



# ADVANCEMIG 350/500 MULTI-PROCESS MIG WELDER

## OPERATING INSTRUCTIONS



400V  
THREE  
PHASE



IGBT  
INVERTER  
TECHNOLOGY



DIRECT  
CURRENT  
OUTPUT



CONSTANT  
CURRENT/  
VOLTAGE



VOLTAGE  
REDUCTION  
DEVICE



SPOOL  
GUN  
CAPABLE



WATER  
COOLED  
(ADV500)



SP/GEN  
SAFE



INTELLIGENT  
PROTECTION  
SYSTEM



PHASE  
LOSS  
PROTECTION



IP23 CORROSION  
& SALT SPRAY  
RESISTANT



4 WHEEL  
DRIVE WIRE  
FEEDER



LIFT TIG  
(OPTIONAL  
TORCH)



SYNERGIC  
OPERATION

[www.strata.co.nz](http://www.strata.co.nz)



## **ADVANCEMIG 350 • ADVANCEMIG 500**

### **Congratulations on your new Strata product!**

The Strata range from Euroquip uses latest technology design and engineering to produce welding products that combine market leading value and features with durability. Designed for discerning operators who seek professional results and product quality without the price tag of a full professional setup. Design emphasis is placed on simple, functional design and operation. Strata product is subject to stringent quality control and designed and manufactured to NZ & Australian standards.

Common use of Strata products include:

- Light Engineering
- Automotive
- Home/ hobby Engineering
- Farming
- Industrial Maintenance & Repairs

For industrial welding solutions, check out the Strata range from Euroquip:

**[www.strata.co.nz](http://www.strata.co.nz)**

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Euroquip's slogan is 'empowering industries', find out more about the advantage Euroquip brings at **[www.euroquip.co.nz](http://www.euroquip.co.nz)**.



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# STRATA

SUPERIOR WELDING PRODUCTS



\*Product will differ slightly to image displayed here, depending on model.

## ADVANCEMIG 350 ADVANCEMIG 500



### 350A / 500A INVERTER MIG / MMA / LIFT TIG WELDERS

State of the art synergic technology with full operational controls on the remote wire feeder makes setup and operation a breeze. Rich in features including a 4 roll wire feeder and integrated protection systems mean these 3 phase machines are top of the class in performance, reliability and user satisfaction. Designed for rugged heavy work day in and day out.

- Intelligent digital wire feeder with all MIG controls and display located on wire feeder control panel
- Digital microprocessor control system for superior & dynamic arc characteristics
- Optional Integrated heavy duty industrial trolley with storage compartment option
- Optional extended 10m interconnect cable (500A rated Water Cooled #17391) (350A rated Air Cooled #17388)
- Modular power source can be used individually for MMA, arc air gouging and lift TIG welding (only 21kg!)
- Synergic mig operation for optimum welding results every time
- Lift TIG operation with down slope and remote current control (torch optional)
- MIG waveform (inductance) control for great arc control and smoother welding results
- Damage resistant industrial casing with front panel protection
- Wire inching and gas purge control for safe, simple set up and ease of use
- Adjustable pre flow, post flow, burn back and soft start settings
- 2T/4T trigger operation with crater control settings
- Adjustable arc force, hot start & automatic anti stick control
- Dual digital display meters for accurate pre setting and feedback of welding parameters & output.



400V  
THREE  
PHASE



IGBT  
INVERTER  
TECHNOLOGY



DIRECT  
CURRENT  
OUTPUT



CONSTANT  
CURRENT/  
VOLTAGE



VOLTAGE  
REDUCTION  
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SPOOL  
GUN  
CAPABLE



WATER  
COOLED  
(ADV MIG 500)



SPIKE/  
GENERATOR  
SAFE



INTELLIGENT  
PROTECTION  
SYSTEM



PHASE  
LOSS  
PROTECTION



IP23 CORROSION  
& SALT SPRAY  
RESISTANT



4 WHEEL  
DRIVE WIRE  
FEEDER



LIFT TIG  
(OPTIONAL  
TORCH)



SYNERGIC  
OPERATION

#### ADVANCEMIG 350

DIMENSIONS:	PACKAGE WEIGHT:	INPUT POWER SUPPLY:	MAX. INPUT CURRENT:	GENERATOR CAPACITY:	MIG OUTPUT CURRENT:	MMA O/C VOLTAGE:	MIG DUTY CYCLE:	STANDARDS:	MMA ROD SIZE:	MAX WELD THICKNESS:	MIG WIRE SPOOL SIZE:	MIG WIRE SIZE:
1050 x 44 x 1450mm	90kg	400V AC 50Hz 3 Phase	22A	15KVA	40-350A	67V	60% @350A	EN60974-1:2012	1.6 - 6.0mm	12mm +	D200/D300 5kg/15kg	.6 - 1.6

#### ADVANCEMIG 500 - AIR COOLED / WATER COOLED

DIMENSIONS:	PACKAGE WEIGHT:	INPUT POWER SUPPLY:	MAX. INPUT CURRENT:	GENERATOR CAPACITY:	MIG OUTPUT CURRENT:	MMA O/C VOLTAGE:	MIG DUTY CYCLE:	STANDARDS:	MMA ROD SIZE:	MAX WELD THICKNESS:	MIG WIRE SPOOL SIZE:	MIG WIRE SIZE:
1050 x 44 x 1450mm	110kg	400V AC 50Hz 3 Phase	34A	25KVA	40-500A	67V	60% @500A	EN60974-1:2012	1.6 - 6.0mm	12mm +	D200/D300 5kg/15kg	.8 - 1.6





## Know Your Machine

\* More detailed explanations of functions on following pages.

### Welding Machine

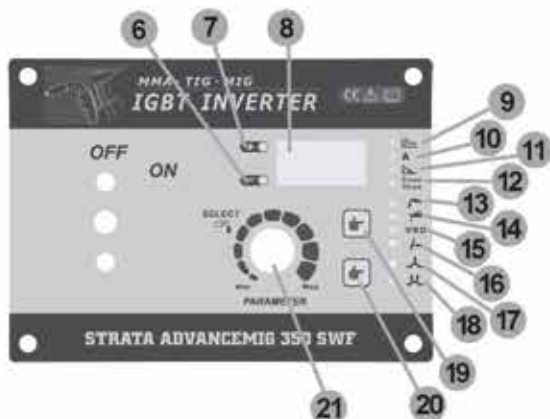
1. Positive (+) Welding Power Output Connection Socket
2. Remote Connection Plug
3. Tig Torch Gas Connector
4. Negative (-) Welding Power Output Connection Socket
5. Mains Power Switch

