling it down.



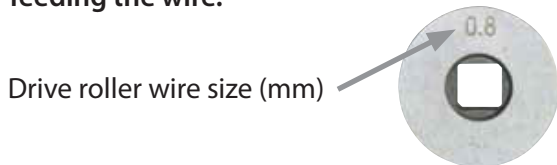
- ⑦ Put down Wire Tensoning Arm so it locks into position, and turn the Wire Feed Tensoning Knob to gently tighten.



- ⑤ Remove the Drive Roller Cover. Check the Drive roller is matched to the wire size.

Note: Drive roller has smaller groove for 0.8mm wire & larger groove for 0.9mm wire.

Then replace the Drive Roller Cover, before feeding the wire.



WARNING!

The use of excessive feed tension will cause rapid and premature wear of the drive roller, the support bearing and the drive motor/gearbox.

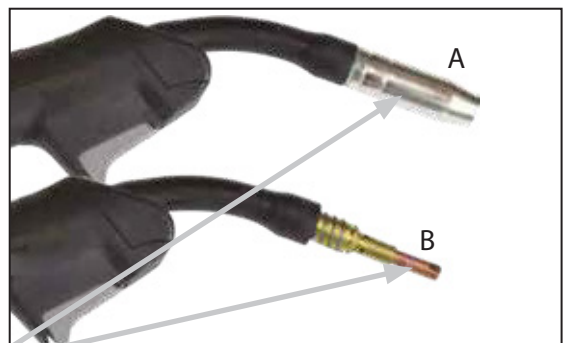


- ⑧ Connect earth clamp to the work piece ensuring that the clamp makes good contact with bare metal.



- ⑥ Take the end of the wire and feed it into the guide tube over the drive roller groove until it passes into the Outlet Tube, approx 100mm.

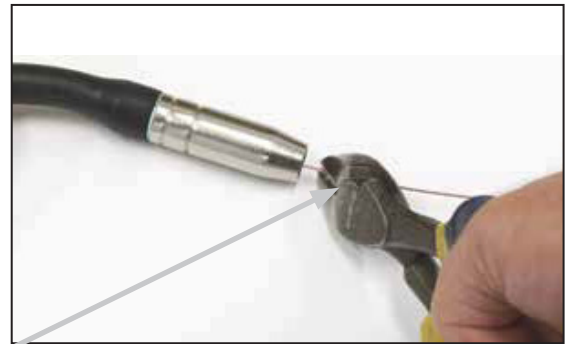
Ensure you hold the spool and check tension to stop wire spool unraveling.



- ⑨ Remove nozzle (A) and tip (B) from torch.



10 Plug machine into 230V and switch to the ON position on the back of machine.

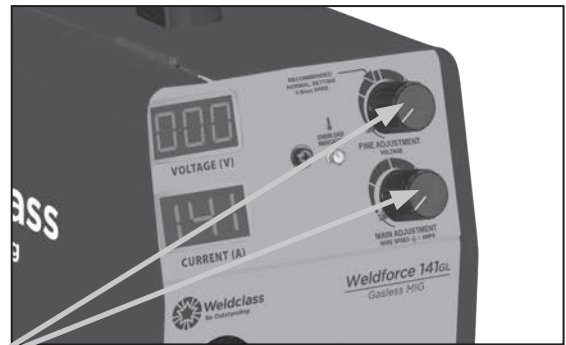


13 Trim wire to the end of the nozzle.

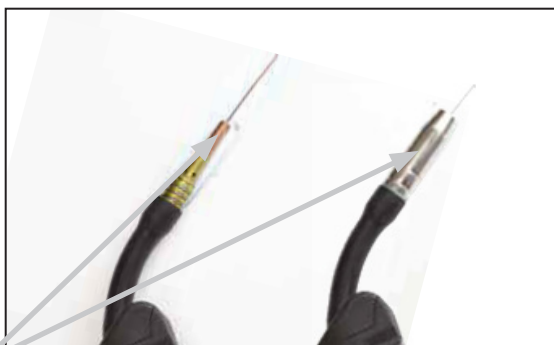


11 Press the trigger. This will feed the wire through the torch. Release button when wire appears at the end of the torch.

NOTE: Make sure your torch is laid out straight.



14 Set the controls as per instructions in this Manual &/or on sticker inside wire feeder compartment door.



12 Re-install tip over the wire and tighten, Do NOT over tighten, or you may damage the tip holder. Re-attach nozzle to torch.

