

RXT150P

ROSS

Mig Welder Model: RXT150P

General instruction for installation use and maintenance



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 instructions for future reference.

IMPORTANT

Please read all of the safety and operating instructions carefully before using this product. Please pay particular attention to all sections of this manual that carry warning symbols and notices.

**WARNING!**

This is a Warning symbol. This symbol is used throughout the manual whenever there is a risk of personal injury. Ensure that these warnings are read and understood at all times.

**CAUTION!**

This is a Caution symbol. This symbol is used throughout the user guide whenever there is a risk of damaging your product. Ensure that these warnings are read and understood at all times.

GENERAL DESCRIPTION

This welder is a power source for light duty manual arc welding only. It has been designed and manufactured specifically for continuous MIG welding of carbon or mild steels with and without protective gas using appropriate cored (tubular) electrode wire or solid wire. Power for the arc is given by a single phase transformer with a drooping characteristic. It is suitable for use with 0.6mm solid or 0.8/0.9mm cored wire and for welding materials up to 6mm.

PRODUCT SPECIFICATION

Item		RXT150P
Input Power	V	230
Frequency	Hz	50
Phase No.		1
Rated No-load Voltage	V	33 V DC
Rated Input Capacity	KVA	4.8 KVA
Rated Duty Cycle	%	10
Output current	A	35-115A — Peak 150A
Insulation Grade		H
Cooling Type		Fan Cooled
Case Protection Class		IP21S ,not suitable for storage or use in rain
External Dimension: L x W x H	cm	49cm x 24cm x 37cm
Weight	kg	20kg

Note: This unit is suitable for connection to standard domestic 10 Amp power outlet.

**WARNING! SAFETY INSTRUCTIONS**

The user of this welder is responsible for his own and the safety of others. It is most important to read, learn and respect the rules in this user guide.

When using this welder, basic safety precautions, including the following, should be followed to reduce the risk of fire, electric shock and personal injury. Make sure that you have read all of these instructions before using this welder. Keep this booklet in a safe place for future reference. Persons who are not familiar with this booklet should not use the welder.

TRAINING

The operator should be properly trained to use the welding machine safely and should be informed about the risks relating to arc welding procedures. This manual does not attempt to cover welding technique. Training should be sought from qualified/experienced personnel on this aspect especially for any welds requiring high integrity for safety.

SERIOUS FIRE RISK

The welding process produces sparks, droplets of fused metal, metal projectiles and fumes. This constitutes a serious fire risk. Make sure that the area around the work piece is clear of all inflammable materials. It is advisable to have a fire extinguisher to hand.

WORK AREA

Ensure a clear work area with unrestricted movement for the operator. Always maintain easy access to the On/Off switch and the mains supply.

THE WORK PIECE

The work piece will remain at a high temperature for a relatively long period. Do not touch the weld or the work piece unless you are wearing welding gloves. Always use pliers or tongs. Never touch the welded material with bare hands until it has been allowed to cool.

WELDING SURFACES

- Do not weld on containers or pipes that hold, or have held, flammable liquids or combustible gases.
- Do not weld coated, painted or varnished surfaces as the coatings may ignite and or can give off dangerous fumes.

VENTILATE THE WORK AREA

Arc welding (especially using fluxed core wire) emits fumes which can be dangerous. Make sure that the work area is well ventilated.

AVOID ELECTRICAL CONTACT

Use adequate electrical insulation with regard to the electrode, the work piece and any accessible) earthed metal parts in the vicinity. Avoid direct contact with the welding circuit. The no load voltage between the earth clamp and the torch can be dangerous under certain circumstances.

FOR ADDITIONAL PROTECTION FROM ELECTRIC SHOCK

It is recommended that this tool be used in conjunction with a residual current device (RCD) with a rated residual current of 30mA or less.