### Control Panel

6. Error/ Overload Indicator\*
7. Mains Power Indicator
8. Power Source Display Meter\*
9. MMA Hot Start Indicator\*
10. MMA/ TIG Current Indicator\*
11. MMA Arc Force Indicator\*
12. TIG Down Slope Indicator \*
13. MIG Mode Indicator
14. MMA Mode Indicator
15. MMA VRD Mode Indicator
16. Lift TIG Mode Indicator
17. 2T Trigger Mode Indicator (Tig)
18. 4T Trigger Mode Indicator (Tig)
19. Power Source Mode Select Button
20. 2T/4T Selector Button (Tig Mode)\*
21. Power Source Parameter Adjust/ Select Knob\*

### Machine Rear View

22. TIG Gas Inlet
23. Wire Feeder Interconnect Cable Power Connection (Positive +)
24. Wire Feeder Interconnect Data Connection Socket.
25. Water Cooler Interface Connection



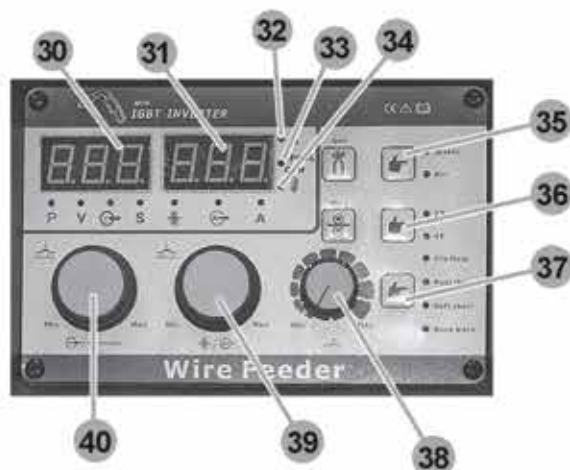


## **Wire Feeder Front View**

- 26. Torch Water Cooling Return Connection.
- 27. Torch Water Cooling Outlet Connection
- 28. Mig 9 Pin Remote Socket.
- 29. Mig Torch Euro Connection Socket.

## **Wire Feeder Control Panel**

- 30. Wire Feeder Lh Digital Display\*
- 31. Wire Feeder Rh Digital Display\*
- 32. Water Cooling System Error Indicator\*
- 33. Spool Gun Indicator\*
- 34. Error/ Overload Indicator\*
- 35. Water/ Air Cooling Selection Button\*
- 36. 2T/4T Selector Button (Mig Mode)\*
- 37. Mig Parameter Selection Button\*
- 38. Wave Control/ Inductance Adjustment Knob\*
- 39. Rh Mig Parameter Adjustment/ Selector Knob\*
- 40. Lh Mig Parameter Adjustment/ Selector Knob \*

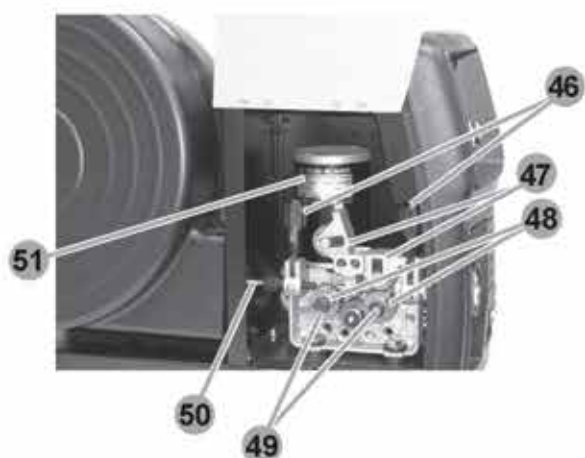


## **Wire Feeder Rear View**

- 41. Interconnect Cable Water Cooling Return Connection
- 42. Interconnect Cable Water Cooling Inlet Connection
- 43. Interconnect Cable Gas Inlet Connection
- 44. Interconnect Data Cable Connection Socket
- 45. Interconnect Power Cable Connection Socket

## **Wire Feeder Internal View**

- 46. Wire Feed Tension Adjustment (x2)
- 47. Wire Feed Tension Arm (x2)
- 48. Wire Drive Roller (x2)
- 49. Drive Roller Retainer (x2)
- 50. Wire Feeder Inlet Guide
- 51. Spool Gun Switch (Obscured)







## Controls Explained

### Overload/ Error Indicator (6)

Lights when over voltage, over current, input phase loss or electrical overheating (due to exceeding duty cycle) is detected and protection is activated. When protection is activated, welding output will be disabled until the safety system senses the overload has reduced sufficiently and indicator lamp goes out. May also trigger if machine experiences an internal power circuit failure.

### Power Source Display Meter (8)

Displays value for parameter adjusted by control knob (21). During welding, displays welding current or voltage depending on welding mode.

### MMA Hot Start (9)

MMA mode only, provides extra power when the weld starts to counteract the high resistance of the electrode and workpiece as the arc is started. Select by pressing parameter control knob (21) and adjust by turning knob (10) Adjust welding current for MMA and TIG welding modes. Select by pressing parameter control knob (21) and adjust by turning knob.

### MMA Arc Force (11)

An MMA welding power source is designed to produce constant output current (CC). This means with different types of electrode and arc length; the welding voltage varies to keep the current constant. This can cause instability in some welding conditions as MMA welding electrodes will have a minimum voltage they can operate with and still have a stable arc. Arc Force control boosts the welding power if it senses the welding voltage is getting too low. The higher the arc force adjustment, the higher the minimum voltage that the power source will allow. This effect will also cause the welding current to increase. 0 is Arc Force off, 10 is maximum Arc Force. This is practically useful for electrode types that have a higher operating voltage requirement or joint types that require a short arc length such as out of position welds. Select by pressing parameter control knob (21) and adjust by turning knob.

### Down Slope (12)

When the trigger is released, the welding current will reduce gradually over the time selected down to 0. This allows the operator to complete the weld without leaving a 'crater' at the end of the weld pool. Select by pressing parameter control knob (21) and adjust by turning knob.

### Mode Control Button (19)

Selects MIG (13), MMA (14), MMA VRD (15), lift TIG (16) mode.

### 2T/4T selector button (20,36)

2T mode the trigger is pulled and held on to activate the welding circuit, when the trigger is released, the welding circuit stops. 4T is known as 'latching' mode. The trigger is pulled once and released to activate the welding circuit, pulled and released again to stop the welding circuit. This function is useful to longer welds as the trigger is not required to be held on continuously.

### Wire Feeder LH Digital Display

Before welding, displays synergic program number (P), welding voltage (V), crater voltage or stitch weld time (S), depending on the parameter being adjusted. During welding, displays welding voltage. The parameter displayed is indicated by the LED below the display.

### Wire Feeder RH Digital Display (31)

Before welding, displays wire feeding speed, crater wire speed or current, depending on the parameter being adjusted. During welding, displays welding current. The parameter displayed is indicated by the LED below the display.

### Water Cooling System Error Indicator (32)

When using the integrated water cooler, the system is equipped with a pressure sensor. If the coolant pressure is insufficient, this indicator will light and the welding output will not be able to be active, in order to protect the torch and cooling system.