Tips & Tricks

Duty Cycle Rating

Welding duty cycle is the percentage of actual welding time that can occur in a ten minute cycle. E.g. 15% at 140 amps - this means the welder can weld at 140 amps for 1.5 minutes and then the unit will need to be rested for 8.5 minutes. All duty cycle ratings are based on an ambient air temperature of 40°C with 50% humidity, which is the international standard for such a rating. In an environment with temperature s exceeding 40°C, the duty cycle will be less than stated. In ambient temperature less than 40°C, duty cycle performance will be higher.

Wire Jam Troubleshooting

- If wire jam occurs when the torch becomes hot, this is often because the heat causes the wire and the tip to expand (which shrinks the hole in the tip). Using a slightly oversize tip can prevent this – eg: for 0.9mm wire, use a 1.0mm tip.
- Do NOT over-tighten the drive roll tension – this will accelerate wear of the drive system, may distort the wire & will cause further wire feed problems.
- Refer to page 13-14 for more troubleshooting tips.

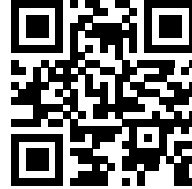
Accessories & Spare Parts:

MIG Torch Spare Parts:

The MIG Torch supplied with this machine is a BZL 15 (Binzel 15 style) model.

To view parts for this torch, go to: www.weldclass.com.au/BZL15

Torch Parts		
Ref.	Part No.	Description
1	N/A	Neck
2	P3-B15NS	Nozzle Spring Pk2
3	P3-B15TH	Tip Holder Pk2
4	P3-BT6086	Tip 0.8mm Pk5
4	P3-BT609	Tip 0.9mm Pk5
5	P3-B15N	Nozzle Pk2



Machine Spare Parts:

For machine parts, go to www.weldclass.com.au/machines or contact your Weldclass distributor

Care & Maintenance

Keep your Welding Machine in Top Condition

This machine does not require any special maintenance, however the user should take care of the machine as follows:

- Regularly clean the ventilation slots.
- Keep the casing clean.
- Check all cables before use.
- Check electrode holders, work lead/clamps and welding torches before use.
- Replace worn electrode holders and earth clamps, which do not provide a good connection.
- Replace worn torch consumable parts in a timely manner.
- Replace worn wire drive components in a timely manner.
- Use a soft cloth or brush to clean electrical components. Do not use liquid cleaning products, water or especially solvents.
- Do not use compressed air to clean electrical components as this can force dirt and dust further into components, causing electrical short circuits.
- Check for damaged parts.

If damaged, before further use, the welder must be carefully checked by a qualified person to determine that it will operate properly. Check for breakage of parts, mountings and other conditions that may affect its operation.

Have your welder repaired by an expert. An authorised service centre should properly repair a damaged part.

This appliance is manufactured in accordance with relevant safety standards. Only experts must carry out repairing of electrical appliances, otherwise considerable danger for the user may result. Use only genuine replacement parts. Do not use modified or non-genuine parts.

Storing the Welder

When not in use the welder should be stored in the dry and frost-free environment.



WARNING!

Before performing cleaning/maintenance, replacing cables / connections, make sure the welding machine is switched off and disconnected from the power supply.



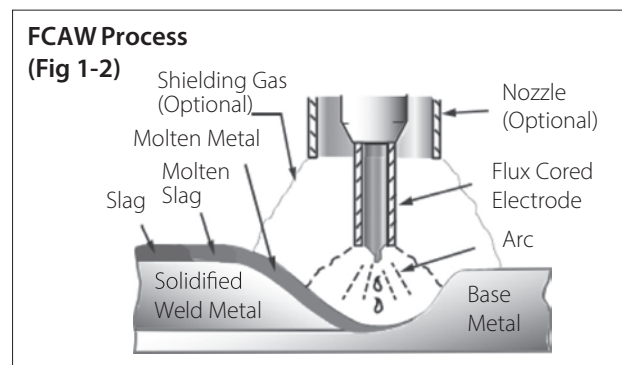
Gasless MIG Welding Guide

MIG Basic Welding Techniques

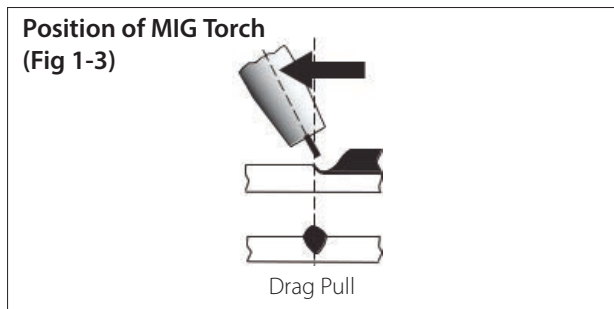
Two different welding processes are covered in this section (GMAW and FCAW), with the intention of providing the very basic concepts in MIG welding, where a welding gun is hand held, and the electrode (welding wire) is fed into a weld puddle, and the arc is shielded by a gas (GMAW) or flux cored wire (FCAW).

