

Operators Manual



MIGOMAG SIM 200

Multi Process 3 in 1 Welding Inverter with PFC
(Internal Wirefeeder)



Migomag SIM 200 Synergie MIG DC,
TIG / MMA Arc Welder
Part Number: ASIM200

THANK YOU FOR YOUR BUSINESS!

Congratulations on your new MIGOMAG MACHINE. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the welding industry. This product is backed by our extensive warranty.

To locate your nearest distributor or repair agent please call +03 9313 3100, or visit us on the web at www.migomag.com.au.

This Operating Manual has been designed to instruct you on the correct use and operation of your Migomag Welder. Your satisfaction with this product and its safe operation is our ultimate concern. Therefore please take the time to read the entire manual, especially the Safety Precautions. They will help you to avoid potential hazards that may exist when working with this product.

Migomag your Welding Industrial Specialist - we are the right choice for all your welding needs.

Migomag is one of the Market Leaders of Arc Welding Products for welders needs from Light Industrial to Heavy industrial.

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Record the following information for Warranty purposes:

Where Purchased: _____

Purchase Date: _____

Equipment Serial #: _____

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General Safety Rules

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

CAUTION: Do not allow persons to operate or assemble this SIM 200 until they have read this manual and have developed a thorough understanding of how the SIM 200 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.

1. Your Welding Environment

- The welding machine is not suitable for use in rain
- 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

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

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 torch at any body part of yourself or anyone else
- Always use this welder in the rated duty cycle to prevent excessive heat and failure

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 hot. 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 any 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 you 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 ¼" stick out 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 TIG gun nozzle after welding until it has had time to cool down



Sparks/Flying Debris

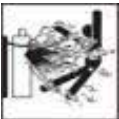
CAUTION! Welding creates hot sparks that can cause injury. Chipping slag off welds creates flying debris.

- 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 TIG gun and ground cable together whenever possible
- Keep TIG 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 TIG 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

5. Proper Care, Maintenance and Repair

- 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

MOM SIM 200 USE AND CARE

- **Do not modify the MOM SIM 200 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 the **MOM SIM 200** was designed
- **Always check of damaged or worn out parts before using the MOM SIM 200.** Broken parts will affect the **MOM SIM 200** operation. Replace or repair damaged or worn parts immediately
- **Store idle MOM SIM 200.** When **MOM SIM 200** 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

Notice:

- If the welder continues to work for too long, the (Protection Indicator) on the panel would be on, indicating that the inner temperature rise inside the welder had exceed the designed permitted temperature. At this time, stop the welding work, wait until the welder has cooled inside and the (Protection Indicator) has turned off, then continue to work again
- Cut off the power switch and gas cylinder before leaving the welding place temporarily or after the welding worked finished
- Welders should wear canvas work clothes and welding face shield to prevent arc light and heat radiation
- Put light-proof screen around the work area to prevent others influenced by the arc lights
- Flammable, explosive items could not be put near the welding area
- Every outlet of the welder should be connected and earthed correctly

Notice: The cover protection degree of the MOM series SIM 200 welder is IP21S. When the welder is operated, do not insert finger or round stick diameter less than 12.5mm (especially metal stick) into the welder; Do not allow to press heavily onto the welder.

Please read through this owner’s manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain these instructions for future reference.

Description

The SIM 200 series is a DC inverter 3 in 1 MIG welder. This unit uses 1~Phase 240V, 50/60HZ AC power. A 25 amp time delay fuse or circuit breaker is recommended. The SIM 200 series is ideal for light industrial. MIG/MAG welding carbon steel, stainless steel, aluminium, silicon bronze.

Unpacking

1. Remove cartons, bags or styrofoam containing the welder machine and accessories.
2. Check the contents with the packing list below.

ITEM	QTY.
SIM 200 Inverter MIG Welder	1 unit
MIG gun MMPRO 24 3MT	1pcs
TIG Torch MM17FXV	1pcs
Earth cable with clamp	1pcs
Gas hose φ6	5m
MIG Tip φ0.8	1pcs
MIG Tip φ0.9	1pcs
Gas Regulator	1pcs
Operator’s Manual	1set
Drive Roller 0.6, 0.8 V, 0.9, 1.0m	

3. After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts.

Specifications

Manufactured to Australian Standard
AS60974-1: 2006
AS610003.3

Primary Voltage

240 Volts 50/60 Hz

Rated Primary Current (I eff)

14 Amps

Maximum Primary Current (I max)

36 Amps

Recommended Generator kVA

10 kVA

Rated Output 15% @ 40 Deg

Duty cycle based on 10 minute cycle time

MIG

200 Amp, 24 V, 15% duty
77 Amp, 17.9 V, 100% duty

Stick

180 Amp, 27.2 V, 15% duty
70 Amp, 22.8 V, 100% duty

DC TIG

200 Amp, 18 V, 15% duty
77 Amp, 13.1 V, 100% duty

Welding Current

10 - 200 Amps

Open Circuit Voltage

71 V
VRD 12.7 V

Shipping weight

27.5 kg - Includes leads
18 kg - Power Source only

Mains Circuit Breaker Rating

36 Amps

Supply plug

15 Amp

Rating

IP21S

Fitted Supply Cable

2.5 mm² Three Core, Heavy Duty PVC
1PH

Cooling

Fan cooled, air drawn in through front of machine

Insulation

Class H, 140°C Rise

Spool Sizes

5 kg

Wirespeed Range

(0 - 14 Metres per min.)

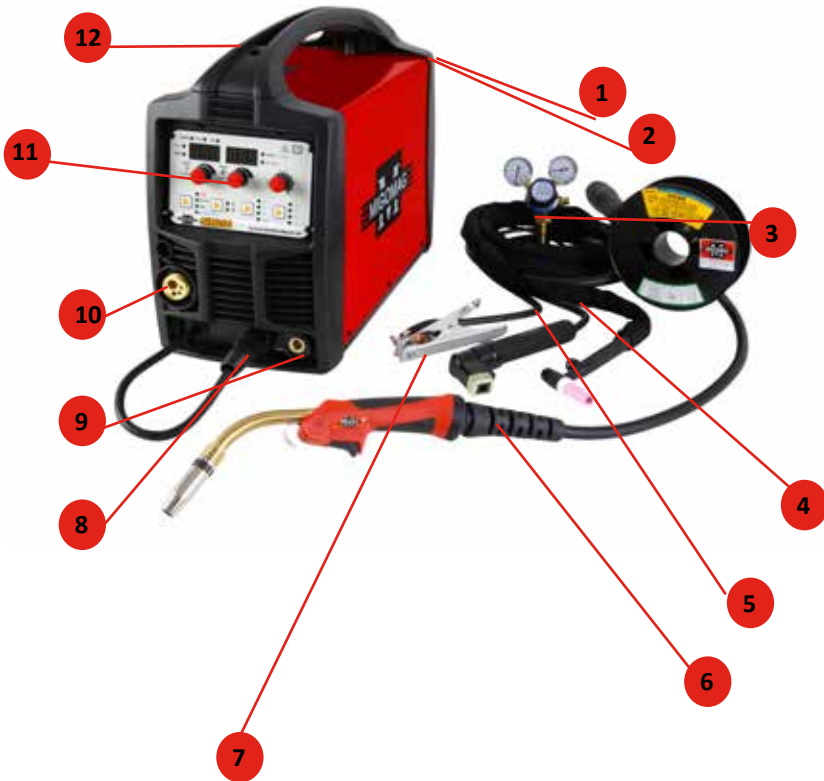
Wire Size Range

0.6mm - 1.0mm Mild Steel
0.6mm - 1.0mm Stainless Steel
1.0mm Aluminium
0.8 - 1.0mm Silicon Bronze