### Spool Gun Indicator (33)

lights when the spool gun switch is activated.





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### Overload/ Error Indicator (34)

Lights when over voltage, over current, input phase loss or electrical overheating (due to exceeding duty cycle) is detected and protection is activated. When protection is activated, welding output will be disabled until the safety system senses the overload has reduced sufficiently and indicator lamp goes out. May also trigger if machine experiences an internal power circuit failure.

### Water/ Air Cooling Selection Button (35)

When using the integrated water cooling system with a water cooled torch, select the 'water' option. This will activate the water cooler power (the water cooler must also be switched on the rear panel) and the water cooling protection system. If using air cooled torch, select 'Air' option.

*Note: The ADVANCEMIG 500 comes standard with a watercooled torch system. Operating a water cooled torch without water cooling will quickly cause serious damage to the torch.*

### MIG Parameter Selection Button (37)

This button selects the following welding parameters, which are displayed on the LH display (30) and adjusted using the LH control knob (40).

### Gas Pre Flow

Controls the period shielding gas will flow for when the torch is triggered before the arc starts. This purges the work area of atmospheric gas which could contaminate the weld before the weld starts.

### Gas Post Flow

Controls the period of time the shielding gas continues to flow for after the arc is stopped. This protects the weld area from contamination while it is still hot enough to react with atmospheric gases, after the weld is finished.

### Soft Start

Sometimes known as 'hot start'. When a weld is started, the workpiece and the wire will be 'cold' compared to welding temperature, this can cause an uneven and poor start to the weld using the voltage and wirefeed speed selected as optimal once the arc is established.

This setting slows the wire speed down at the start of the weld which improves the weld starting performance.

### Burn Back

Burnback adjustment controls the short period of time that the wire feed will continue to run for after the main welding current stops. If the wire feed and current is stopped at exactly the same time, the wire will still be hot and 'burn' back and stick to the welding tip. If this problem is happening, increasing the burnback adjustment will cause the wire feeder to run for longer after the arc has stopped. If the burnback is adjustment is excessive, after a weld is stopped, the operator will be left with excess 'stickout' wire length from the torch tip that will require correcting before starting the next weld.

### MIG Wave Control/ Inductance Knob (38)

This setting changes the MIG waveform to simulate changing the inductance of the welding circuit. Inductance controls the rate of the current rise and fall as the welding wire contacts the workpiece (known as a short circuit). More inductance increases the short circuit time and decreases the short circuit frequency rate. This causes a wider and more penetrating arc, useful for thicker weld joints. Less inductance will create a narrow more focused arc. This effect can also be used to fine tune the arc to produce less spatter. Wire speed, wire size and type, shielding gas will all change the effect that the inductance setting has on the welding arc. Inductance change will have no practical effect on MIG spray transfer process (as opposed to short circuit process).

### RH MIG Parameter Adjustment/ Selector Knob (39)

Control parameters displayed on the RH display screen (31). Pressing the knob will switch between parameters displayed.

### LH MIG Parameter Adjustment/ Selector Knob (40)

Control parameters displayed on the LH display screen (31). Pressing the knob will switch between parameters displayed.





## ADVANCEMIG 350 • ADVANCEMIG 500

### Tips and Tricks

The AdvanceMig SWF models are designed as a versatile modular system. This means that the power source can be used by itself, independent of the wire feeder and interconnect cables for MMA and Lift TIG welding applications.

### MIG Voltage & Wire Speed Settings

Voltage 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. If the operator is not able to achieve a smooth and stable arc with the desired heat input for the weld, it is likely that a change in wire size and/or shielding gas type is required (assuming all other factors are correct).

### Synergic Function

This makes the setup of MIG welding more simple, the operator simply sets the welding current like MMA or TIG welding and the machine calculates the optimal voltage and wire speed for the material type, wire type and size and shielding gas being used. Obviously other variables such as welding joint type and thickness, air temperature affect the optimal voltage and wire feed setting, so the program provides a voltage fine tuning function for the synergic program selected. Once the voltage is adjusted in a synergic program, it will stay fixed at this variation when the current setting is changed. To reset the voltage for a synergic program back to factory default, change to another program and back again.

The synergic programs are given a number from 1-23, this is accessed on the LH display (30) using the LH knob (40), indicator 'P'. To select the relevant program for the welding application, check the chart printed on the inside door of the wire feeder or further on in this manual.

The ADVANCEMIG 350/500 has an extra level of intelligence in the synergic programs that will not permit settings outside of those that will provide good welding results for the material, wire size and shielding gas used. This will limit the current range that can be set within each synergic program.

### Crater Fill Function

This is enabled in MIG 4T trigger mode and allows output voltage and wire speed values independent of the main welding values to be set that are enabled when the torch trigger is held before releasing to stop the arc in 4T trigger mode. As the name implies, this is used to create a smooth finish to a weld, especially when welding thicker material at high amperage where the instant stop of the welding current would normally create a 'crater' in the weld bead. These settings would normally be set lower than the main wire feed and voltage settings.

### Stitch Welding

This setting causes the arc to trigger for a short fixed period of time. This is useful for repetitive tack welding or welding with short runs that limit heat input into the work.

### MMA VRD Function

VRD stands for Voltage Reduction Device. This is a safety system that reduces the output voltage from the welding terminals in MMA mode while the welding output is not in use, to reduce the risk of electric shock from the live output voltage. The disadvantage of this system is that it makes the striking of the arc more difficult, especially on restarts and with some types of electrode such as low hydrogen electrodes. VRD protection is enabled standard for the ADVANCEMIG 350/500. If it is not required, the feature can be disabled by a Strata service dealer.



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### Lift TIG Mode

Lift TIG is an arc ignition system for basic TIG welding that removes the need to 'scratch' start or strike the tungsten on the work piece to start the arc, which can have a negative effect on the weld quality due to tungsten contamination. Lift arc starting works by lightly resting the tungsten on the work piece, activating the torch trigger switch and then lifting the tungsten off. The control circuit will sense when the tungsten is removed from the work piece and send a pulse of electricity through the torch that will cause the TIG arc to initiate.

### Water Cooling

The ADVANCEMIG 500 is supplied standard with water cooled MIG torch and water cooling interconnect cable as suitable for up to 500A MIG welding. The standard trolley package includes the integrated water cooler.

The correct coolant to use is a mixture of Mono Propylene Glycol and water in a 1:3 ratio (25% propylene glycol). Pure water may be used as a coolant liquid, though it is not recommended for the long term reliability of the water cooling system as it does not have the lubrication properties of glycol and does not provide protection against freezing. Ready to use coolant fluid can be purchased from authorised Strata dealers.

 **WARNING!** Do not operate a water cooled torch without the cooling system operating!

The ADVANCEMIG 350 is supplied standard with air cooled MIG torch and standard interconnect cable. The trolley package does not include water cooler.