Gasless Flux Cored Arc Welding (FCAW)

This is an electric arc welding process which fuses together the parts to be welded by heating them with an arc between a continuous flux filled electrode wire and the work. Shielding is obtained through decomposition of the flux within the tubular wire.



In the case of gasless wire, you should always 'drag' the torch (don't push).



The angle of MIG torch to the weld has an effect on the width of the weld.

The welding gun should be held at an angle to the weld joint. (See Secondary Adjustment Variables below).

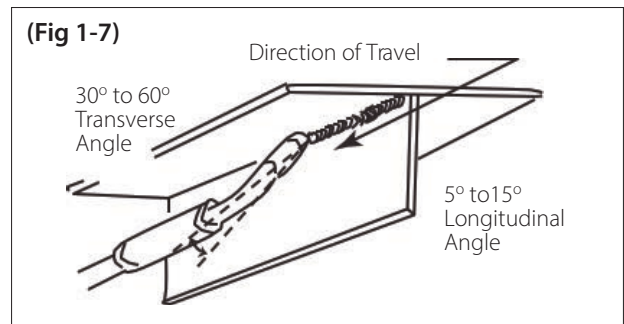
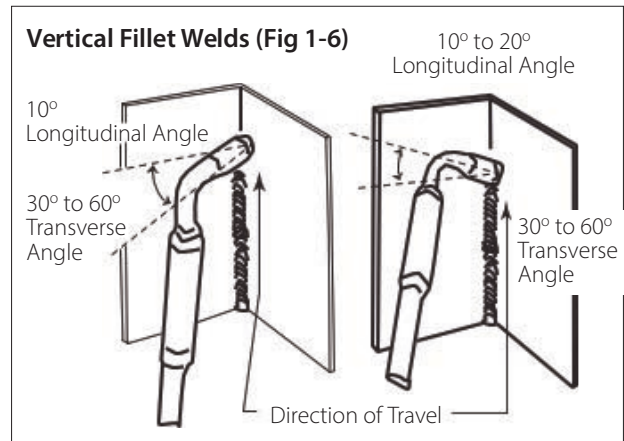
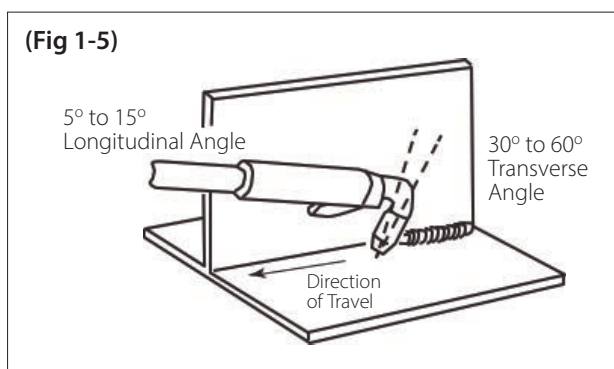
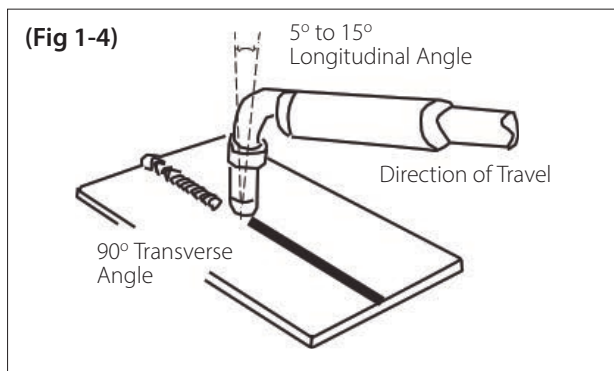
Hold the gun so that the welding seam is viewed at all times. Always wear the welding helmet with proper filter lenses and use the proper safety equipment.



CAUTION!!