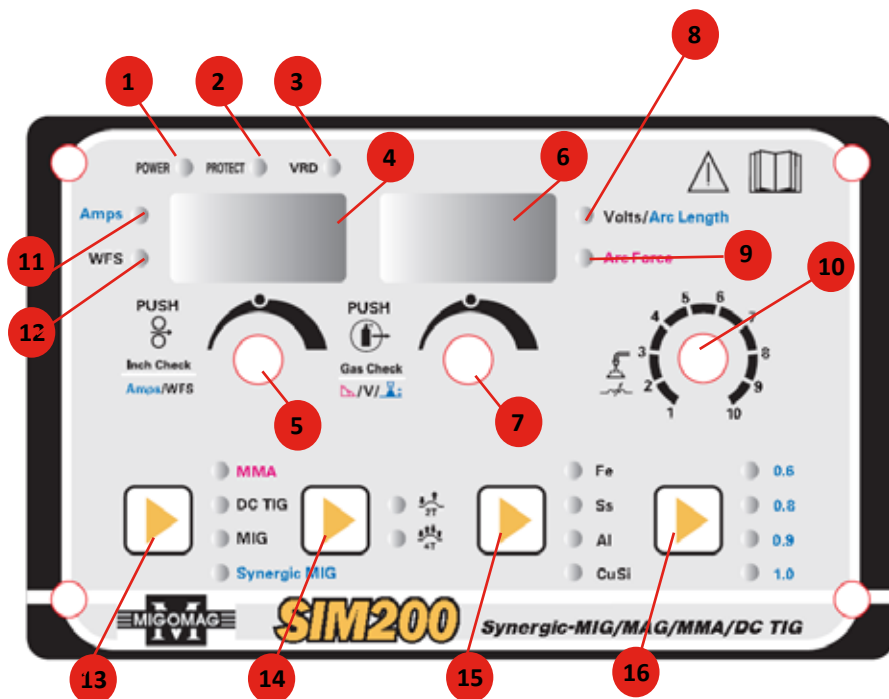
If the supply cable is damaged it must be replaced by the manufacturer, their service agent or a similarly qualified person.

Know your Welder

Factory standard: FN60974-1



1. PRIMARY INPUT CABLE
2. ON/OFF - In the "OFF" position no power is being supplied. In the "ON" position power is supplied to the main transformer and control circuit
3. REGULATOR FLOW METER
4. GAS HOSE - Used to connect the welding machine to the regulator
5. TIG TORCH - For DC Tig welding with Argon gas
6. MIG TORCH - MMPRO 24 3MT The welding wire is driven through the welding torch to the work piece
7. EARTH CABLE WITH CLAMP - Use earth clamp to connect to work piece
8. POLARITY CHANGE CABLE - To change the polarity of machine from DC - to DC +
9. EARTH LEAD CONNECTION DC
10. EURO MIG TORCH CONNECTION
11. OPERATION PANEL
12. GAS HOSE CONNECTION



Front Control Panel

1. **POWER INDICATOR:** When the machine is turned on, the power indicator will be on
2. **ALARM INDICATOR:** When the thermal indicator is on, it shows the machine is overloaded and the internal temperature is too high. Weld output will turn off automatically but the fan will still be working. When the internal temperature is decreased, the overload light will turn off and the machine will be ready to weld
3. **VRD INDICATOR:** When the VRD indicator is on, it means the welder's output voltage is safe ($\leq 13V$), it will be off when the welder is working
4. **AMP DISPLAY:** It will display current preset, and display real-current when the welder is working
5. **AMP CONTROL KNOB:** Its main function is adjusting welding current; Users can press down the knob in MIG/MAG then WIRE inch function will be on at this time
6. **VOLTAGE DISPLAY:** It will display Arc preset in MMA, and display voltage preset in MIG/MAG, and display real-voltage when the welder is working
7. **ARC LENGTH / VOLTAGE ADJUST KNOB:** Its main function is adjusting Arc-Force in MMA, and adjusting welding voltage in MIG/MAG. Users can press down the knob in MIG/MAG, then gas-purge check function will be on at this time
8. **VOLTAGE AND ARC LENGTH INDICATOR**
9. **MMA ARCFORCE PRE-SET INDICATOR**
10. **MIG/MAG ELECTRICAL INDUCTANCE ADJUST KNOB:** Its main function is adjusting arc's dynamic in MIG/MAG
11. **CURRENT / AMPS INDICATOR:** When the indicator is on, the welding current is displayed

12. WFS INDICATOR: When the indicator is on, the wire speed is displayed (m/min) in Manual MIG mode
13. WELDING PROCESS SELECTION BUTTON: Users can select MMA, DC TIG, LIFT Arc, Manual MIG or SYNERGIC MIG function by pushing this button, and the indicators to the right of the button will indicate the selection welding function
14. MIG TRIGGER SELECTION BUTTON: Use this button to select gun trigger 2T/4T mode in MIG/MAG, and the indicators at the right part of button will indicate the selection mode
15. MIG MATERIAL SELECTION BUTTON: Use this button to select MIG wire selection the indicators to the right of the button will indicate the material selected
16. MIG WIRE DIAMETER SELECTION BUTTON: Use this button to select wire diameter, and the indicators to the right of the button will indicate the wire diameters

Recommended Welding Wires and Gas Mixes

FE= Mild Steel Mig welding wire. The recommended wire grade is ER70S6 Kiswel KC 28 Mig wire.

Mild steel Mig welding Gas recommendation for Fe/Mild steel is Coregas 5/2.

The gas mix is 93% argon 5% Co2 and 2% O2.

SS= Stainless Steel Mig welding wire. The recommended wire grades are Kiswel 316lsi,308lsi,309lsi Mig wire.

Stainless Steel Mig welding Gas recommendation is Coregas Shieldpro 20.
The gas mix is 98% argon 2% Co2.

AL= Aluminum Mig welding wire, The recommended wire grades are ER5356, 5183 and 4043 Mig wire.

Aluminum Mig welding Gas recommendation is Coregas Pure argon. The gas mix is 100% argon.

CUSI= Silicon bronze welding wire, The recommended wire grades are Kiswel ERCuSi-A Mig wire.

Silicon bronze welding Gas recommendation is Coregas Pure argon.
The gas mix is 100% argon.

Installation

1. Power Requirement

AC single phase 240V, 50/60HZ fused with a 25 amps time delayed fuse or 36 AMP circuit breaker is required. Check with local requirements for your situation.

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 pin on plug in any way. This will void your warranty. Do not use any adapters 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 to a proper power point 240Vac, 50/60Hz, single phase, 15 amp power source.

2. Extension Cord

During normal use an extension cord is not necessary. It is strongly recommended that an extension cord should be 15 AMP. This drop in voltage can affect the performance of the welder. If you need to use an extension cord it must be a 15 AMP power lead at the smallest 2.5m sq cable.

- Do not use an extension cord over 75 ft. in length

3. Setting up the Work Piece

3.1 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.