EXTENSION LEADS

In general these are best avoided. If used however make sure that the extension lead used with the welder is of a suitable current rating and has an earth connection. If using the welder outdoors make sure that the extension cable is suitable for outdoor use. Always keep cables and extension leads away from the welding zone and any hot materials.

CONSIDER WORK AREA ENVIRONMENT

Do not expose the welder to rain. Do not use it in damp, or wet locations. Keep the work area well lit.



SAFETY INSTRUCTIONS ... cont

DRESS PROPERLY

Use protective gloves and fire resistant protective clothing when using the welder. Avoid exposing skin to the ultraviolet rays produced by the arc.

ALWAYS USE THE WELDING MASK

Under no circumstances should the welder be operated unless the welding mask is protecting the eyes and face. There is a serious risk of eye damage if the mask is not used. The sparks and metal projectiles can cause serious damage to the eyes and face. The light radiation produced by the arc can cause damage to eyesight and burns on the skin. Never remove the welding mask whilst welding. Move the torch away from the work piece and release the trigger switch before removing the welding mask.

SAFETY GLASSES

After welding use safety glasses when brushing, chipping grinding the slag from the weld.

OTHER PERSONS

Ensure that other persons are screened from the welding arc and are at least 15 metres away from the work piece. Always ensure that the welding arc is screened from onlookers, or people just passing by. Use screens if necessary, or non reflecting curtains.

KEEP CHILDREN AND ANIMALS AWAY

Do not let children or animals have access to the welding equipment or to the work area.

SWITCHING OFF

When you have finished welding switch off the welder. Do not put the torch down with the welder switch On and with the wire fitted. When leaving the welder unattended, move the On/Off switch to the Off position and disconnect the welder from the mains supply. Do not leave hot material unattended after welding.

WELDING CABLES

Keep the welding cables, earth clamp and torch in good condition. Failure to can result in poor welding quality and could be dangerous in structural situations.

CHECK DAMAGED PARTS

Before further use of the welder, any part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for breakage of parts and any other conditions that may affect its operation. Any part that is damaged should be properly repaired, or replaced, by an authorised service centre.

IMPROPER USE

Do not use this welder for pipe thawing.

HANDLING

Ensure the handle is correctly fitted and always use safe lifting practices when lifting.

CAUTION! VENTILATE THE WELDER



There must always be a sufficient air passage around the welder to allow for the cooling of the transformer. If the cooling process is obstructed the welder will overheat and the overload cut out protector will activate and cut off the welding current.

If the overload cut out protector activates leave the welder for at least 15 minutes to cool down before further use.

ADDITIONAL PRECAUTIONS



WELDING OPERATIONS:

- In environments with increased risk of electric shock;
- In confined spaces;
- In the presence of flammable or explosive materials;

MUST BE evaluated in advance by an "expert supervisor" and must always be carried out in the presence of other people trained to intervene in emergencies.



POSITION and HANDLING

Position the welding machine on a horizontal surface that is able to support the weight: otherwise (e.g. inclined or uneven floors etc.) there is danger of over-turning.

The welder MUST NOT be supported by the operator (e.g using belts). The operator MUST NOT BE ALLOWED to weld in raised positions unless safety platforms are used.



VOLTAGE BETWEEN ELECTRODE HOLDERS OR TORCHES:

Working with more than one welding machine on a single piece or on pieces that are connected may generate a dangerous accumulation of no-load voltage between two different electrode holders or torches, the value of which may reach double the allowed limit.



IMPROPER USE:

It is hazardous to use the welding machine for any work other than that for which it was designed. Example do not use this welder for pipe thawing. The safety guards and moving parts of the covering of the welding machine and of the wire feeder should be in their proper positions before connecting the welding machine to the power supply.



WARNING!

Any manual operation carried out on the moving parts of the wire feeder, for example:

- Replacing rollers and/or the wire guide;
- Inserting wire in the rollers;
- Loading the wire reel;
- Cleaning the rollers and the area underneath them.