Do not pull the welding gun back when the arc is established. This will create excessive wire extension (stick-out) and make a very poor weld.

The electrode wire is not energized until the gun trigger switch is depressed. The wire may therefore be placed on the seam or joint prior to lowering the helmet.



Distance from the MIG Torch Nozzle to the Work Piece

The electrode wire stick out from the MIG Torch nozzle should be between 10mm to 20mm. This distance may vary depending on the type of joint that is being welded.

Travel Speed

The speed at which the molten pool travels influences the width of the weld and penetration of the welding run.

Preselected Variables

Preselected variables depend upon the type of material being welded, the thickness of the material, the welding position, the deposition rate and the mechanical properties.

These variables are:

- Type wire
- Size wire

Primary Adjustable Variables

These control the process after preselected variables have been found. They control the penetration, bead width, bead height, arc stability, deposition rate and weld soundness.

These variables are:

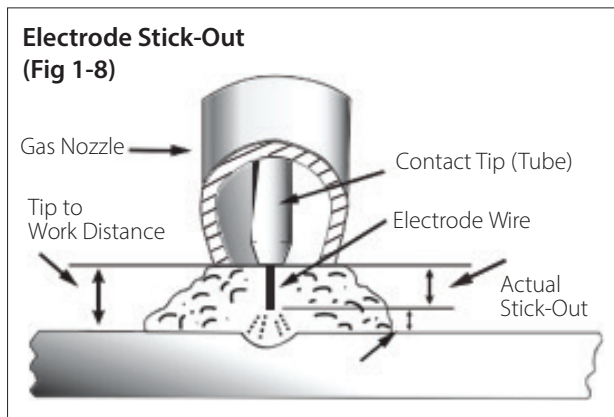
- Arc Voltage
- Welding current (wire feed speed)
- Travel speed

Secondary Adjustable Variables

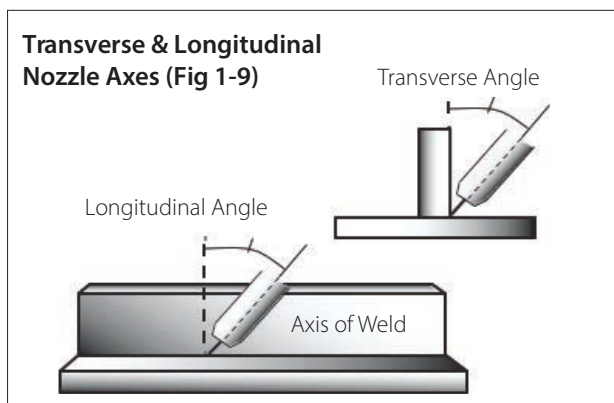
These variables cause changes in primary adjustable variables which in turn cause the desired change in the bead formation. They are:

1. Stick-Out (distance between the end of the contact tube (tip) and the end of the electrode wire). Maintain at about 10mm stick-out

2. Wire Feed Speed. Increase in wire feed speed increases weld current. Decrease in wire feed speed decreases weld current.



3. Nozzle Angle. This refers to the position of the welding gun in relation to the joint. The transverse angle is usually one half the included angle between plates forming the joint. The longitudinal angle is the angle between the centre line of the welding gun and a line perpendicular to the axis of the weld. The longitudinal angle is generally called the Nozzle Angle and can be either trailing (pulling) or leading (pushing).



Establishing the Arc and Making Weld Beads

Before attempting to weld on a finished piece of work, it is recommended that practice welds be made on a sample metal of the same material as that of the finished piece.

The easiest welding procedure for the beginner to experiment with MIG welding is the flat position. The equipment is capable of flat, vertical and overhead positions.

For practicing MIG welding, secure some pieces of 16 or 18 gauge (1.5mm or 2.0mm) mild steel plate (150 x 150mm). Use (0.8mm) flux cored gasless wire.

Setting of the Power Source

Power source and Current (Wire Speed) setting requires some practice by the operator, as the welding plant has two control settings that have to balance. These are the Current (Wire Speed) control and the welding Voltage Control.

The welding current is determined by the Current (Wire Speed) control, the current will increase with increased Current (Wire Speed), resulting in a shorter arc. Less Current (Wire Speed) will reduce the current and lengthen the arc. Increasing the welding voltage hardly alters the current level, but lengthens the arc. By decreasing the voltage, a shorter arc is obtained with a little change in current level.