3.2 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 a brittle and porous weld. 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:

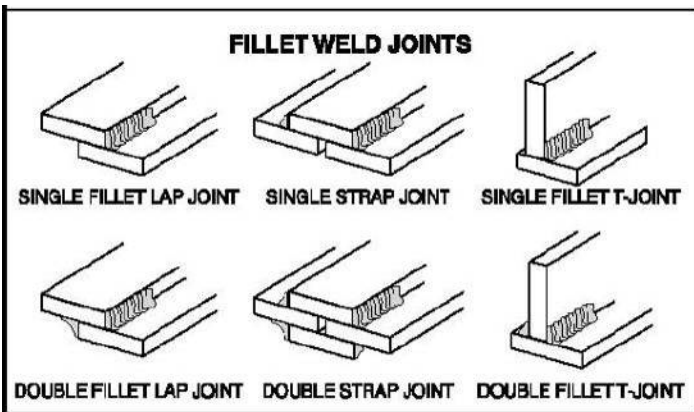
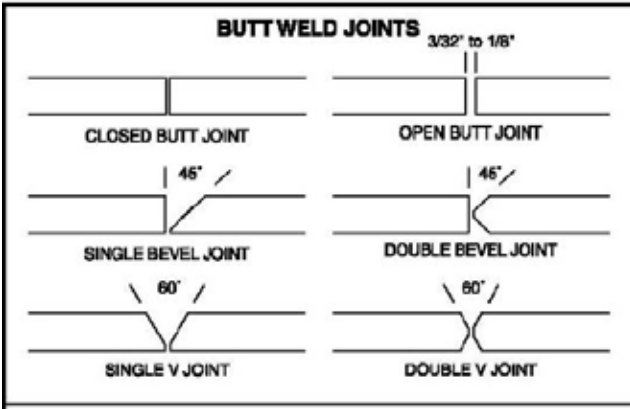
INCORRECT



CORRECT



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



Connection to Electrical Mains Power Supply

The SIM 200 is factory fitted with a 3 metre, 3 core 2.5mm² Heavy Duty PVC mains power supply cable with moulded 3 pin, 15 Amp, Single Phase plug.

A 15 Amp plug and socket is recognisable by a wide Earth pin. Power Supply authorities require that equipment fitted with a 15 Amp plug shall ONLY be connected to a 240 Volt, 15 Amp power point. DO NOT modify the plug.

The minimum capacity of the mains wiring and power outlet supplying a welder is selected according to the effective primary current of the equipment. The effective primary current for the SIM 200 is 15 Amps.

The minimum recommended mains circuit breaker rating for a SIM 200 is 36 Amps. Note : Due to normal variations of sensitivity, the tripping time of some 36 Amp circuit breakers may limit the duty cycle available from the SIM 200. A higher rated circuit breaker can be selected, but the mains wiring capacity must be rated to suit.

The current rating of the mains cable depends on cable size and method of installation. Refer to AS/NZS 3008.1, Table 9.

4. 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.

5. Setting the Wire Tension

WARNING:

Arc flash can injure eyes! To reduce the risk of arc flash, make certain that the wire coming out of the end of the torch does not come in contact with work piece, ground clamp or any grounded material during the drive tension setting process or arcing will occur.

1. Press the trigger on the torch
2. Turn the drive tension adjustment knob clockwise, increasing the drive tension until the wire seems to feed smoothly without slipping.

6. Gas Installation

WARNING:

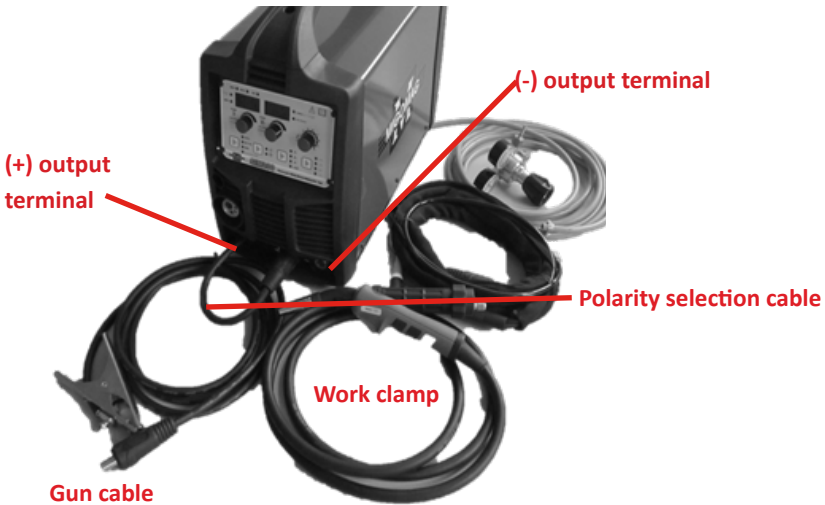
Shielding gas cylinders and high pressure cylinders can explode if damaged, so treat them carefully.

- 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

When MIG (solid) wires are used, the shielding gas is required.

6.1 Polarity changing

The factory polarity setting is for solid wire welding. If MIG welding with shielding gas the polarity lead is to “+”, and ground cable is connected to “-”. Secure leads tight with hand. See illustrations below.



6.2 The gas hose, regulator and gas cylinder connection

Attach one end of the gas hose to the quick release fitting (gas inlet) located on the back panel of the welder. Attach the other end to the gas regulator which is attached to the shielding gas cylinder.

1. Cylinder valve: Controls GAS CYLINDER gas flow
2. Cylinder pressure gauge
3. Gas flow gauge
4. Regulator
5. Adjustment knob controls gas pressure to the welder
6. Gas hose
7. Gas cylinder

NOTE:

Slowly open the cylinder valve by turning it counterclockwise until the cylinder pressure gauge registers on the first gauge of the regulator. Turn the adjustment knob clockwise (right) slowly to increase gas flow to 15 lpm. To reduce the gas flow turn the adjustment counterclockwise (left). The gas valve is located on the back panel of the welder and activated by the trigger. Gas flow should be heard when the trigger is activated. No gas flow will result in a harsh arc with excessive spatter, a smooth weld bead will be difficult to obtain. Avoid unnecessary gas loss by closing the tank valve when finished welding.

6.3. Gas selection

Different materials require different shielding gas when MIG welding, refer to the set up chart inside the wire feed compartment.

Mild steel: Use gas mix consisting of Coregas 52 Argon 93%, CO₂ 5% and OXY 2%.

Stainless steel: Use a gas mix consisting of Coregas Sheildpro 20 Argon 98% and CO₂ 2%.

Aluminum or silicone bronze: Use 100% Argon.

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 adapters between the welder's power cord and the power source receptacle. Make sure the POWER switch is OFF before connecting your welder's power cord to a properly grounded 240VAC(220v-240v), 50/60Hz, single phase, 15 amp power source.

The MIG Welding Operation

1. Main Control Component

Power switch - The power switch supplies electrical current to the welder. When the power switch is in the ON position, the welding circuit is activated. ALWAYS turn the power switch to the OFF position and unplug the welder before performing any maintenance.

AMP & VOLT Voltage selector - The voltage selector controls the welding heat. This unit has infinite voltage control. Refer to the label inside the welder side door for recommended voltage selector settings for your welding job.

Wire speed control - The wire speed control adjusts the speed at which the wire is fed out of the welding torch. The wire speed needs to be closely matched (tuned-in) to the rate at which it is being melted off. Some things that affect wire speed selection are the type and diameter of the wire being used, the heat setting selected, and the welding position to be used.

Note: The wire will feed faster without an arc. When an arc is being drawn, the wire speed will slow down.

