

# ALUMMIG 230

## QUICK SETUP GUIDE



PLEASE DOWNLOAD AND READ THE  
OPERATING MANUAL BEFORE OPERATION  
FOR IMPORTANT SAFETY INFORMATION!



# MACHINE OVERVIEW



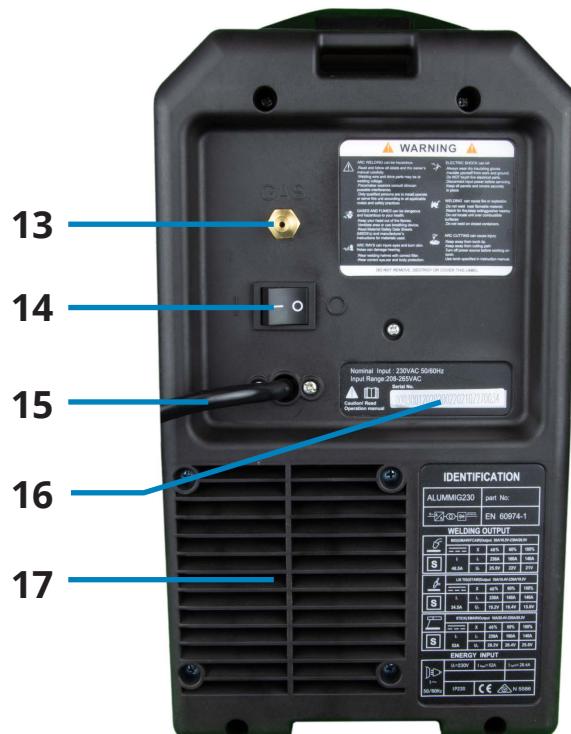
## FRONT LAYOUT

1. MIG Trigger Mode / Welding Programs
2. Factory Reset **NOTE:** Saved data will be lost
3. Save & Load Programs
4. Back to main menu
5. Manual Wire Feed
6. GAS Check
7. Encoder Control Knob
8. Positive Output Terminal
9. Negative Output Terminal
10. EURO MIG Torch Connection
11. Push pull / Spool Gun / TIG Torch Connection
12. GAS Quick Connection **NOTE:** TIG Only



## REAR LAYOUT

13. Inlet Gas Quick Connector
14. Power Switch
15. Mains Power Cable **NOTE:** 15 Amp Plug
16. Serial Number
17. Cooling Fan **NOTE:** Keep Unobstructed



# MACHINE OVERVIEW



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230



## SIDE LAYOUT

1. MIG Torch / Push pull / Spool Gun Selector Switch
2. Wire Spool Holder **NOTE:** 200mm Diameter Spools Only
3. Wire Feed Guide **NOTE:** DO NOT TRIM! The yellow Teflon guide is for soft wires, and the wire wound guide is for hard wires.
4. MIG Torch Positive Terminal
5. MIG Torch Negative Terminal
6. Wire Feeder Pressure Adjustment **NOTE:** Do not over tighten when using soft wires as this will distort the wire, causing feeding problems. Adjust so both sides are the same tension. Only use as much tension as you need to eliminate slippage.
7. Drive Roller Pin x 2 **NOTE:** To install line up the locator slot until fully inserted. If the pin is not fully home the cage will not close.
8. Bottom Drive Roller x 2

# MIG TORCH OVERVIEW



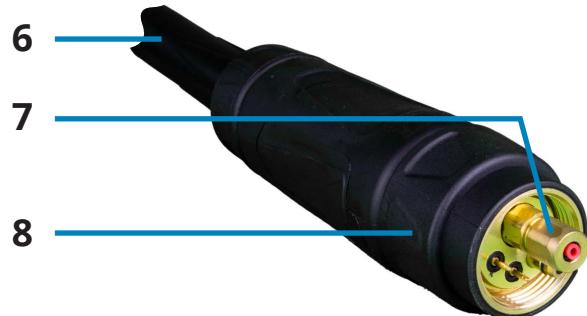
## TORCH LAYOUT

1. GAS Shroud
2. Swan Neck
3. Amps Up **NOTE:** The Amps can only be changed in the MIG welding programs while not welding.
4. Amps Down
5. Trigger Switch



## EURO PLUG LAYOUT

6. Torch Cable
7. Liner Retaining Nut
8. Torch Retaining Nut



## LINERS

The liner guides your wire inside the torch lead and ensures the wire makes it out of the torch tip. You may need to change your liner before you feed your wire through, as these liners will only fit specific sizes, the same as the drive rollers.

**NOTE:** The torch comes pre-installed with a Teflon liner that is to be used with 1.0 - 1.2mm Aluminium Wires only. If using steel wires change to the other 0.8 - 1.0mm liner included in the box.