When changing to a different electrode wire diameter, different control settings are required. A thinner electrode wire needs more Current (Wire Speed) to achieve the same current level. A satisfactory weld cannot be obtained if the Current (Wire Speed) and Voltage settings are not adjusted to suit the electrode wire diameter and the dimensions of the work piece.

If the Current (Wire Speed) is too high for the welding voltage, "stubbing" will occur as the wire dips into the molten pool and does not melt. Welding in these conditions normally produces a poor weld due to lack of fusion. If, however, the welding voltage is too high, large drops will form on the end of the wire, causing spatter. The correct setting of voltage and Current (Wire Speed) can be seen in the shape of the weld deposit and heard by a smooth regular arc sound.

Troubleshooting

The general approach to fix MIG problems is to start at the wire spool then work through to the MIG torch. There are two main areas where problems occur with MIG, Porosity and Inconsistent wire feed.

Wire feeding problems can be reduced by checking the following points.

Troubleshooting - Wire Feed	
Fault	Cause
Feed roller driven by motor in the cabinet slipping.	Wire spool brake is too tight.
Wire spool unwound and tangled.	Wire spool brake is too loose.
Worn or incorrect feed roller size	Use a feed roller matched to the size you are welding.
	Replace feed roller if worn.
Wire rubbed against the misaligned guides affecting the wire feed.	Misalignment of inlet/outlet guides.
Liner blocked with swarf.	Increased amounts of swarf are produced by the wire passing through the feed roller when excessive pressure is applied to the pressure roller adjuster.
	Swarf can also be produced by the wire passing through an incorrect feed roller groove shape or size.
	Swarf is fed into the conduit liner where it accumulates thus reducing wire feed.
Incorrect or worn contact tip.	The contact tip transfers the weld current to the electrode wire. If the hole in the contact tip is too large then arcing may occur inside the contact tip resulting in the wire jamming in the contact tip.
	When using soft wire such as aluminium it may become jammed in the contact tip due to expansion of the wire when heated. A contact tip designed for soft wires should be used.
Poor work lead contact to work piece.	If the work lead has a poor electrical contact to the work piece then the connection point will heat up and result in a reduction of power at the arc.
Bent liner.	This will cause friction between the wire and the liner thus reducing wire feed.



Other weld problems can be reduced by checking the following points.

Troubleshooting - MIG Weld Quality		
Fault	Cause	Remedy
Undercut.	Welding arc voltage too high.	Decrease voltage or increase the wire feed speed.
	Incorrect torch angle.	Adjust angle.
	Excessive heat input.	Increase the torch travel speed and/or decrease welding current by decreasing the voltage or decreasing the wire feed speed.
Lack of penetration.	Welding current too low.	Increase welding current by increasing wire feed speed and increasing voltage.
	Joint preparation too narrow or gap too tight.	Increase joint angle or gap.
Lack of fusion.	Voltage too low.	Increase voltage.
Excessive spatter.	Voltage too high.	Decrease voltage or increase the Current (Wire Speed) control.
	Voltage too low.	Increase the voltage or decrease Current (Wire Speed).
Irregular weld shape.	Incorrect voltage and current settings. Convex, voltage too low. Concave, voltage too high.	Adjust voltage and current by adjusting the voltage control and the Current (Wire Speed) control.
	Wire is wandering.	Replace contact tip.
	Incorrect shielding gas.	Check shielding gas.
	Insufficient or excessive heat input.	Adjust the Current (Wire Speed) control or the voltage control.
Weld cracking.	Weld bead is too small.	Decrease travel speed.
	Weld penetration narrow and deep.	Reduce current and voltage and increase MIG torch travel speed or select a lower penetration shielding gas.
	Excessive weld stresses.	Increase weld metal strength or revise design.
	Excessive voltage.	Decrease voltage.
	Cooling rate too fast.	Slow the cooling rate by preheating part to be welded or cool slowly.
Cold weld puddle.	Loose welding cable connection.	Check all welding cable connections.
	Low power supply voltage.	Contact supply authority.

Knowledge & Resources

Please refer to Weldclass website www.weldclass.com.au for more information.

Safety

Store and Retain this Manual


Retain this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number into the NOTES section at the rear, and keep this manual and the receipt in a safe and dry place for future reference.


Important Safety Information


Failure to follow the warnings and instructions may result in electric shock, fire, serious injury and/or death. Save all warnings and instructions for future reference.



This is the safety alert symbol to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

 **DANGER!** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING!** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION,** used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE, used to address practices not related to personal injury.