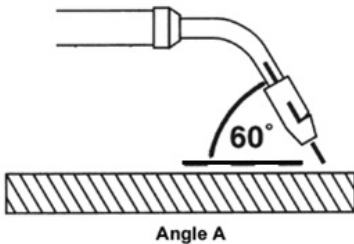
2. Hold the Torch

The best way to hold the welding torch is the way that feels most comfortable to you. While practicing to use your new welder, experiment holding the torch in different positions until you find the one that seems to work best for you.

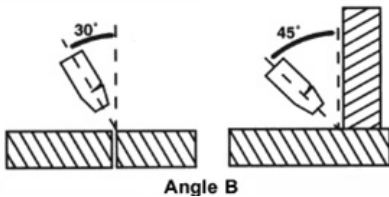
3. Position the Torch to the Work Piece

There are two angles of the torch nozzle in relation to the work piece that must be considered when welding.

3.1. Angle A can be varied, but in most cases the optimum angle will be 60 degrees, the point at which the torch handle is parallel to the work piece. If angle A is increased, penetration will increase. If angle A is decreased, penetration will decrease also.



3.2. Angle B can be varied for two reasons: to improve the ability to see the arc in relation to the weld puddle and to direct the force of the arc.



4. Distance from the Work Piece

If the nozzle is held off the work piece, the distance between the nozzle and the work piece should be kept constant and should not exceed 1/4 inch or the arc may begin sputtering, signaling a loss in welding performance.

5. Tuning in the Wire Speed

This is one of the most important parts of MIG welder operation and must be done before starting each welding job or whenever any of the following variables are changed: heat setting, wire diameter, or wire type.

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 flameproof welding gloves, a heavy long sleeved shirt, trousers with no cuffs, high topped shoes, and an ANSI approved welding helmet.

5.1. Connect the Ground Clamp to a scrap piece of the same type of material which you will be welding. It should be equal to or greater than the thickness of the actual work piece, and free of oil, paint, rust, etc.

5.2. Select a heat setting. Refer to set up chart in machine door.

5.3. Hold the torch in one hand, allowing the nozzle to rest on the edge of the work piece farthest away from you, and at an angle similar to that which will be used when welding. (See HOLDING THE TORCH if you are uncertain of the angle at which you will be welding).

5.4. With your free hand, turn the Wire Speed Dial to maximum and continue to hold onto the knob.

5.5. Lower your welding helmet and pull the trigger on the torch to start an arc, then begin to drag the torch toward you while simultaneously turning the Wire Speed Dial counter-clockwise.

5.6. LISTEN! As you decrease the wire speed, the sound that the arc makes will change from a sputtering to a high-pitched buzzing sound and then will begin sputtering again if you decrease the wire speed too much. The point on the wire speed adjustment where the high-pitched buzzing sound is achieved is the correct setting. You can use the wire speed control to slightly increase or decrease the heat and penetration for a given heat setting by selecting higher or lower wire speed settings. Repeat this tune-in procedure if you select a new heat setting, a different diameter wire, or a different type of welding wire.

6. Welding Techniques

WARNING:

EXPOSURE TO A WELDING ARC IS EXTREMELY HARMFUL TO THE EYES AND SKIN!

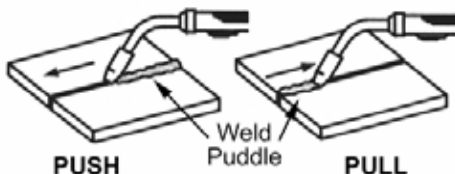
Prolonged exposure to the welding arc can cause blindness and burns. Never strike an arc or begin welding until you are adequately protected. Wear flameproof welding gloves, a heavy long sleeved shirt, trousers with out cuffs, high topped shoes and an ANSI approved welding helmet.

ELECTRIC SHOCK CAN KILL! To prevent ELECTRIC SHOCK, do not perform any welding while standing, kneeling, or lying directly on the grounded work.

6.1 Moving the torch

Torch travel refers to the movement of the torch along the weld joint and is broken into two elements: Direction and Speed. A solid weld bead requires that the welding torch be moved steadily and at the right speed along the weld joint. Moving the torch too fast, too slow, or erratically will prevent proper fusion or create a lumpy, uneven bead.

Travel direction is the direction the torch is moved along the weld joint in relation to the weld puddle. The torch is either PUSHED into the weld puddle or PULLED away from the weld puddle.



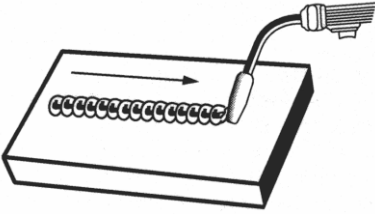
For most welding jobs you will pull the torch along the weld joint to take advantage of the greater weld puddle visibility.

Travel speed is the rate at which the torch is being pushed or pulled along the weld joint. For a fixed heat setting, the faster the travel speed, the lower the penetration and the lower and narrower the finished weld bead. Likewise, the slower the travel speed, the deeper the penetration and the higher and wider the finished weld bead.

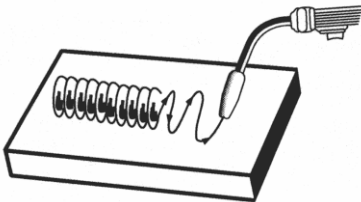
6.2 Types of welding beads

As you become more familiar with your new welder and better at laying some simple weld beads, you can begin to try some different weld bead types.

The **STRINGER BEAD** is formed by traveling with the torch in a straight line while keeping the wire and nozzle centered over the weld joint (See following figure).

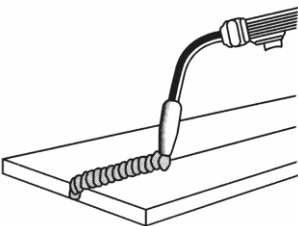


The **WEAVE BEAD** is used when you want to deposit metal over a wider space than would be possible with a stringer bead. It is made by weaving from side to side while moving with the torch. It is best to hesitate momentarily at each side before weaving back the other way.



6.3 Welding position

FLAT POSITION 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.



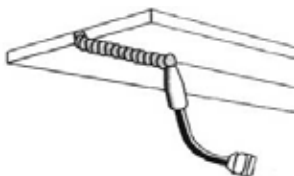
HORIZONTAL POSITION is performed very much the same as the flat weld except that angle B (see **HOLDING THE TORCH**) is such that the wire, directed more toward the metal above the weld joint is to help prevent the weld puddle from running downward while still allowing slow enough travel speed.

A good starting point for angle B is about 30 degrees DOWN from being perpendicular to the work piece.



VERTICAL POSITION is easier for many people to Pull the torch from top to bottom. It can be difficult to prevent the puddle from running downward. Pushing the torch from bottom to top may provide better puddle control and allow slower rates of travel speed to achieve deeper penetration. When vertical welding, angle B (see HOLDING THE TORCH) is usually always kept at zero, but angle A will generally range from 45 to 60 degrees to provide better puddle control.

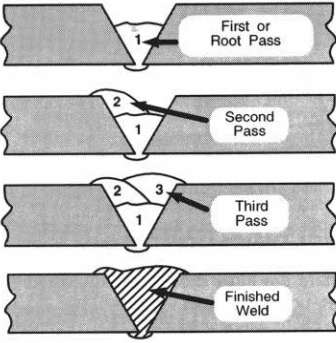
OVERHEAD POSITION is the most difficult welding position. Angle A (see HOLDING THE TORCH) should be maintained at 60 degrees. Maintaining this angle will reduce the chances of molten metal falling into the nozzle. Angle B should be held at zero degrees so that the wire is aiming directly into the weld joint. If you experience excessive dripping of the weld puddle, select a lower heat setting. Also, the weave bead tends to work better than the stringer.