Should be carried out with the welding machine switched off and disconnected from the power supply outlet . Never lift the welding machine when connected to the mains supply.

WARNING SYMBOLS

The following warning symbols are to remind you of the safety precautions you should take when using the welder.

**WARNING!**

Read this User Guide carefully before using the welder and keep it in a safe place for future reference.

**WARNING!**

When using this welder, avoid direct contact with the welding circuit. The no-load voltage supplied by the welding machine can be dangerous in certain circumstances.

**WARNING!**

When using this welder, provide adequate ventilation or facilities for the removal of welding fumes near the arc; a systematic approach is needed in evaluating the exposure limits for the welding fumes, which will depend on their composition, concentration and the length of the exposure itself. Do not operate on materials cleaned with chlorinated solvents or near such substances. Remove all flammable materials (e.g. wood, paper, rags etc.) from the working area.

**WARNING!**

Do not weld on containers or piping that contains or has contained flammable liquids or gaseous products. Do not weld on containers under pressure.

**WARNING!**

This welding machine complies with the requirements of the technical standard for the product for use only and exclusively in industrial environments and for professional purposes. It is not guaranteed to meet electromagnetic compatibility requirements in the home.

**WARNING!**

When using this welder, always use a welding helmet. Use special fire resistant protective clothing and do not allow the skin to be exposed to the ultra violet and infrared rays produced by the arc; other people in the vicinity of the arc should be protected by shields of non-reflecting curtains.



WARNING! Do not use in rain or store in locations affected by rain.

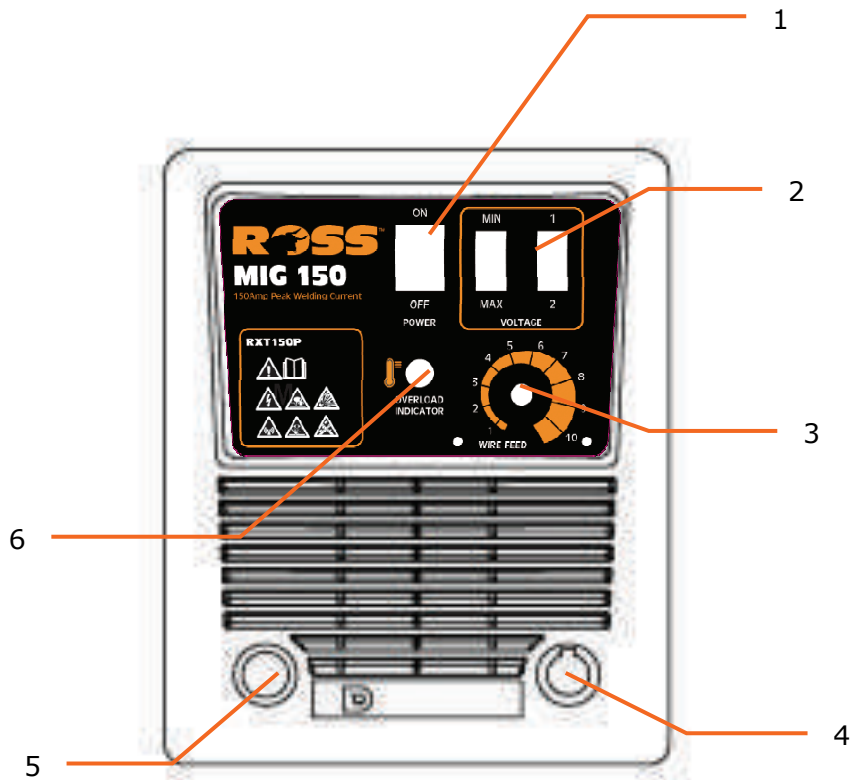
THE RATING PLATE

The rating plate is fitted to the front of the welder and displays the following symbols and information.