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

MIG Welding Operation

1. Maintain labels and nameplates on the welder. These carry important information. If unreadable or missing, contact Weldclass for a replacement.

2. Avoid unintentional starting. Make sure the welder is setup correctly and you are prepared to begin work before turning on the welder.

3. Unplug before performing maintenance. Always unplug the welder from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.


4. Never leave the welder unattended while energised. Turn power off before leaving the welder unattended.

5. Do not touch live electrical parts. Wear dry, insulating gloves. Do not touch the electrode or the conductor tong with bare hands. Do not wear wet or damaged gloves.


6. Protect yourself from electric shock. Do not use the welder outdoors. Insulate yourself from the work piece and the ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material large enough to cover the area of contact with the work or the ground.

7. Avoid inhaling dust. Some dust created by power sanding, sawing, grinding, drilling, cutting, welding and other construction activities, contain chemicals known to cause cancer, birth defects or other harm. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

8. People with pacemakers should consult their physician(s) before using this machine.

 **WARNING!**
Electromagnetic fields in close proximity to a heart pacemaker could cause interference, or failure of the pacemaker. The use of a Welder is NOT RECOMMENDED for pacemaker wearers. Consult your doctor.

9. Ensure that the unit is placed on a stable location before use.

 **WARNING!**
If this unit falls while plugged in, severe injury, electric shock, or fire may result.

10. Transportation Methods. Lift unit with the handles provided, or use a handcart or similar device of adequate capacity. If using a fork lift vehicle, secure the unit to a skid before transporting.



CAUTION!

Disconnect input power conductors from de-energized supply line before moving the welding power source.

11. Exercise good work practices. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may 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 considered by the operator.

Welding Safety Instructions & Warnings



WARNING!

Protect yourself and others from possible serious injury or death. Keep children away. Read the operating/Instruction manual before installing, operating or servicing this equipment. Have all installation, operation, maintenance, and repair work performed by qualified people.

If an operator does not strictly observe all safety rules and take precautionary actions, welding products and welding processes can cause serious injury or death, or damage to other equipment or property.

Safe practices have developed from past experience in the use of welding and cutting. These practices must be learned through study and training before using this equipment. Some of these practices apply to equipment connected to power lines; other practices apply to engine driven equipment. Anyone not having extensive training in welding and cutting practices should not attempt to weld.

Safe practices are outlined in the European Standard EN60974-1 entitled: Safety in welding and allied processes.



WARNING!

Only use safety equipment that has been approved by an appropriate standards agency. Unapproved safety equipment may not provide adequate protection. Eye and breathing protection must be AS/NZS compliant for the specific hazards in the work area.



DANGER!

Always wear AS/NZS compliant safety glasses and full face shield fitted with appropriate filter shade number. (Refer Filter Table on page 17.)



CAUTION!

Heavy-duty work gloves, non-skid safety shoes and hearing protection used for appropriate conditions will reduce personal injuries.



CAUTION!

Have the equipment serviced by a qualified repair person using identical replacement parts. This will ensure that the safety of the power tool is maintained.

Personal Safety



CAUTION!

Keep the work area well lit. Make sure there is adequate space surrounding the work area. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use equipment in areas near flammable chemicals, dust, and vapours. Do not use this product in a damp or wet location.

1. Stay alert, watch what you are doing and use common sense when operating equipment. Do not use a tool while you are tired or under the influence of drugs, alcohol or medication. A moment of distraction when operating equipment may result in serious personal injury.
2. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

Arc Rays can Burn Eyes and Skin



CAUTION!

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin.

1. Use a Welding Helmet or Welding Face Shield fitted with a proper shade filter (refer AS 60974-1, AS/NZS 1337.1 and AS/NZS 1338.1 Safety Standards) to protect your face and eyes when welding or watching. (See Filter Table on Page 17).
2. Wear approved safety glasses. Side shields are recommended.

3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot safety protection.
5. Never wear contact lenses while welding.

Noise Can Damage Hearing



CAUTION!

Noise from some processes can damage hearing. Use AS/NZS compliant ear plugs or ear muffs if the noise level is high.

Work Environment Safety



DANGER!

Remove any combustible material from the work area.