6.4 Multiple pass welding

Butt Weld Joints When butt welding thicker materials you will need to prepare the edges of the material to be joined by grinding a bevel on the edge of one or both pieces of the metal being joined. When this is done, a "V" is created between the two pieces of metal that will have to be welded closed. In most cases more than one pass or bead will need to be laid into the joint to close the "V".

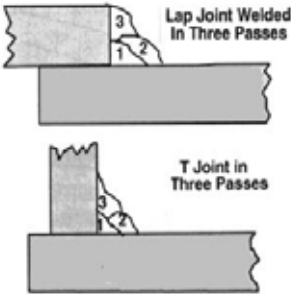
Laying more than one bead into the same weld joint is known as a multiple-pass weld. The illustrations in following figure show the sequence for laying multiple pass beads into a single "V" butt joint.



NOTE:

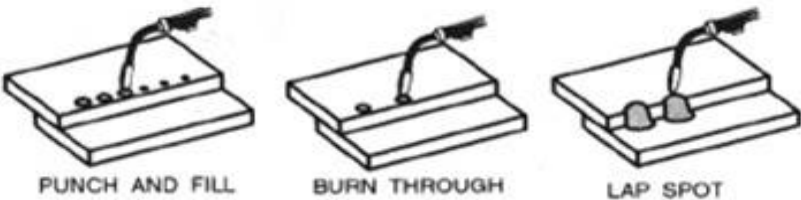
WHEN USING SELF-SHIELDING FLUX-CORE WIRE it is very important to thoroughly chip and brush the slag off each completed weld bead before making another pass or the next pass will be of poor quality.

Fillet Weld Joints. Most fillet weld joints, on metals of moderate to heavy thickness, will require multiple pass welds to produce strong joint. The illustrations in Figure 19 show the sequence of laying multiple pass beads into a T fillet joint and a lap fillet joint.



6.5 Spot welding

There are three methods of spot welding: Burn-Through, Punch and Fill, and Lap. Each has advantages and disadvantages depending on the specific application as well as personal preference.



1. The BURN-THROUGH METHOD welds two overlapped pieces of metal together by burning through the top piece and into the bottom piece. With the burn-through method, larger wire diameters tend to work better than smaller diameters. Wire diameters that tend to work best, with the burn-through method are 0.035 inch self-shielding flux-core wire. Do not use .030 inch self-shielding flux core wires when using the burn-through method unless the metal is VERY thin or excessive filler metal build-up and minimal penetration is acceptable. Always select the HIGH heat setting with the burn-through method and tune in the wire speed prior to making a spot weld.

2. The PUNCH AND FILL METHOD produces a weld with the most finished appearance of the three spot weld methods. In this method, a hole is punched or drilled into the top piece of metal and the arc is directed through the hole to penetrate into the bottom piece. The puddle is allowed to fill up the hole leaving a spot weld that is smooth and flush with the surface of the top piece. Select the wire diameter, heat setting, and tune in the wire speed as if you were welding the same thickness material with a continuous bead.

3. The LAP SPOT METHOD directs the welding arc to penetrate the bottom and top pieces, at the same time, right along each side of the lap joint seam. Select the wire diameter, heat setting, and tune in the wire speed as if you were welding the same thickness material with a continuous bead.

7. Electrode

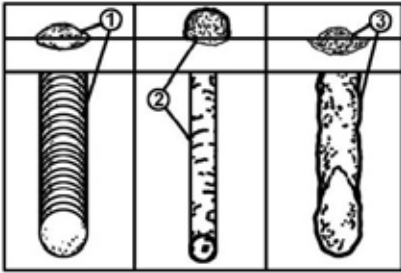
The welding electrode is a rod coated with a layer of flux. When welding, electrical current flows between the electrode (rod) and the grounded metal work piece. The intense heat of the arc between the rod and the grounded metal melts the electrode and the flux. The most popular electrodes are:

- **Kobe -6010** E6010 tensile strength deep penetrating applications.
- **Kobe RB-26** E6013 tensile strength used for poor fit up applications
- **Kobe LB-52U** E7016 tensile strength used for high deposition and fast travel speeds with light penetration
- **Kobe LB-52-18** E7018 70,000 PSI tensile strength, Used for out of position and tacking.

Used for out of position and tacking.

8. 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 following some helpful trouble shooting tips to determine if you are using a correct electrode.



1. When proper rod is used:

- The bead will lay smoothly over the work without ragged edges
- The base metal puddle will be as deep as the bead that rises above it
- The welding operation will make a crackling sound similar to the sound of eggs frying

2. When a rod too small is used

- The bead will be high and irregular
- The arc will be difficult to maintain

3. When the rod is too large

- The arc will burn through light metals
- The bead will undercut the work
- The bead will be flat and porous
- 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.

Operation

1. Setting the Amperage Control

The welder has an infinite output current control. It is capable of welding with 2.0mm and 2.6mm and 3.2mm electrodes.

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).

2. 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 have satisfied yourself that your practice welds are of good appearance and free of slag or gas inclusions.

2.1 Holding the electrode

The best way to grip the electrode holder is the way that feels most comfortable to you. To 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.

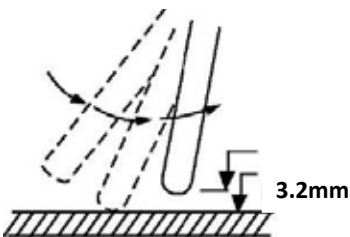
2.2 Striking the arc

WARNING:

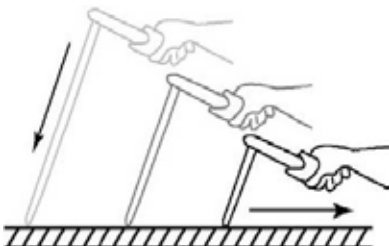
EXPOSURE TO A WELDING ARC IS EXTREMELY HARMFUL TO THE EYES AND SKIN.

- Never strike an arc or begin welding until you have adequate protection
- Wear flameproof welding gloves, heavy long-sleeved shirt, cuffless trousers, high-topped shoes and a welding helmet or shield

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:

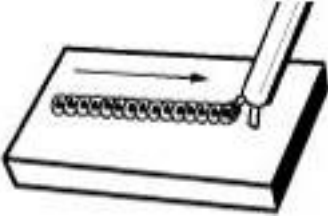


It is important that the gap be maintained during the welding process and it should be neither too wide or too narrow. If too narrow, the rod will stick to the work piece. If too wide, the arc will be extinguished. It needs much practice to maintain the gap. Beginners may get sticking or arc extinguishing. When the rod sticks to the work piece, gently rock it back and forth to separate them. If not, the circuit is short connection, and it will overload 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 and in the direction the weld is to be laid, as in following figure:

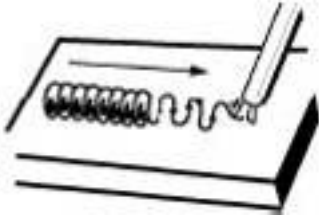


2.3 Types of weld bead

The following paragraphs discuss the most commonly used arc welding beads. The stringer bead is formed by traveling with the electrode in a straight line while keeping it centered over the weld joint.