ROSS					
RXT150P			Sn.		
			AS60974-6		
	30A/15.5V to 115A/19.8V				
		X	10%	50%	100%
	U ₀ = 33V	I ₂	115A	50A	35A
		U ₂	19.8V	16.5V	15.7V
	U ₁ = 230V		I ₁ Max = 21A	I ₁ eff = 7A	
	IP21S				
		Caution! Read operator's manual			5244

	Ground		Single phase transformer - Rectified
	Mains supply single phase A.C. 50 Hz		RCM Marking indicating compliance to relevant Australian standards.
	Mig Welding		Outputs direct current. D.C.
x	Duty Cycle	U ₂	Rated Welding Voltage
I ₁	Rated Input Current	U ₀	Rated no load voltage
I ₂	Rated Welding Current	IP21S	Protection Class
U ₁	Rated Input voltage	%	Percentage of full rated load
...A/...V~...A/...V: Output Range. Minimum and maximum rated welding current and related load voltage.			

KNOW YOUR WELDER



1) On/off switch

When the switch is in the " O " position means the power OFF . When the switch in the "1" position means the power is ON

2) Output power settings

Adjust the switches according to the metal thickness to be welded. The four steps from lowest to the highest setting are: MIN + 1, MIN + 2, MAX + 1, MAX + 2

3) Wire speed adjustment knob

Adjust this knob to set the wire feeding speed.

4) Earth cable

Use earth clamp to connect earth cable with work piece

5)Welding outlet

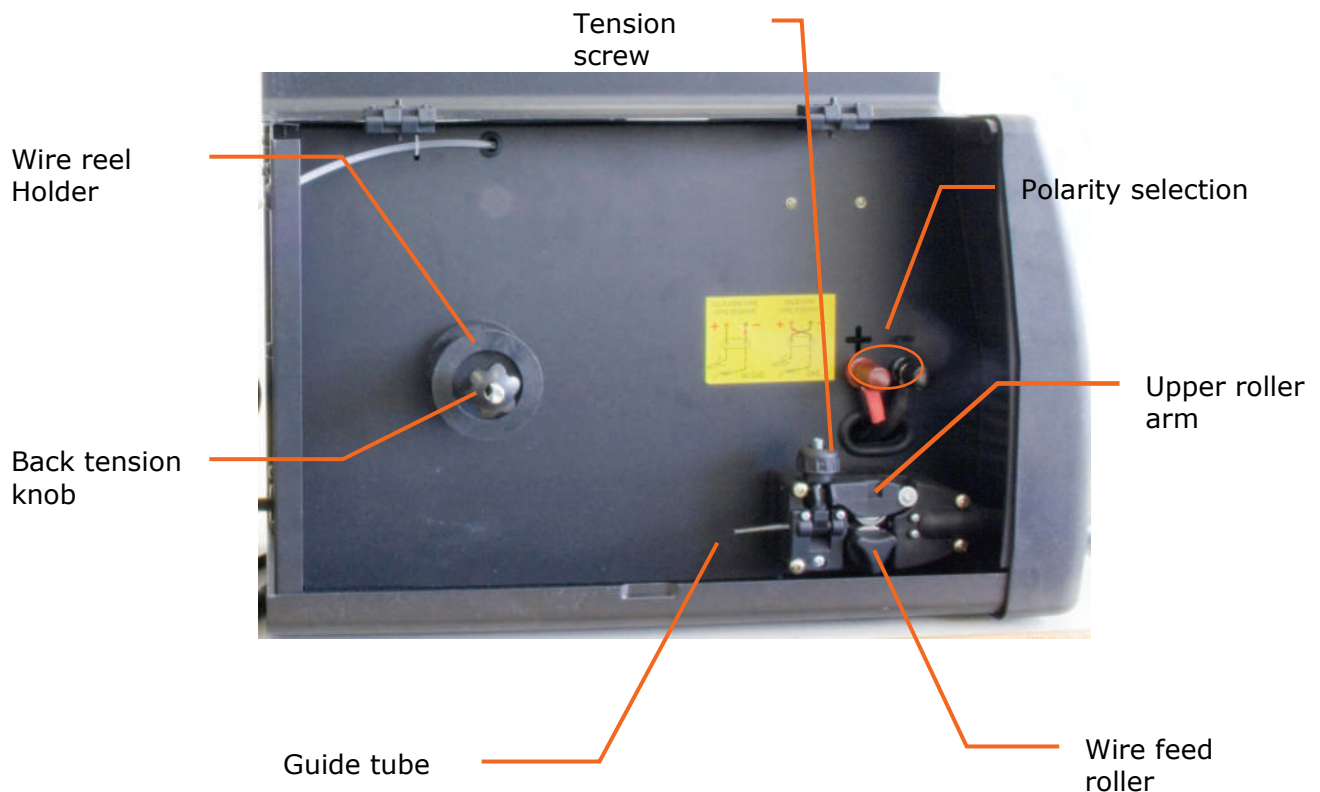
The torch is installed at the end of the cable.