### Duty Cycle Rating

Welding duty cycle is the percentage of actual welding time that can occur in a ten minute cycle. E.g. 20% at 160 amps - this means the welder can weld at 160 amps for 2 minutes and then the unit will need to be rested for 8 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 temperatures exceeding 40°C, the duty cycle will be less than stated. In ambient temperature less than 40°C, duty cycle performance will be higher.

## Other Knowledge & Resources

Please refer to Euroquip website  
[www.euroquip.co.nz/ Downloads.html](http://www.euroquip.co.nz/Downloads.html)  
for knowledgebase articles & operation videos.





## Quick Start Guide - Welder Installation

### Electrical Connection

The AdvanceMIG 350 is designed to operate on a 3 phase 32A 400V AC power supply. The AdvanceMIG 500 is designed to operate on a 3 phase 32A 400V AC power supply. Operating with a lower current rated supply circuit will reduce the rated maximum output and duty cycle performance.

### Operating Environment

Adequate ventilation is required to provide proper cooling for the ADVANCEMIG 350 & 500. Ensure that the machine is placed on a stable level surface where clean cool air can easily flow through the unit. The AdvanceMig 350 & 500 has electrical components and control circuit boards which may be damaged by excessive dust and contamination, so a clean operating environment is important for long term reliable operation.

### Basic MIG Welding Operation

#### 1. Fitting Wire Spool & Loading Wire Feeder

- 1.1 Connect interconnect lead power and data cables to the rear of the wire feeder using the end of the interconnect cable with the shortest terminations. Connect the quick connect gas line from the interconnect lead to the wire feeder gas inlet. Connect power and data cables from the other end of the interconnect lead to the sockets on the rear of the power source. Water cooled model only: Connect the water cooling lines in the interconnect cable to the rear of the wire feeder and the ends with the long terminations to the front of the water cooler, ensuring the red and blue return and supply lines match the connectors. Connect the water cooler interface cable from the rear of the power source to the rear of the water cooler.
- 1.2 Open the wire feeder spool cover by lifting outwards (there is a securing catch in the bottom of the cover). Unthread the wire spool retainer. Fit the wire spool to spool holder shaft, ensuring that the wire exits the spool towards the bottom the spool.

- 1.3 Set the spool brake tension by adjusting the spool tension adjustment screw before replacing the wire spool retainer. The spool brake tension should be set so that the spool can rotate freely, but does not continue to rotate once the wire feed stops. This may need to be adjusted as the wire is used up and the spool weight decreases.



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

- 1.4 Feed the wire from the spool through the wire drive inlet guide (50) into the wire feeder.
- 1.5 Release the wire feed tension arms (47) by pivoting the wire feed tension adjustment lever (46) from the vertical to the horizontal position.
- 1.6 Check the wire drive roller (48) grooves match the selected MIG wire type and size. The drive roller will have two different sized grooves; the size of the groove in use is stamped on the side of the drive roller. For flux cored 'soft' wire, such as that used in gasless MIG welding, the drive roller groove has a serrated profile (known as knurled). For solid core 'hard' MIG wire, the drive roller groove used has a 'V' shaped profile. For Aluminium solid core 'soft' MIG wire, the drive roller required has a 'u' shaped groove. If necessary, remove and change the drive roller by unthreading the drive roller retainer (49).
- 1.7 Once the correct drive rollers (48) are selected and fitted, manually feed the wire through the wire drive inlet guide (50) through the drive roller grooves and into the brass outlet wire guide tube. Ensuring that the wire is correctly seated in the drive roller grooves, replace the wire feed tension arms (47) and lock them into place by rotating the wire feed tension adjustment lever (46) back to the vertical position.

Adjusting wire feed tension: this is accomplished by winding the knob on the tension adjustment





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lever (46). Clockwise will increase tension, anti-clockwise will decrease drive tension. Ideal tension is as little as possible, while maintaining a consistent wire feed with no drive roller slippage. Check all other causes of excess wire feeding friction causing slippage first, such as; incorrect/ worn drive roller, worn/ damaged torch consumables, blocked/ damaged torch wire guide liner, before increasing wire feed tension. There is a number scale on the tension adjustment lever (46) to indicate the adjustment position. The higher the number indicated, the higher the tension that is set.



**WARNING!** Before changing feed roller or wire spool, ensure mains power is switched off.



**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.

- 1.8 Connect the MIG Torch Euro Connector to the MIG torch Euro connection socket (29) on the front of the wire feeder. Secure by firmly hand tightening the threaded collar on the MIG Torch connector clockwise.
- 1.8 Check that the correct matching MIG wire, drive rollers (48) and MIG torch tip are fitted.
- 1.9 Connect the machine to suitable mains power using the mains input power lead. Switch the power source mains power switch to 'on' to power up the machine. Select the welding power source mode button (19) so MIG mode indicator is lit.
- 1.10 If a water cooled torch and water cooler is used, check the water cooler has sufficient coolant level and all connections are firmly secured, then switch on the water cooler power switch on the rear of the water cooler. Set the water/ air setting on the wire feeder (35) to 'water'. The water cooler should now start operating. If using an air cooled torch, set the button (35) to 'air' setting.
- 1.11 Check spool gun switch (51) is in the 'off' position.
- 1.12 You are now ready to feed the wire through the torch. With the wire feeder cover open, pull the trigger of the MIG torch to check that the wire is

feeding smoothly through the feeder and into the torch.

- 1.13 With the tip removed from the torch and the torch laid out as straight as possible, activate the torch trigger until the wire feeds out through the end of the MIG torch. Alternatively, the wire feeding button 'wire' on the control panel may be used to active the wire feeder without triggering the gas control and welding output. Replace the tip on the MIG torch and trim off any excess wire.

## 2. MIG Welding Operation

- 2.1 Connect the earth cable quick connector to the negative welding power output socket (4) Connect the earth clamp to the work piece. Contact with the work piece must be firm contact with clean, bare metal, with no corrosion, paint or scale at the contact point.
- 2.2 Assemble the long end of the interconnect lead gas line to the regulator outlet fitting. Connect the gas regulator to a gas cylinder (not included with machine). Ensure all connections are tight. Open gas cylinder valve and adjust regulator, flow should be between 10-25 l/min depending on application. Re-check regulator flow pressure using the gas test button on the wire feeder control panel as static gas flow setting may drop once gas is flowing.
- 2.3 Set the welding parameters as required following the instructions in the previous section. You are now ready to weld!

### MIG Welding With Aluminium and Other Soft Wires

MIG welding with aluminium provides a unique challenge, due to the low column strength of the wire. This causes the wire to deform more as it is pushed through the feed mechanism and the torch wire delivery liner, greatly increasing friction. Because good MIG welding results are dependent on a smooth wire feed, certain changes must be made to the wire feed system to minimise friction caused issues.