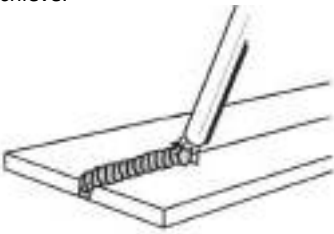


The weave bead is used when you want to deposit metal over a wider space than would be possible with a stringer bead. It is made by weaving from side to side while moving with the electrode. It is best to hesitate momentarily at each side before weaving back the other way to improve penetration.



2.4 Welding position

Flat position is the 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.

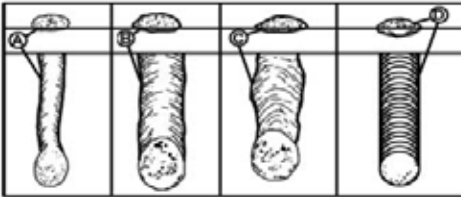


The horizontal position is performed very much the same as the flat weld except that the angle is different such that the electrode, and therefore the arc force, is directed more toward the metal above the weld joint. This more direct angle helps prevent the weld puddle from running downward while still 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.



2.5 Judge a 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. To prevent ELECTRIC SHOCK, do not perform any welding while standing, kneeling, or lying directly on the grounded work.

2.6 Finish the bead

As the coating on the outside of the electrode burns off, it forms an envelope of protective gasses 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 striking the weld with a chipping hammer.

External Trouble Shooting

If the following checks do not identify the fault condition, the equipment should be returned to a Migomag Service agent.

Power source has no output and no wirefeed when gun trigger is pulled in:

'ON' indicator light is not illuminated

1. Check equipment is connected to a functional mains power outlet.

'ON' indicator light is illuminated

1. The gun switch circuit may be incomplete.
 - Check the gun switch for continuity with an ohm meter when the switch is pressed. Replace if faulty
 - Check the 2 pin receptacles in Euro adaptor are making contact with the mating pins from the gun Euro end
2. Power source may have overheated.
 - The SIM 200 welding power source incorporates an inbuilt over-temperature thermostat which will trip if the welding load exceeds the operating duty cycle. The 'OVERLOAD' light will be illuminated. The thermostat will reset automatically - do not switch the equipment off as the cooling fan will assist the resetting of the thermostat
 - If problem persists after the cool down period, call your Migomag service agent

Power source has low weld output

1. Check all electrical connections in the welding current circuit, including weld cable, work clamp and gun/cable assembly.

Circuit breaker trips during welding

- 1 Check the rating of the mains supply circuit breaker. The SIM 200 should be supplied from a 36 Amp or larger circuit breaker.

Unsatisfactory Welding Performance and Results

Erratic arc characteristics caused by poor wirefeed

Erratic wirefeed is the MOST LIKELY cause of failure in all Gas Metal Arc Welding. It should therefore be the first point checked when problems occur.

1. Refer to the points in 'Wirefeed' in Section 5.
2. Check if the consumable wire is slipping in the drive rolls. Replace the feed roll if it is the incorrect size or is worn.
3. Check that gun cable liner is not too short and is fitted correctly. Refer to page 28 for fitting instructions.

Constant poor arc characteristics

Check that the:

1. Correct polarity has been selected for work and weld cables (refer page 10).
2. Shielding gas is correct for the consumable wire in use (refer page 12).
3. Welding circuit is making good electrical connection. Ensure that the work clamp is securely tightened onto the work piece so that good electrical contact is achieved
4. All connections in the external welding circuit are clean and tight. Problems may show as hot spots
5. Work piece surface is not contaminated. Water, oil, grease, galvanising, paint, or oxide layers can severely disturb the welding arc and result in a poor weld.

Porosity in weld caused by lack of shielding gas

1. Check that the correct gas flow rate has been set (refer page 12)
2. Check for leaks in the gas hose. Replace if leaking
3. Check for leaks in gun/cable assembly, eg. fractured gas hose, broken or missing 'O' rings. Replace as required.
4. Check the gun nozzle is free from spatter and is firmly attached to the welding gun to ensure that no air is being drawn into the shielded area.

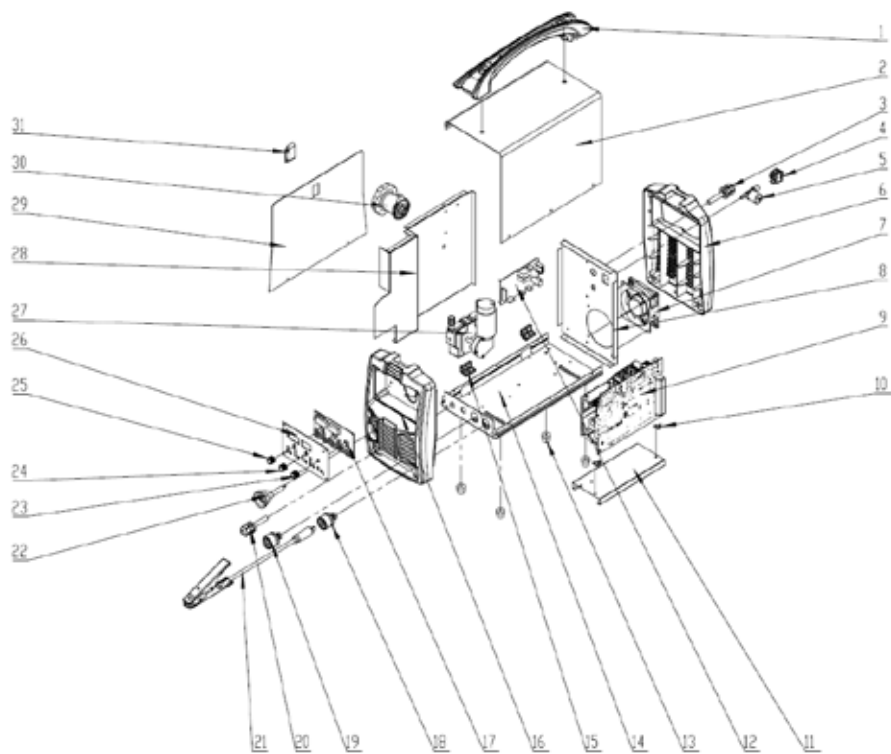
Service Information

The following information is intended for use by qualified service personnel.

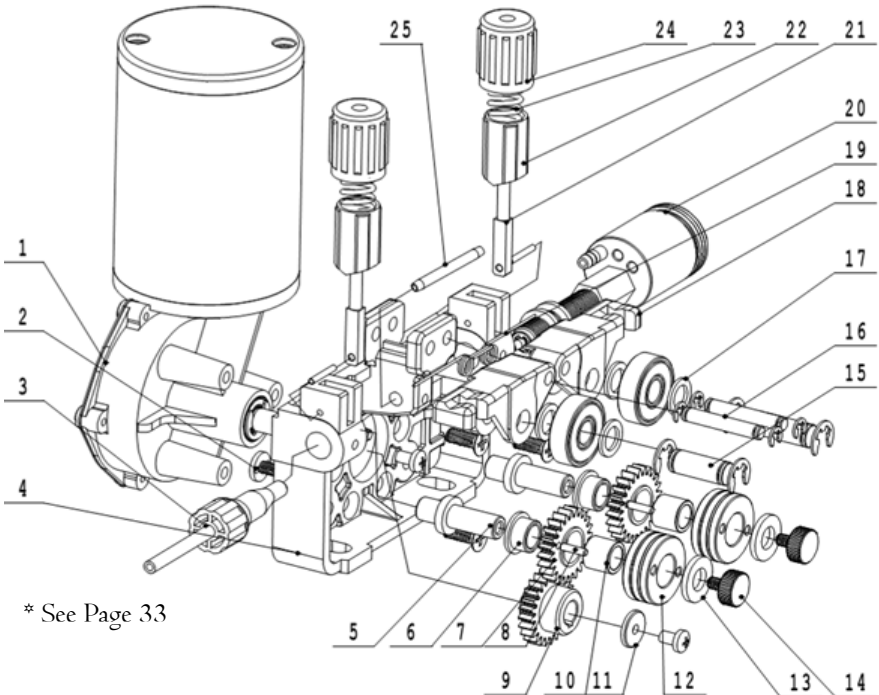
When the unit is energised LETHAL VOLTAGES are present on the electrical and electronic components. It is not intended that persons without suitable training and knowledge attempt to perform service tasks on the components of this welder.