6)Overload light

If welding a long time the duty cycle may be exceeded, the overload lamp will turn ON (orange) and the machine will stop working until the unit has cooled.

Welding Gas Hose—Mains Cable (**Not Shown**) are located at the rear of the unit.

GETTING STARTED



LOADING THE WIRE

- Open the side cover of the unit
- Remove the back tension knob from the wire reel holder and fit the wire spool onto the wire reel so that the wire will exit the spool from the top.
- Note the reel holder can be reversed to cater for 100mm or 200mm reels. Refit the back tension knob. (keep the adjustment of this knob as light as possible but sufficiently strong to prevent the wire roll from self un-spooling)
- Release the tension screw and open the upper roller arm
- Without letting the wire un-spool, cut the end of the wire of cleanly leaving no kinks the feed about 30cm of the wire through the guide tube and into the wire liner by hand.
- The wire feed roller has two different size groves. Check that the wire is aligned with the correct size grove in the wire feed roller for the type of wire and then careful close the upper roller and tension screw. If necessary remove the wire feed roller and turn it over to access the other grove and refit.

At the end of the torch

- Twist the nozzle clockwise and pull to remove
- Unscrew the contact tip counterclockwise and remove. Check that the correct tip size is being used for the wire being fitted.
- Lay the torch sheath out in a straight line so that the wire move through it easily

**Warning!**

The following steps require applying power to the welder. Do not touch anything with the torch or wire as it may result in accidental arcing.

- Plug the power cord into its electrical outlet, press the current switch to Max + 2 and turn the welder ON.
- Lift the torch handle and continue pressing the trigger until the wire feeds through about 50mm

Note: If the wire does not feed through, view the wire feed unit and see if the wire is being pushed. If it is not, turn the welder OFF and add more tension to the wire feed adjusting spring and try again.

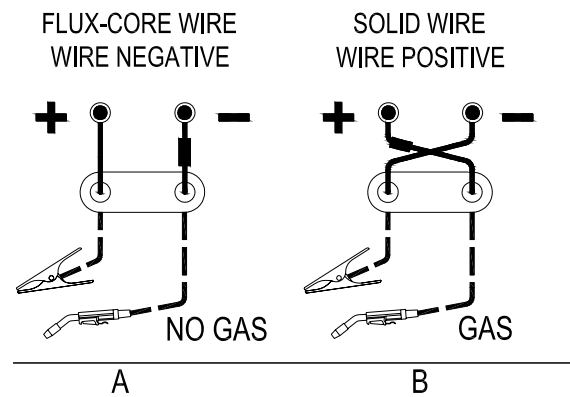
- Once the wire is exposed, turn the welder OFF
- Slide the contact tip over the wire and screw it into torch handle
- Replace the nozzle and cut off any excess wire over 10mm

POLARITY SELECTION

The correct polarity must be set for the type of welding.

When using flux cored wire (gasless) connect the negative terminal to the welding torch and the earth clamp to the positive. see diagram A.