### STEEL LINER

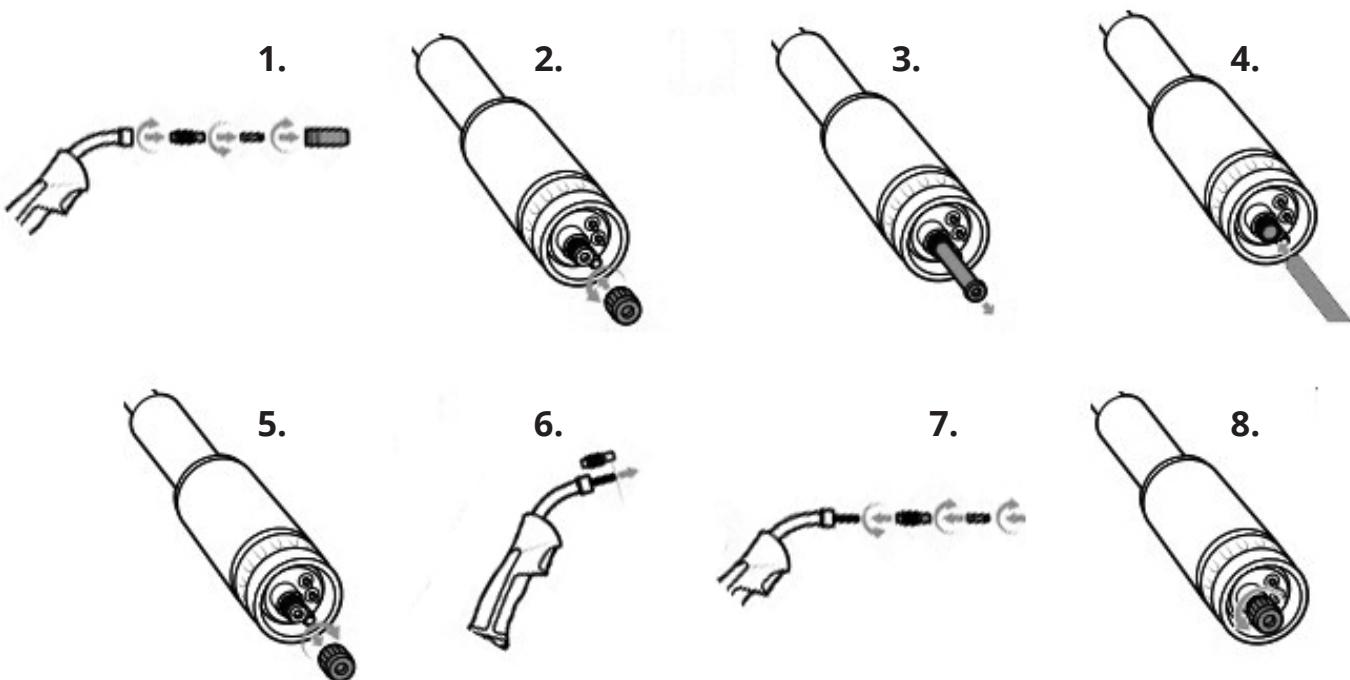


### TEFLON LINER FOR ALUMINIUM



## CHANGING THE LINER

1. Disassemble the MIG torch swan neck parts.
2. Remove the liner retaining nut.
3. Lay the torch out straight, then carefully pull out and remove the existing liner.
4. Carefully feed in the new liner down the torch lead until it exits the torch neck.
5. Teflon Liner - Remove the small rubber o-ring and install the retaining nut to tighten down. Remove the retaining nut and reinstall the o-ring, then lightly tighten. For steel liners, install the retaining nut.
6. Snip the excess liner off at the end of the Gas Diffuser.
7. Replace the swan neck parts.
8. Fully screw down the liner retaining nut and nip it uptight.



# MIG WIRE & DRIVE ROLLERS



ALUMMIG  
230

## MIG WIRE TYPES

The MIG wire spool size used is 200mm in diameter and the machine has programs for the following wire types. The MIG process selected will determine which wire type can be used.

### Steel Wires

0.6mm	0.8mm
0.8mm	0.9mm
0.9mm	1.0mm
1.0mm	1.2mm
1.2mm	

### Stainless Steel Wires

0.8mm	0.9mm
0.9mm	1.0mm
1.0mm	1.2mm
1.2mm	

### Aluminium Wires

5356 1.0mm
5356 1.2mm
4043 1.0mm
4043 1.2mm

### Silicon Bronze Flux Cored (Gas less)

0.8mm	0.8mm
0.9mm	0.9mm



## ALUMINIUM WIRES

Use 1.0mm for 3mm and under and 1.2mm for 3mm and over materials.