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For a standard 'push' fed torch, a length of no longer than 3m cable may be used, as well as the torch feed liner must be changed to a special Teflon/ PVC liner, rather than the conventional steel liner. Also the correct style drive roller must be used and specific Aluminium rated torch contact tip (or a standard tip in one size over-size, e.g. 0.8mm aluminium wire, use standard 1.0mm contact tip). For this reason, it is quite common for operators to have an extra MIG torch specifically set up for aluminium use, if the machine is used for welding steel as well.

With the heavy duty 4 roll geared wire feeder, the ADVANCEMIG 350/500 will have a more steady and consistent wire feed when 'push' feeding soft wire, than other machines with standard 2 roll wire feed units. Another option to overcome the friction issues is using a spool gun, which will give better results than a 3m push torch when welding aluminium. The AdvanceMig 350/500 is spool gun capable, refer following section for use with a spool gun on the ADVANCEMIG 350/500.

### 3. Spool Gun Operation

*Note: The Spool Gun is an optional extra for the ADVANCEMIG 350/500*

#### Spool Gun Overview

The spool gun is a very useful addition to a MIG welder. It can be used for all types of MIG welding, but it has two primary advantages over a conventional 'push' wire feeder. The main advantage is that distance that the wire has to travel from the spool to the welding tip is very short, compared with a conventional torch. This greatly reduces the wire feeding friction and improves the wire feed speed smoothness and consistency, thus the welding quality is greatly improved. This is especially so with 'soft' wires such as Aluminium. It is difficult to get Aluminium to feed smoothly in welding machines equipped with standard design wire feeders, even with special torch liners and short torch lengths.

The second advantage is that the gun can allow the use of the small D100 wire spools at a distance from the power source (This distance is only limited by the length of the spool gun lead). This is advantageous for high cost wire, that is not used commonly such as Stainless Steel or MIG brazing wire. It saves the outlay cost for a much more expensive, larger D200 spool.

When used with the correct Strata spool gun, the welding voltage/ current may be controlled directly from the spool gun for the ADVANCEMIG 350/500. This is especially useful in synergic mode, as the primary MIG settings can be controlled 'one touch' with the single knob on the spool gun. The Strata spool gun rated for up to 200A @ 60% duty cycle.

- 3.1 Connect the earth cable quick connector to the negative welding power output socket (4) Connect the earth clamp to the work piece. Contact with the work piece must be firm contact with clean, bare metal, with no corrosion, paint or scale at the contact point.
- 3.2 Connect the spool gun interface plug to the wire feeder remote socket (28). Connect the spool gun Euro plug to the wire feeder Euro connector (29). Set the spool gun switch (51) to 'on' position.
- 3.3 Assemble the long end of the interconnect lead gas line to the regulator outlet fitting. Connect the gas regulator to a gas cylinder (not included with machine). Ensure all connections are tight. Open gas cylinder valve and adjust regulator, flow should be between 10-25 l/min depending on application. Re-check regulator flow pressure using the gas test button on the wire feeder control panel as static gas flow setting may drop once gas is flowing.
- 3.4 Set the water/ air setting on the wire feeder (35) to 'air'.
- 3.5 Set the welding parameters as required following the instructions in the previous section. You are now ready to weld!

### 4. ARC/ MMA Welding Operation

- 4.1 Connect the earth cable quick connector to the power source negative welding power output socket (4) Connect the earth clamp to the work piece. Contact with the work piece must be firm contact with clean, bare metal, with no corrosion, paint or scale at the contact point.





## ADVANCEMIG 350 • ADVANCEMIG 500

- 4.2 Insert an electrode into the electrode holder and connect the electrode holder and work lead to the power source positive welding power output socket (1).

*Note: This polarity connection configuration is valid for most GP (General Purpose) MMA electrodes. There are variances to this. If in doubt, check the electrode specifications or consult the electrode manufacturer.*

- 4.3 Connect the machine to suitable mains power using the mains input power lead. Switch the mains power switch to 'on' to power up the machine. Select MMA (14) or MMA VRD (15) using the process select button (19).
- 4.4 Set the hot start (9), welding current (10) and arc force (11) as required. You are now ready to weld!

### 5. Lift TIG Operation

*Note: TIG operation requires an optional TIG torch and argon gas supply.*

- 5.1 Connect the earth cable quick connector to the positive welding power output socket (1). Connect the earth clamp to the work piece. Contact with the work piece must be firm contact with clean, bare metal, with no corrosion, paint or scale at the contact point.
- 5.2 Insert TIG torch power connection into the negative welding power output socket (4). Connect TIG torch remote plug to remote socket (2) and torch gas connection to the TIG gas outlet (3).
- 5.3 Connect the machine to suitable mains power using the mains input power lead. Switch the mains power switch to 'on' to power up the machine. Select TIG mode (16) using the process select button (19).
- 5.4 Assemble the female gas quick connector to the gas line and to the regulator outlet fitting. Connect the gas regulator to a gas cylinder (not included with machine) and connect the female quick connector to the male gas inlet on the rear of the power source. Ensure all connections are tight. Open gas cylinder valve and adjust regulator, flow should be between 5-10 l/min depend-

ing on application. Re-check regulator flow pressure with the torch triggered as static gas flow setting may drop once gas is flowing.

- 6.5 Set the welding current (10), down slope (12) and 2T/4T trigger control (20) using the control knob (21) as required. You are now ready to weld!

The ADVANCEMIG 350/500 has TIG remote current control function when fitted with a suitable torch with remote control potentiometer.

*Note: The ADVANCEMIG 350/500 is a DC (Direct Current) output welder only, this means that it is unable to TIG weld reactive metals such as Aluminium alloys and Brass (which require AC output). DC TIG output is suitable for steel, stainless steel and copper. The AdvanceTig AC/DC models in the Strata range are designed for TIG welding Aluminium and its alloys.*





# **ADVANCEMIG 350 • ADVANCEMIG 500**

## **MIG Synergic Program Table**

**AdvanceMig 350**

SYN Parameter			
	Material	Wire	Gas
1	MIGMAG MANUAL		
2	Solid Fe	0.8	CO <sub>2</sub>
3	Solid Fe	0.8	80% Ar + 20% CO <sub>2</sub>
4	Solid Fe	0.9	CO <sub>2</sub>
5	Solid Fe	0.9	80% Ar + 20% CO <sub>2</sub>
6	Solid Fe	1.0	CO <sub>2</sub>
7	Solid Fe	1.0	80% Ar + 20% CO <sub>2</sub>
8	Solid Fe	1.2	CO <sub>2</sub>
9	Solid Fe	1.2	80% Ar + 20% CO <sub>2</sub>
10	Flux.c.w Fe	0.9	CO <sub>2</sub>
11	Flux.c.w Fe	1.0	CO <sub>2</sub>
12	Flux.c.w Fe	1.2	CO <sub>2</sub>
13	SS ER316	0.9	98% Ar + 2% O <sub>2</sub>
14	SS ER316	1.0	98% Ar + 2% O <sub>2</sub>
15	SS ER316	1.2	98% Ar + 2% O <sub>2</sub>
16	Al Mg	1.0	Ar 100%
17	Al Mg	1.2	Ar 100%
18	Cu Si	1.0	Ar 100%