1. When possible, move the work to a location well away from combustible materials. If relocation is not possible, protect the combustibles with a cover made of fire resistant material.
2. Remove or make safe all combustible materials for a radius of 10 metres around the work area. Use a fire resistant material to cover or block all doorways, windows, cracks, and other openings.
3. Enclose the work area with portable fire resistant screens. Protect combustible walls, ceilings, floors, etc., from sparks and heat with fire resistant covers.
4. If working on a metal wall, ceiling, etc., prevent ignition of combustibles on the other side by moving the combustibles to a safe location. If relocation of combustibles is not possible, designate someone to serve as a fire watch, equipped with a fire extinguisher, during the welding process and well after the welding is completed.
5. Do not weld or cut on materials having a combustible coating or combustible internal structure, as in walls or ceilings, without an approved method for eliminating the hazard.
6. After welding, make a thorough examination for evidence of fire. Be aware that visible smoke or flame may not be present for some time after the fire has started. Do not weld or cut in atmospheres containing dangerously reactive or flammable gases, vapours, liquids, and dust. Provide adequate ventilation in work areas to prevent accumulation of flammable gases, vapours, and dust.

7. Do not apply heat to a container that has held an unknown substance or a combustible material whose contents, when heated, can produce flammable or explosive vapours. Clean and purge containers before applying heat. Vent closed containers, including castings, before preheating, welding, or cutting.

Electricity Can Kill



DANGER!

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on.

The input power circuit and machine internal circuits are also live when power is on. In semi-automatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from the work and the ground using dry insulating mats or covers.
4. Disconnect input power before installing or servicing this equipment. Lock input power, disconnect switch open, or remove line fuses so power cannot be turned on accidentally.
5. Properly install and ground this equipment according to national, state, and local codes.
6. Turn off all equipment when not in use. Disconnect power to equipment if it will be left unattended or out of service.
7. Use fully insulated electrode holders. Never dip the holder in water to cool it or lay it down on the ground or the work surface. Do not touch holders connected to two welding machines at the same time or touch other people with the holder or electrode.
8. Do not use worn, damaged, undersized, or poorly spliced cables.
9. Do not wrap cables around your body.
10. Connect work piece to a good electrical ground.

11. Do not touch the electrode while in contact with the work (ground) circuit.
12. Use only well-maintained equipment. Repair or replace damaged parts as soon as practical.
13. In confined spaces or damp locations, do not use a welder with AC output unless equipped with a voltage reducer.

Arc rays from the welding process produce intense heat and strong ultraviolet rays that can burn eyes and skin. Use the following table to select the appropriate shade number for a Welding Helmet or Welding Face Shield.

1. Use a Welding Helmet or Welding Face Shield fitted with a proper shade of filter (see AS 60974-1, AS/NZS 1337.1 and AS/NZS 1338.1 Safety Standards) to protect your face and eyes when welding or watching.
2. Wear approved safety glasses. Side shields are recommended.
3. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
5. Never wear contact lenses while welding.

Recommended Protective Filters for Electric Welding		
Description of Process	Approximate Range of Welding Current in Amps	Minimum Shade Number of Filter(s)
Manual Metal Arc Welding - Covered Electrodes (MMA)	Less than or equal to 100	8
	100 to 200	10
	200 to 300	11
	300 to 400	12
	Greater than 400	13
Gas Metal Arc Welding (GWAW) (MIG) other than Aluminium And Stainless Steel	Less than or equal to 150	10
	150 to 250	11
	250 to 300	12
	300 to 400	13
	Greater than 400	14
Gas Metal Arc Welding (GWAW) (MIG) Aluminium and Stainless Steel	Less than or equal to 250	12
	250 to 350	13
Gas Tungsten Arc Welding (GTAW) (TIG)	Less than or equal to 100	10
	100 to 200	11
	200 to 250	12
	250 to 350	13
	Greater than 350	14
Flux-Cored Arc Welding (FCAW) - with or without Shielding Gas	Less than or equal to 300	11
	300 to 400	12
	400 to 500	13
	Greater than 500	14
Air - Arc Gouging	Less than or equal to 400	12
Plasma - Arc Cutting	50 to 100	10
	100 to 400	12
	400 to 800	14
Plasma - Arc Spraying	—	15
Plasma - Arc Welding	Less than or equal to 20	8
	20 to 100	10
	100 to 400	12
	400 to 800	14
Submerged - Arc Welding	—	2 (5)
Resistance Welding	—	Safety Spectacles or Eye Shield

Refer to standard AS/NZS 1338.1 for comprehensive information regarding the above table.

Fumes And Gases



WARNING!

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

1. Keep your head out of the fumes. Do not breathe the fumes.
2. If inside, ventilate the area and/or use an exhaust at the arc to remove welding fumes and gases.