## DRIVE ROLLERS

The drive roller size identification is the same side as the groove. When installing the size being used the number faces away from you and towards the inside of the machine.

### V Groove

2 X 0.6~0.8
2 X 1.0~1.2
2 X Smooth

**NOTE:** Use the V drive rollers for hard wires and

fit the smooth rollers on the top drives.

When using 0.9 hard wires use the 0.8 V Drive



### U Groove

4 X 0.8~1.0
4 X 1.0~1.2

**NOTE:** Use the U drive rollers for soft wires and

Fluxed core wires. Install the 4 rollers for the wire size being used.

# WELDING MODES



## MAIN MENU

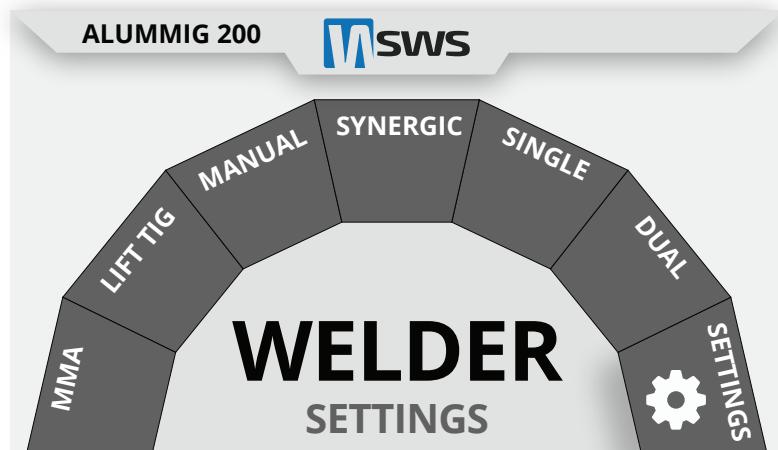
**MMA** - Manual Metal Arc or Stick  
Welding mode (MMA TORCH NOT  
Included)

**LIFT TIG** - Tungsten Inert Gas welding  
mode (TIG Torch NOT included)

**MANUAL GMAW** - MIG welding mode  
with manual settings.

**SYNERGIC GMAW** - Gas Metal Arc  
Welding synergic welding mode select  
programs for ease of setup.

**DUAL PULSE GMAW** - Gas Metal  
Arc Welding Dual Pulse synergic  
welding mode select programs for  
ease of setup.



**SINGLE PULSE** - Gas Metal Arc  
Welding Single Pulse synergic  
welding mode select programs for ease  
of setup.

# GMAW SETUP



## GMAW SETUP

1. Connect the MIG Torch to the EURO terminal and tighten it.
2. Connect the Ground Clamp to the Negative Terminal for DCEP MIG or to the Positive terminal for Gas Less MIG only. To change the MIG torch to DCEN you need to change the polarity inside the side door.
3. Connect the Gas Regulator to the GAS bottle and hose from the regulator to the quick connect on the rear of the machine.
4. Install the rollers that match the wire size and install wire spool.
5. Release the wire feeder tensioner and thread the wire through the wire feeder.
6. Hold the MIG torch in one hand and with the other hand press the wire feed button on the front panel until the wire exits the MIG torch tip.
7. Press the Gas Check button on the front panel to set the correct Gas Flow Rate.



# GMAW SETUP



## GMAW FUNCTIONS

### 1. Wire Speed / Weld Amps -

Adjusts the wire speed which is relative to the amps used. The voltage is adjusted synergically relative to the arc length setting.

### 2. Voltage / Arc Length - Adjusts the voltage and arc length. higher voltage will produce a longer arc length.

4S | 5356 Aluminium | 1.2mm | Ar 100% | EP | Dual Pulse

4.8      21.0

m/min

V

3MM T	Weld A First A Arc L Last A Arc L	100 150 0 60 0	Arc Length Dual Pulse % Dual Frequency Hz Inductance Wire Run in Speed %	0 25 1.0 0 0
 3.1 mm				