**AdvanceMig 500**

SYN Parameter			
	Material	Wire	Gas
1	MIGMAG MANUAL		
2	Solid Fe	0.8	CO <sub>2</sub>
3	Solid Fe	0.8	80% Ar + 20% CO <sub>2</sub>
4	Solid Fe	0.9	CO <sub>2</sub>
5	Solid Fe	0.9	80% Ar + 20% CO <sub>2</sub>
6	Solid Fe	1.0	80% Ar + 20% CO <sub>2</sub>
7	Solid Fe	1.0	CO <sub>2</sub>
8	Solid Fe	1.2	CO <sub>2</sub>
9	Solid Fe	1.2	80% Ar + 20% CO <sub>2</sub>
10	Solid Fe	1.6	80% Ar + 20% CO <sub>2</sub>
11	Solid Fe	1.6	CO <sub>2</sub>
12	Flux.c.w Fe	0.9	CO <sub>2</sub>
13	Flux.c.w Fe	1.0	CO <sub>2</sub>
14	Flux.c.w Fe	1.2	CO <sub>2</sub>
15	Flux.c.w Fe	1.6	CO <sub>2</sub>
16	SS ER316	0.9	98% Ar + 2% O <sub>2</sub>
17	SS ER316	1.0	98% Ar + 2% O <sub>2</sub>
18	SS ER316	1.2	98% Ar + 2% O <sub>2</sub>
19	SS ER316	1.6	98% Ar + 2% O <sub>2</sub>
20	Al Mg	1.0	Ar 100%
21	Al Mg	1.2	Ar 100%
22	Al Mg	1.6	Ar 100%
23	Cu Si	1.0	Ar 100%



## ADVANCEMIG 350 • ADVANCEMIG 500

### Accessories & Spare Parts

ADVANCEMIG 350/500 Consumables:			
117386	Strata Industrial Welding Machine Trolley	UB5028	Shroud to suit MB501 (500A)
17387	Strata Industrial Welding Trolley Storage Unit	UB5001	Tip Adaptor to suit MB501 (500A)
17388	Strata 10m Air Cooled 350A Interconnect Lead Set	MTA2481	Tip Adaptor - M6 (2 pk)
17374	Pro-Grip 26 Torch X 25ft, Tgc End (Large Dinse) M12 and 9 Pin Hizone Plug	MTA2482	Tip Adaptor - M8 (2 pk)
		MTA3681	Tip Adaptor - Short (2 pk)
17404	Wire Drive Roller 0.8/0.9mm 'v' Groove	MCN3670	Nozzle - Conical (2 pk)
17478	Earth Lead 50mm <sup>2</sup> Cable, 35-70mm Plug, 5m	MD3658	Diffuser - Black (2 pk)
17479	Arc Lead 50mm <sup>2</sup> Cable, 35-70mm Plug, 5m	MB36KIT	MIG Starter Kit - MB36
17512	15kg - 5kg Spool Spacer	MSN3654	Swan Neck
DW3000	Auto Darkening Helmet, Shade 9-13	MSL1539	Steel Liner 0.6 - 0.9mm 3m
DW4000	Auto Darkening Helmet, Shade 9-13 with Grinding Visor	MSL1549	Steel Liner 0.6 - 0.9mm 4m
		MSL1559	Steel Liner 0.6 x 0.9mm x 5m
DW7000	Auto Darkening Helmet, Shade 9-13 with Grinding Visor and PRSL Filtration System	MTL1538T	Teflon Liner 0.6 - 0.8mm x 3m
		MSL2432	Steel Liner 1.0 - 1.2mm x 3m
GR101AR	Argon Twin Gauge Regulator	MSL2442	Steel Liner 1.0 - 1.2mm x 4m
GR101CO2	CO <sub>2</sub> Twin Gauge Regulator	MSL2452	Steel Liner 1.0 - 1.2mm x 5m
GADAR	Argon Cylinder to CO <sub>2</sub> Regulator Adaptor M/M	MTL2432T	Teflon Liner 1.0 - 1.2mm x 3m
GADC02	CO <sub>2</sub> Cylinder to Argon Regulator Adaptor, F/M to F/M, inc. nylon washer	MW5KG06	Mig Wire 5 kg Spool - 0.6mm
		MW5KG08	Mig Wire 5kg Spool - 0.8mm
GR119	CO <sub>2</sub> Gas Regulator Heated 220V	MW5KG09	Mig Wire 5KG - 0.9mm
MT360-4E	MB36 Mig Torch 4m (Euro)	MW15KG08	Mig Wire 15kg Spool - 0.8mm
MT360-3E	MB36 Mig Torch 3m (Euro)	MW15KG09	Mig Wire 15kg Spool - 0.9mm
MT360-5E	MB36 Mig Torch 5m (Euro)	MW15KG10	Mig Wire 15kg Spool - 1.0mm
MMT2406	Mig Tip 0.6mm (5 pk)	MW15KG12	Mig Wire 15kg Spool - 1.2mm
MMT2408	Mig Tip 0.8mm (5 pk)	MW5KG08FC	Fluxcored Mig Wire - 0.8mm, 4.5kg
MMT2409	Mig Tip 0.9mm (5 pk)	MW5KG09FC	Fluxcored Mig Wire - 0.9mm, 4.5kg
MMT2410	Mig Tip 1.0/0.8mm Alum (5 pk)	MW5KG12FC	Fluxcored Mig Wire - 1.2mm, 4.5kg
MMT2412	Mig Tip 1.2/1.0mm Alum (5 pk)	MW2KG08AL	2.2kg Spool 5356 - 0.8mm Alum
MMT2414	Mig Tip 1.4/1.2mm Alum (5 pk)	MW2KG10AL	2.2kg Spool 5356 - 1.0mm Alum
MMT2416	Mig Tip 1.6mm Alum (5 pk)	S600EH	600A Screw Type Elect. Holder
MMT3808	Mig Tip 0.8mm Alum M8 (5 pk)	S500EC	Strata 500a Earth Clamp
MMT3809	Mig Tip 0.9mm Alum M8 (5 pk)	AG500EC	500A 'G' Style Earth Clamp
MMT3810	Mig Tip 1.0mm Alum M8 (5 pk)	CP3550	Cable Plug - 35-50mm <sup>2</sup> - Male
MMT3812	Mig Tip 1.2mm Alum M8 (5 pk)	ETCPH4825	Overcord R92 2.5mm Electrodes (350mm)
MMT3816	Mig Tip 1.6mm Alum M8 (5 pk)	ETCPH4832	Overcord R92 3.2mm Electrodes (350mm)