Before removing the equipment cover, ENSURE that the equipment is disconnected from the mains power supply. When the equipment is energised LETHAL VOLTAGES are present on the electrical components enclosed.

Spare Part Diagram



Drive Bracket Assembly Part Diagram

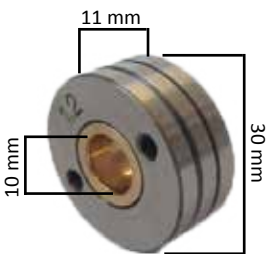


* See Page 33

Migomag Machine Number	Solid Wire V-Grooved			
Sim 200-Sim 250- Sim 350 and Sim PF4	0.6-0.8mm	0.9-1.0mm	1.0-1.2mm	1.2-1.6mm
Part Number	87003100	87003101	87003102	87003103

Gasless Wire Flux Cored		
0.6-0.8mm	0.9-1.0mm	1.2-1.6mm
87003104	87003105	87003106

Aluminium U-Grooved		
0.9-1.0mm	1.0-1.2mm	1.2-1.6mm
87003107	87003108	87003109



Spare Part List

NO	Part Number	Description	QTY
1	87002000	Handle	1
2	87002001	R/h side panel	1
3	87002002	Power input Lead complete	1
4	87002003	Main on/off switch	1
5	87002004	Gas valve	1
6	87002005	Plastic cover rear panel	1
7	87002006	Fan	1
8	87002007	Rear frame panel	1
9	87001000	Main PCB control card complete	1
10	87001001	Mount for main PCB	12
11	87001002	Bracket for main control PCB	1
12	87001003	Secondary Control Card	1
13	87002008	Rubber feet	4
14	87002009	Bottom frame panel	1
15	87002010	L/H side panel Hinge	2
16	87002011	Plastic cover front panel	1
17	87001004	Front display control card	1
18, 19	P511015	Panel mount dinse connector	2
20	87002012	Polarity lead with dinse connector	1
21	87002013	Earth lead complete	1
22	87002014	Euro adapter	1
23, 24, 25	87002015	Potentiometer knob	3
26	87001005	Front display card holder	1
27	87003000	Complete drive assembly inc motor	1
28	87002017	Centre frame panel	1
29	87002018	Side panel L/h side	1
30	87002019	Spool holder Assembly	1
31	87002020	Door Latch for side panel	1
No image	87002021	Front sticker	1
No image	87002023	3M 25mm ² welding cable with earth clamp and Dinse connector	1
No image	87002022	3M 25mm ² welding cable with electrode holder and Dinse connector	1
No image	87002023	Quick connector for gas hose	1
No image	87002024	Gas hose complete	1

Drive Bracket Assembly Part List

NO	Part Number	Description	QTY
1	87003001	Drive Motor	1
2	87003005	Holding screw	2
3	87003006	Wire inlet guide tube	1
4	87003002	Wire feed bracket	1
5	87003007	Shaft for drive gears	2
6	87003008	Shaft sleeve for drive gears	2
7	87003009	Drive gear	2
8	87003010	Drive gear pin	4
9	87003011	Motor drive gear	1
10	87003012	Sleeve for drive roller	2
11	87003013	Washer for drive gear	1
12	87003014	Drive roller	2
13	87003003	Washer for driving roller	2
14	87003004	Securing screw for drive roller	2
15	87003015	Pressure roller pin	2
16	87003016	Idler arm pin	2
17	87003017	Washer for pressure rollers	4
18A	87003018	Left Idler are Bracket	1
18B	87003019	Right Idler are bracket	1
19	87003020	Tension spring	1
20	87003021	Euro adaptor suit SIM	1
21	87003022	Tension adjusting screw	2
22	87003023	Tension adjusting handle	2
23	87003024	Spring for tension	2
24	87003025	Tension adjusting handle cover	2
25	87003026	Center guide tube	1
26	87003027	Central adaptor guide tube	1

Service, Maintenance, Transportation and Storage

The welder needs regular maintenance as following: 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.

Minor and Routine Maintenance

Store in a clean dry facility free from corrosive gas, excess dust and high humidity.

Temperature range from 10F120°F and the relative humidity not more than 90%.

When transporting or storing the welder after use, it is recommended to repack the product as it was received for protection. Cleaning is required before storage and you must seal the plastic bag in the box for storage.

Warning Label

 WARNING Do Not Remove, Destroy, Or Cover This Label.		 FIRE HAZARDS <ul style="list-style-type: none"> Remove all flammable materials within 35 feet of the welding arc Keep flying sparks from entering cracks or hidden areas Keep a fire extinguisher close Wear oil-free garments without pockets or cuffs Do not weld on closed containers
 ELECTRIC SHOCK can kill <ul style="list-style-type: none"> Wear dry protective apparel Avoid contacting work piece or ground Avoid contact with electrically live parts Do not touch work piece and welding wire at the same time Use only recommended cables and cords Connect ground clamp as close to the welding area as possible Disconnect power when servicing this welder 	 ARC RAYS <ul style="list-style-type: none"> Always wear a helmet with full face and neck protection with shade #10 lens Use helmet that meets ANSI standards Cover exposed skin with proper clothing Warn people in the welding area when you are starting an arc 	
 FUMES AND GASES <ul style="list-style-type: none"> Do not breathe fumes emitted by the welding process Work in a well ventilated area Do not weld coated or plated materials (galvanized, cadmium, zinc, mercury, barium) Use ventilator when necessary Know the danger of materials you are welding. Refer to MSDS sheets for welding wire and materials being welded 	 HOT MATERIALS <ul style="list-style-type: none"> Do not touch welded materials with your bare hand Do not touch MIG gun nozzle after welding 	
Read the operator's manual for more safety information. For more safety information contact Migomag on (03) 9313 3100 888 Somerville Road, Sunshine VIC 3020		 MAGNETIC FIELDS <ul style="list-style-type: none"> Keep people with pace makers away from your welding area Keep MIG gun and ground cables on the same side of your body. Do not wrap cable around your body while welding

Warranty

Power Source	Warranty Period	Labour
Power source only	3 Years	2 Years
Accessories	Warranty Period	
MIG & TIG torch, electrode holder lead, earth lead, gas hose, regulator and any other accessories	6 Months	
MIG & TIG torch consumable items	NIL	

Migomag Welding Machines

3 Year Warranty Statement Migomag warrants to the original retail purchaser that the welding machine purchased (Product) will be free from defects in materials and workmanship for a period of 3 years from the date of purchase of the Product by the user. If a defect in material or workmanship becomes evident during that period, Migomag will, at its option, either:

- Repair the Product or pay for the cost to repair the product
- Replace the Product

In the event of such a defect, the customer should return the Product to the original place of purchase, with proof of purchase, or contact Migomag on 03 9313 3100 to locate an authorised service agent.