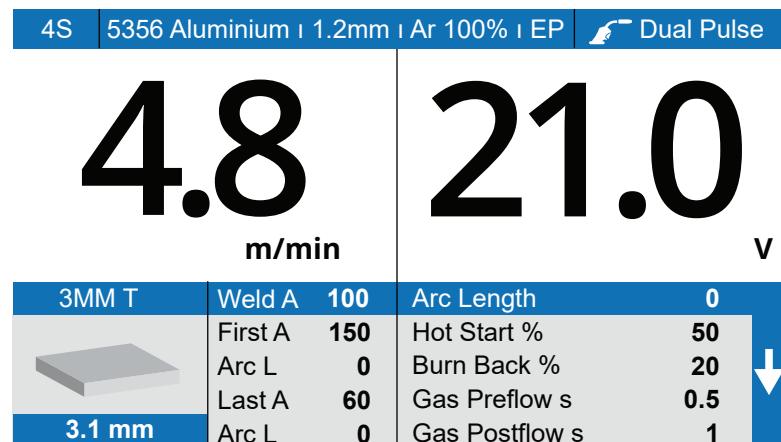
3. Torch Trigger Mode - Access from the P button on the front panel for 2T, 4T or 4T Special. 2T is regular torch mode, 4T allows to set the end amps and volts. 4T Special allows to set the start amps and volts plus end amps and volts.
4. Material Thickness Guide - Provides a starting point for the thickness of metal being welded.
5. Dual Pulse % - Sets the amount of dual pulse action that is used. Low settings produce a low dual pulse effect high settings produce a high dual pulse effect.
6. Dual Frequency Hz - Sets the amount of time the dual pulse cycles from the low part of the cycle to the high part of the cycle.
7. Inductance - Sets the amount of time the wire is short circuiting into the weld puddle effecting the arc time and overall heat input.
7. Wire Run In Speed % - Sets the speed in which the wire is initially fed into the metal. If the wire is stubbing is occurring use a lower setting. If the wire is burning back into the tip use a higher setting.

# GMAW SETUP



## GMAW FUNCTIONS

9. Hot Start - Applies extra voltage to the first few seconds of the weld that helps reduce weld build up. Use a higher setting for a hotter start.
10. Burn Back % - Sets the amount of wire that burns back to the tip when finishing welding. A higher setting will produce a longer stick out.
11. Gas Preflow - Sets the amount of time the gas flows before the arc starts.
12. Gas Postflow - Sets the amount of time the gas flows after the arc stops.



## SAVE & LOAD PROGRAMS

### SAVE PROGRAM

1. Select a MIG welding mode eg double pulse GMAW
2. Press the M button once in the chosen MIG welding mode screen.
3. Use the encoder dial to select and press on SAVE
4. Name the program up to 5 characters and select ENTER
5. Settings are now saved into the program when the parameters are adjusted.
6. To create a new program repeat the steps outlined above.

### LOAD PROGRAM

1. Press the M button on the front panel.
2. Select LOAD and press.
3. Select the saved program.

### DELETE PROGRAM

1. Press the M button on the front panel.
2. Select the TRASH icon.
3. Select the program to be deleted press to delete.

# GMAW SETUP



## SYNERGIC WELDING MODES

The synergic welding modes for no pulse, single pulse and dual pulse allow ease of setup with this machine by selecting the welding consumable type then setting the thickness on the main welding screen. The program then can be fine-tuned for the joint type and welding position using the trim and other functions. The synergic mode makes setting up fast by it must be stressed that it is only a guide and some fine-tuning may or may not be needed depending on the job type.

1. From the main welding, menu select synergic, single pulse or dual pulse.  
**NOTE:** Aluminium can only be welded in single or dual pulse GMAW modes.
2. Select the torch trigger mode and welding program using the P button on the front panel.

## PROGRAM SETTINGS

To use the machine in Synergic mode first you need to select the correct program for the wire being used. On this screen, the machine will also show the gas needed and polarity needed. EP is electrode positive EN is electrode negative.

1. Select the Synergic welding mode from the main screen.
2. Press the P button to select the trigger mode used such as 2T
3. Press the P button again to select the correct program for the wire being used.

## ADJUSTING THE TRIM

The welding parameters for each synergic program has been set in the factory to be as accurate as possible and is a good starting point. In saying this the material thickness selector is only to be used as a guide as different joint types, welding positions, welding techniques and machine settings will require different heat inputs.

## WIRE FEED SPEED & WELDING AMPERAGE

The wire feed speed/welding amps setting relates to the thickness selector in the bottom left of the screen. Increasing the wire feed speed will also increase welding amperage allowing thicker sections to be welded.

# GMAW SETUP



## VOLTAGE & ARC LENGTH

This setting adjusts the voltage which relates to the arc length and overall heat input of the weld. Higher voltage settings eg +6 arc length will produce a longer hotter arc making the wire burn back closer to the torch tip. Lower voltage settings will produce a colder shorter arc eg -5 arc length with the arc burning closer to the weld pool.

Joint type and welding technique will determine what voltage and arc length is used for the best result. When decreasing voltage/arc length you can compensate by increasing the wire feed speed/amperage and vice versa. Other factors that will change the heat inputs needed is the dual pulse, pulse frequency and inductance settings. It is always recommended to test the machine settings on scrap material before commencing welding on the job at hand.