## ADVANCEMIG 350 • ADVANCEMIG 500

### ADVANCEMIG 350/500 Consumables Continued:

ETCPH4840	Overcord R92 4.0mm Electrodes (350mm)	G048DC	Gouging Carbons - 4.8mm
ETCPH6825	Overcord 2.5mm Electrodes (350mm)	G080DC	Gouging Carbons - 8.0mm
ETCPH6832	Overcord 3.2mm Electrodes (350mm)	PDL32	Plug 4 Pin 32A 500V - Angled
ETCPH6840	Overcord 4.0mm Electrodes (350mm)	17835	4 Roll Wire Feeder Drive Roller 0.6/0.8mm 'v' groove
ETCPH6850	Overcord 5.0mm Electrodes (350mm)	17836	4 Roll Wire Feeder Drive Roller 0.9/1.0mm 'v' groove
ETCPH7725	Supercito 2.5mm Electrodes (350mm)	17837	4 Roll Wire Feeder Drive Roller 1.0/1.2mm 'v' groove
ETCPH7732	Supercito 3.2mm Electrodes (450mm)	17838	4 Roll Wire Feeder Drive Roller 0.8/0.9mm fluxcored
ETCPH7740	Supercito 4.0mm Electrodes (450mm)	17839	4 Roll Wire Feeder Drive Roller 1.0/1.2mm fluxcored
ETCPH7750	Supercito 5.0mm Electrodes (450mm)	17840	4 Roll Wire Feeder Drive Roller 1.2/1.6mm fluxcored
ETCPH56S25	Tenax 56S 2.5mm Electrodes (350mm)	17841	4 Roll Wire Feeder Drive Roller 0.8/1.0mm 'u' groove
ETCPH56S32	Tenax 56S 3.2mm Electrodes (350mm)	17842	4 Roll Wire Feeder Drive Roller 1.2/1.6mm 'u' groove
ETCPH56S40	Tenax 56S 4.0mm Electrodes (450mm)	17843	4 Roll Wire Feeder Drive Roller Retainer
ETCPH56S50	Tenax 56S 5.0mm Electrodes (450mm)	17844	Gas Inlet QC
GTK4000	1000A Gouging Torch	17846	9 Pin Strata MIG Remote Connection Plug

These accessories listed are available from your Strata Supplier. Refer to the Strata Catalogue, your Strata Supplier or look online at [www.strata.co.nz](http://www.strata.co.nz) for other accessories and consumables available.

### Binzel MT360 MIG Torch Range Parts

Suits ADVANCEMIG 350 (Aircooled)

1.	MSN3654	Swan Neck Assembly
4.	UG8016	Handle Cable Support c/w Ball Joint
8.	B2514	Ergo Handle Kit c/w Lock Nut
9.	UG2516	Medium / Large Ergo Trigger
18.	MOR1596	Gun Plug 'O' Ring
19.	MLN1597	Liner Nut

All products conform to EN60974-7 and are RoHS, REACH and WEEE compliant







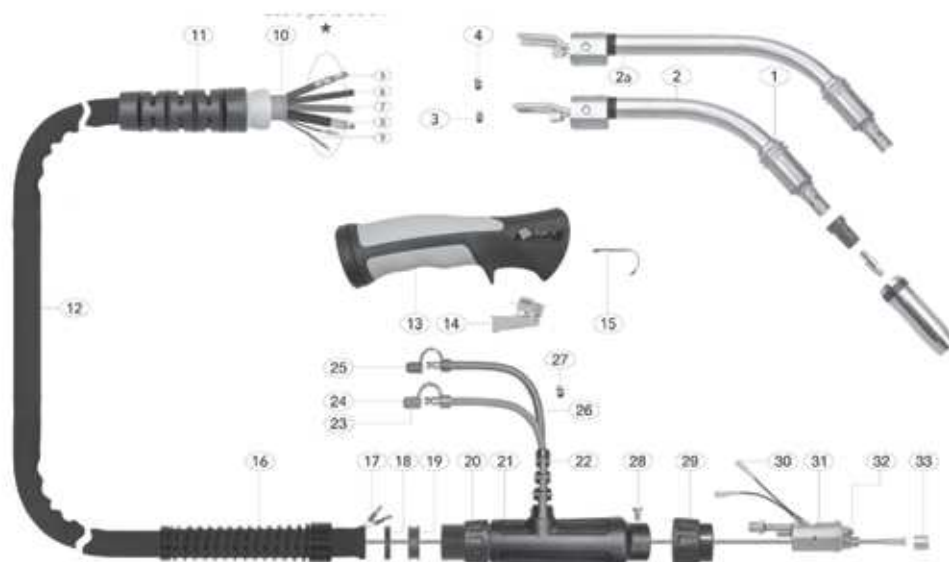
# **ADVANCEMIG 350 • ADVANCEMIG 500**

## **Binzel MT501 MIG Torch Range Parts**

Suits ADVANCEMIG 500 (Watercooled)

2.	MSN501	Swan Neck Assembly
13.	B2514	Ergo Handle Kit C/W Lock Nut
14.	UG2516	Medium / Large Ergo Trigger
32.	ML01596	Gun Plug 'O' Ring
33.	MLN1597	Liner Nut