3. If ventilation is poor, use an approved air-supplied respirator.
4. Read the Safety Data Sheets (SDS) and the manufacturer's instruction for the metals, consumables, coatings, and cleaners.
5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Shielding gases used for welding can displace air causing injury or death. Be sure the breathing air is safe.
6. Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.
7. Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.
8. Connect the work lead/clamp to the job as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock and fire hazards.
9. Do not use a welder to thaw frozen pipes.
10. Remove the stick electrode from the holder or cut off the welding wire at the contact tip when not in use.

Fire & Explosive Risks



WARNING!

Sparks and spatter fly off from the welding arc. The flying sparks and hot metal, weld spatter, work piece, and hot equipment can cause fires and burns.

Accidental contact of electrode or welding wire to metal objects can cause sparks, overheating, or fire.

1. Protect yourself and others from flying sparks and hot metal.
2. Do not weld where flying sparks can strike flammable material.
3. Remove all flammables within 10m of the welding site.
4. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
7. Do not weld on closed containers such as tanks or drums.

Sparks & Hot Metal



WARNING!

Chipping and grinding causes flying metal, and as welds cool they can throw off slag.

1. Wear an AS/NZS approved face shield or safety goggles. Side shields are recommended.
2. Wear appropriate safety equipment to protect the skin and body.

Cylinders



WARNING!

Gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, and arcs.
2. Install and secure cylinders in an upright position by chaining them to a stationary support or equipment cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never allow a welding electrode to touch any cylinder.
5. Use appropriate shielding gas, regulators, hoses, and fittings designed for the specific application; maintain them and their associated parts in good condition.
6. Turn your face away from the valve outlet when opening the cylinder valve.

WARRANTY

Warranty Period;

Without product registration: **3 months**

If product has been registered online: **6 months**

This machine is warranted against faulty components and manufacturing defects for the warranty periods shown above.

The warranty period begins on the date of purchase by the end user. Warranty is not transferable and only claimable by the original purchaser.

If warranty registration has not taken place, it is the sole responsibility of the purchaser to retain proof of purchase (i.e. a copy of the invoice made out by the distributor or reseller to the owner of the machine clearly showing the purchase date). Proof of purchase must be provided in the event of any warranty claim.

- a) Warranty includes and covers: Manufacturing faults and/or faulty materials that do not allow the machine to perform the functions for which it was designed, within the warranty period.
- b) Warranty Excludes / Does Not Cover:
 1. Warranty claims made without proof of purchase, or warranty claims made with proof of purchase that is deemed by Weldclass Welding Products to be false, misleading, incomplete or insufficient.
 2. Defects or damage resulting from: misuse, accidents, neglect, improper maintenance, alteration/modification, use of the product contrary to the applications for which it was designed, or failure to heed any of the instructions, warnings or guidelines issued with the machine, spare parts or accessories that are not genuine.
 3. Damage incurred in transport.
 4. Operator error, misunderstanding or use contrary to the intended purpose.
 5. Parts that are subject to wear and tear from usage or failure caused by the untimely replacement of such parts.
 6. Warranty claims made where the owner/operator of the machine is not willing or not able to provide any information required by Weldclass Welding Products to process the warranty claim.
 7. The cost of freight, transport or travel. It is the responsibility of the purchaser to deliver the a product under warranty to the nearest relevant service agent or distributor.
 8. Cost for repairs carried out by a party not approved by Weldclass to carry out repairs.
 9. Accessories and attachments such as leads and torches.

This is a repair and/or replacement warranty only and does not allow for a refund. Weldclass reserves the right to replace faulty product or parts covered under warranty with alternative / equivalent product or parts should the original unit become obsolete or unavailable. No other warranty is expressed or implied. This warranty is exclusive and in lieu of all others, including, but not limited to any warranty of merchantability or fitness for any particular purpose. Weldclass shall not under any circumstances be liable for special, indirect or consequential damages. No employee, agent, representative, distributor or agent of Weldclass is authorised to change this warranty in any way or grant any other warranty. Notwithstanding the foregoing, in no event shall the warranty period extend more than the stated warranty period plus 6 months from the date Weldclass delivered the product to the authorised distributor. Warranty is always dated from original date of purchase - if warranty repairs are made or if warranty replacements are given this does not extend the warranty period. Any decision regarding any warranty claim is made at the sole jurisdiction of Weldclass. This warranty policy does not affect the legal rights of any purchaser, distributor or service agent.



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