Any handling and transportation costs (and other expenses) incurred in claiming under this warranty are not covered by this warranty and will not be covered by Migomag.

Terms & Conditions

WARRANTY AND LIABILITY OF SELLER

(a) The Seller makes no express warranties under this Agreement. Manufacturers of goods may, from time to time, provide a voluntary warranty directly to the Buyer in relation to goods supplied to the Buyer. The Buyer must address issues relating to a manufacturer's warranty with the manufacturer on the terms of that warranty.

(b) Buyer shall immediately notify the Seller in writing of any defect in the goods supplied by the Seller. The Buyer shall not carry out any remedial work to allegedly defective goods without first obtaining the written consent of that Seller to do so. The provisions of this clause 21(b) do not constitute a warranty in relation to the quality or fitness of the goods, or require the Seller to repair or replace goods, or offer a refund in relation to goods, in circumstances other those set out in Australian Consumer Law (to the extent that the Australian Consumer Law applies to the goods).

(c) The Competition and Consumer Act 2010 (Cth) and the Australian Consumer Law guarantee certain conditions, warranties and undertakings, and give you other legal rights, in relation to the quality and fitness for purpose of consumer goods sold in Australia. These guarantees cannot be modified nor excluded by any contract. Nothing in these terms and conditions purports to modify or exclude the conditions, warranties, guarantees and undertakings, and other legal rights, under the Australian Consumer Law and other laws which cannot be modified or excluded. Except as expressly set out in this Agreement and the Australian Consumer Law, the Seller makes no warranties or other representations under this Agreement. The Seller's liability in respect of these warranties, representations, undertakings and guarantees is limited to the fullest extent permitted by law.

(d) Without limiting clause 21(c), where the Seller sells goods to the Buyer, and the Buyer purchases them as a Consumer, then the Australian Consumer Law provides certain guarantees in relation to the goods. The rights of the Buyer buying goods as a Consumer include those set out in clause 21(e) below.

(e) Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

(f) To the extent permitted by statute, the liability, if any, of the Seller arising from the breach of any implied conditions or warranties, or failure to comply with a statutory guarantee under the Australian Consumer Law, in relation to the supply of goods other than goods of a kind ordinarily acquired for personal, domestic or household use or consumption, shall at the Seller's option be limited to:

(i) the replacement of the goods or resupply of the goods by the Seller, or the cost of replacement or resupply of the goods; or

(ii) the repair of the goods, or the cost of repair of the goods.

(g) Subject to clause 21(c), the Seller shall not in any circumstances be liable to the Buyer under or in connection with this Agreement, or in negligence or any other tort or otherwise howsoever, as a result of any act or omission in the course of or in connection with the performance of this Agreement, for or in respect of any Excluded Loss.

(h) The Seller makes no express warranties in relation to the suitability for any purpose of goods or materials supplied by a Seller.

(i) To the extent permitted by statute, all warranties, conditions and guarantees (whether express, implied or applied, and whether given by the Seller, the manufacturer or a third party) and any obligation of the Seller to repair or replace any goods are void in respect of any goods which the Buyer tampers with or alters.

ALTERATION TO CONDITIONS

A Seller may, at any time and from time to time, alter these terms and conditions. Any variation to these standard terms and conditions will not apply to any contract for a specified term that incorporates a version of these standard terms and conditions released prior to the variation.

For more Terms & Conditions please visit www.migomag.com.au.

Warranty provided by:

Migomag Welding Supplies

668 Somerville Road, Sunshine VIC 3020

03 9313 3100

Info@migomag.com.au

www.migomag.com.au

For warranty claims please email warranty@migomag.com.au

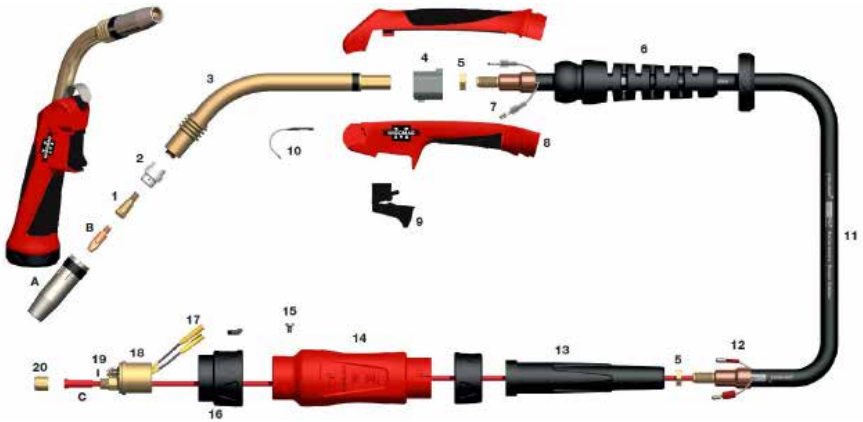
A division of Wesfarmers Industrial & Safety

Migomag MIG Torch

MOM 240A

Air Cooled MIG Welding Torch

Rating: Mixed gas @ 60% duty cycle, EN60974-7 Mig wire diametres 0.6mm - 1.2mm



Model			
	Stock Code		Model Description
	MMPRO24/3	3mt	Welding Torch c/w Pro Handle
	MMPRO24/4	4mt	Welding Torch c/w Pro Handle
	MMPRO24/5	5mt	Welding Torch c/w Pro Handle

Nozzles		
	Stock Code	Description
A	03392936	Cylindrical Nozzle 17mm Bore
	03392953	Conical Nozzle 13mm Bore

Contact Tips			
	Stock Code	Description	
B	03393072	Contact Tip	0.6mm M6 Ecu
	03393106	Contact Tip	0.8mm M6 Ecu
	03393123	Contact Tip	0.9mm M6 Ecu
	03393140	Contact Tip	1.0mm M6 Ecu
	03393175	Contact Tip	1.2mm M6 Ecu
	03393174	Contact Tip	1.0mm M6 ALU
	03393191	Contact Tip	1.2mm M6 ALU

Liners			
	Stock Code	Description	
C	03393378	Steel Liner	0.6-0.9mm x 3mt
	03393395	Steel Liner	0.6-0.9mm x 4mt
	033933412	Steel Liner	1.0-1.2mm x 3mt
	033933429	Steel Liner	1.0-1.2mm x 4mt
	03393446	Teflon liner 1.0-1.2mm x 4mt	

Components			
	Stock Code	Description	
1	03393327	Tip Adaptor	
2	03393038	Diffuser White	
3	B2401	Swan Neck	
4	B1515/PG	Handle Location Body	
5	B1505	Lock Nut	
6	B8015	Cable Support c/w Knuckle Joint	
7	B1521	Cable Terminal	
8	B7514	Pro-Grip Handle Kit	
9	B2516	Ergo Trigger	
10	B2517	Hanger Hook	
11	B2603-30	Hyperflex Cable Assembly x 3mt	
	B2603-40	Hyperflex Cable Assembly x 4mt	
	B2603-50	Hyperflex Cable Assembly x 5mt	
12	B1522	Cable Terminal Male	
13	B2841	Cable Support	
14	B1518	Gun Plug Housing c/w Nut	
15	B1526	Gun Plug Screw	
16	B1519	Gun Plug Nut c/w Insert	
17	Spring Pin 2	Spring Pin Assembly	
18	B1528	Gun Plug Body c/w Spring Pins	
19	B1524	Gun Plug 'O' Ring	
20	B1525	Liner Nut	