All products conform to EN60974-7 and are RoHS, REACH and WEEE compliant

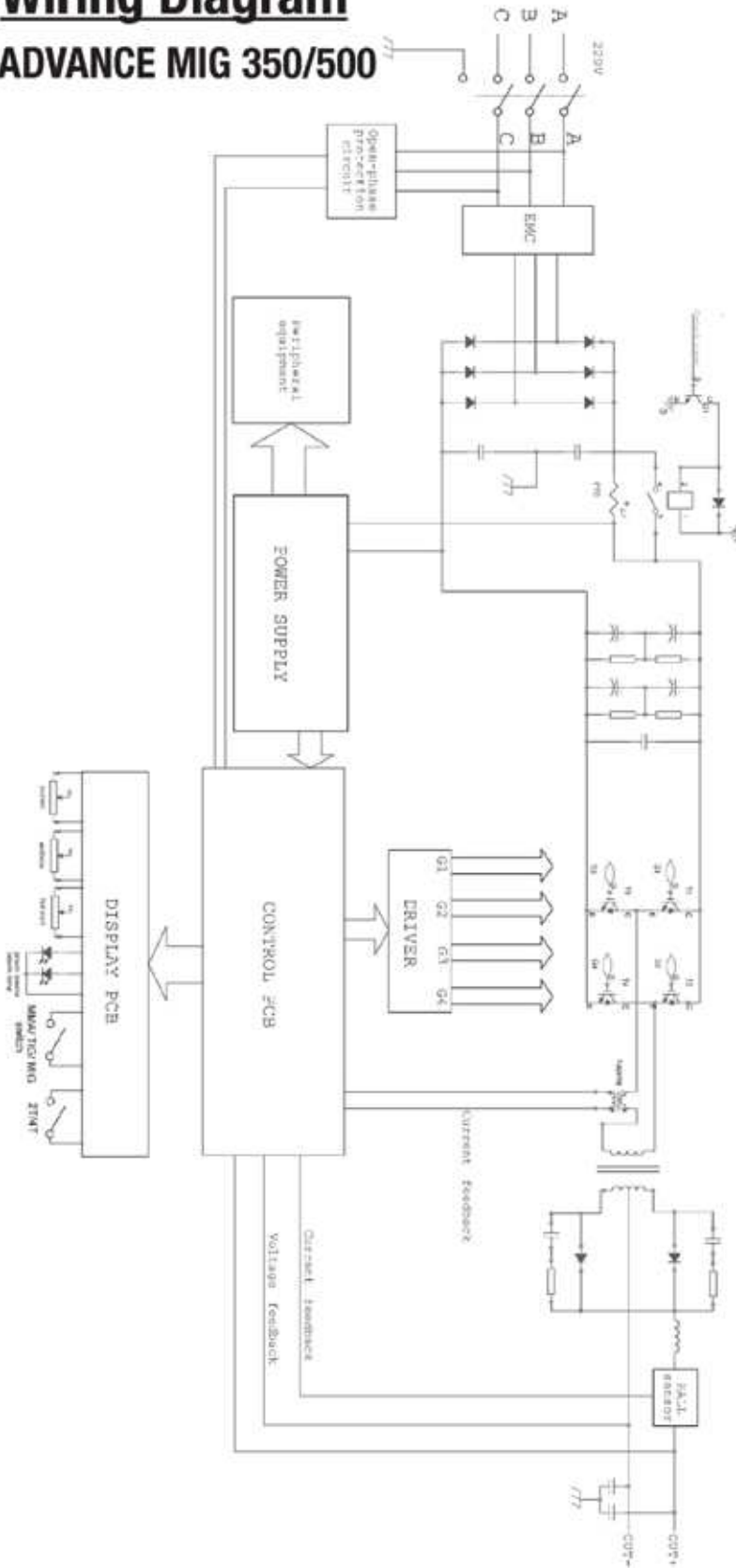




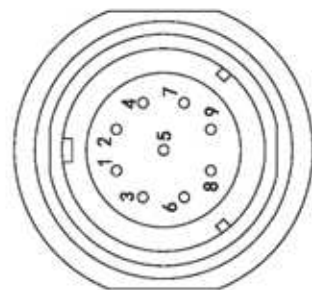
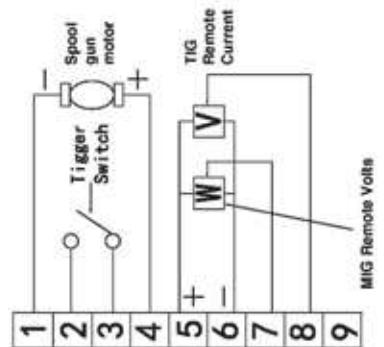
# **ADVANCEMIG 350 • ADVANCEMIG 500**

## **Wiring Diagram**

**ADVANCE MIG 350/500**



## **9 Pin Socket Diagram**







### Care & Maintenance

#### Keep your Welding Machine in Top Condition

The ADVANCEMIG 350/500 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 consumable parts 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. Do not use the welder with damaged parts.
- A damaged 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. An authorised service centre should properly repair a damaged part. Have your welder repaired by an expert.

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.



## 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.

### General Safety Warnings

**1. Maintain labels and nameplates on the welder.** These carry important information. If unreadable or missing, contact Euroquip 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.





## ADVANCEMIG 350 • ADVANCEMIG 500

### 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 over-reach**. 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



#### DANGER!

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 20)
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.



## ADVANCEMIG 350 • ADVANCEMIG 500

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.





# ADVANCEMIG 350 • ADVANCEMIG 500

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 (GMAW) (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 (GMAW) (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.

- Keep your head out of the fumes. Do not breathe the fumes.
- If inside, ventilate the area and/or use an exhaust at the arc to remove welding fumes and gases.
- If ventilation is poor, use an approved air-supplied respirator.
- Read the Safety Data Sheets (SDS) and the manufacturer's instruction for the metals, consumables, coatings, and cleaners.
- 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.
- 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.



## ADVANCEMIG 350 • ADVANCEMIG 500

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.

### 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.
8. Connect the work lead/clamp to the job as close to the welding area as practical to prevent welding current from travelling 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.

### 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.







## **ADVANCEMIG 350 • ADVANCEMIG 500**



### Warranty

As part of an on-going commitment to excellence in product support, Euroquip offers a comprehensive product warranty program.

#### **Warranty period for**

**ADVANCEMIG 350/ADVANCEMIG500/ADVANCEMIG500WC:**

**Commercial Use: 36 Months**

**Domestic Use: 36 Months**

Warranty covers failure caused by manufacturing and material defects in the product, during the warranty period specified. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty does not cover parts that are subject to wear and tear from usage.

Warranty covers failure of a product caused by defective materials and/or manufacturing for the period given and the usage specified by Euroquip. The warranty period begins when the product is purchased by the end user. Warranty is not transferrable and is only claimable by the original purchaser.

Warranty also does not cover failure caused by the untimely replacement or service of the above wearing parts. Evidence must be provided that the product has been maintained and serviced suitably for a claim to be considered under warranty.

Failure caused by incorrect operation of the product, lack of proper care and maintenance of the product, external damage, external circumstances such as contaminated fuel or poor water supply, modifications to the product, attempted repair/ service by a party other than an Approved Service Agent, is not covered under warranty.

Warranty does not cover pre delivery service and adjustment, or failure that may occur as a result of lack of/ incorrect pre delivery service and adjustment.

Warranty does not cover any incidental, indirect or consequential loss, damage or expense that may result from any defect, failure or malfunction of a product.

Should any issue be found to be a combination of a warranty failure and a non-warranty issue, the repair cost component to rectify and repair the non-warranty failure is the customers' full responsibility.

The decision that an issue with a product qualifies as a warranty claim is made at the sole jurisdiction of Euroquip.

No costs incurred will be considered under warranty if repairs are carried out by a party other than a Euroquip Approved Service Agent, unless with prior consent in writing from Euroquip.

It is the responsibility of the purchaser to deliver a product under warranty to the nearest relevant service agent or product reseller. Warranty does not cover call outs, mileage and freight costs.

If a product is repaired under warranty, parts and labour required for the repair will be supplied at no charge. Warranty assessment and repair will be scheduled and executed according to the normal work flow at the service location and depending on the availability of suitable replacement parts.

This warranty policy is an additional benefit and does not affect the legal rights of any end user, reseller or service agent.





Congratulations on your new STRATA product. We are proud to have you as our customer and will strive to provide you with the best service and reliability in the industry. This product is backed by our extensive warranty. To locate your nearest distributor or service agency visit [www.strata.co.nz](http://www.strata.co.nz), or email us at [CustomerService@euroquip.co.nz](mailto:CustomerService@euroquip.co.nz)

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