When using solid wire in conjunction with welding gas, connect the torch to the positive terminal and the earth clamp to the negative. See diagram B.



Check that terminals are tight before commencing to weld to prevent burning

To commence the welding process proceed as follows.

Make sure that the earth clamp is firmly connected to the Work piece.

WARNING!

Ensure that you have your protective clothes, gloves and welding helmet correctly fitted before welding. Do not start welding before your eyes are properly protected by the welding helmet.

- Turn the welder switched ON and the welding gas if applicable.

You are now ready to execute the weld.

- Select the required welding power setting weld.
- Bring the wire into close proximity of the required weld start position. Keep the tip approximately 10-15 mm away from the work piece and squeeze the trigger on the torch to commence welding.
- Adjust the wire feed rate to obtain the optimum weld



Caution! (Do not adjust the welding power setting while welding)

- Release the trigger to stop welding.
- When finished welding turn the welder off and the welding gas if applicable.
- Allow the weld to cool, the slag can be removed by tapping it lightly with the chipping hammer/wire brush. Always wear safety glasses when brushing or chipping slag from the weld.

THERMOSTATIC PROTECTION

This welder is automatically protected from overheating by a thermal overload cut out protector. If the transformer overheats the overload cut out protector will activate and cut off. The amber light will illuminate to show that the cut out has operated.

After cooling the protector will reconnect the supply circuit and the welder will be ready for further use.

NOTE: If the duty cycle of the machine is exceeded the thermostatic protection will activate.

MAINTENANCE

There are no user serviceable parts inside the welder. Refer to qualified service personnel if any internal maintenance is required.



WARNING!

Before starting any cleaning, or maintenance procedures on the welding machine, make sure that it is switched Off and disconnected from the mains supply.

Switch off the welding machine and disconnect it from the power supply before replacing consumable torch parts. Allow to cool before handling.

After use, allow the welder to cool down and then remove any unconsumed wire from the torch and torch hose by releasing the tension screw and rotating the reel in an anti-clockwise direction.

TORCH

Do not put the torch or its cable on hot work pieces; this would cause the insulating materials to melt, making the torch unusable.

Every time the wire reel is changed, clean out the wire-guide and check the wire liner for build up of dust and other contaminants. This increases friction and can lead to erratic wire feed and jamming. Replace when necessary.

Daily: Check the wear and correct assembly of the consumable parts at the end of the torch; swan neck, nozzle, contact tip. Replace when necessary.

WIRE FEEDER

Make frequent checks on the state of wear of the wire feed rollers, regularly remove the metal dust deposited in the feeder area (rollers and wire-guide in-feed and out-feed)

OTHER

Make sure that the earth clamp is kept clean and in good working order. Keep the cooling vents clear and clean the outer casing with a soft cloth.

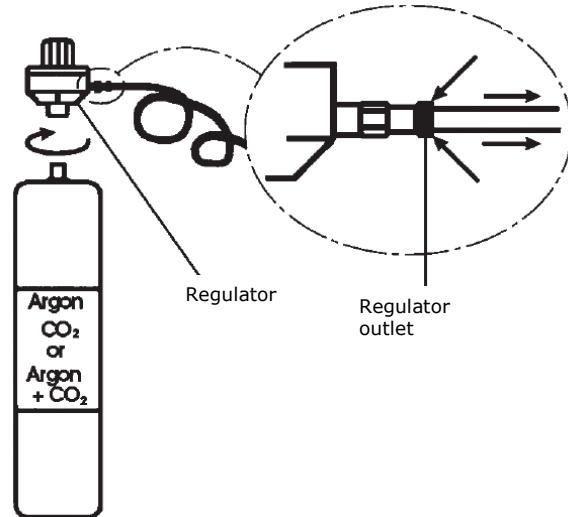
How to attach a Mini gas bottle and Regulator

Attach the mini gas bottle brackets to the rear of the machine, then connect up as follows:

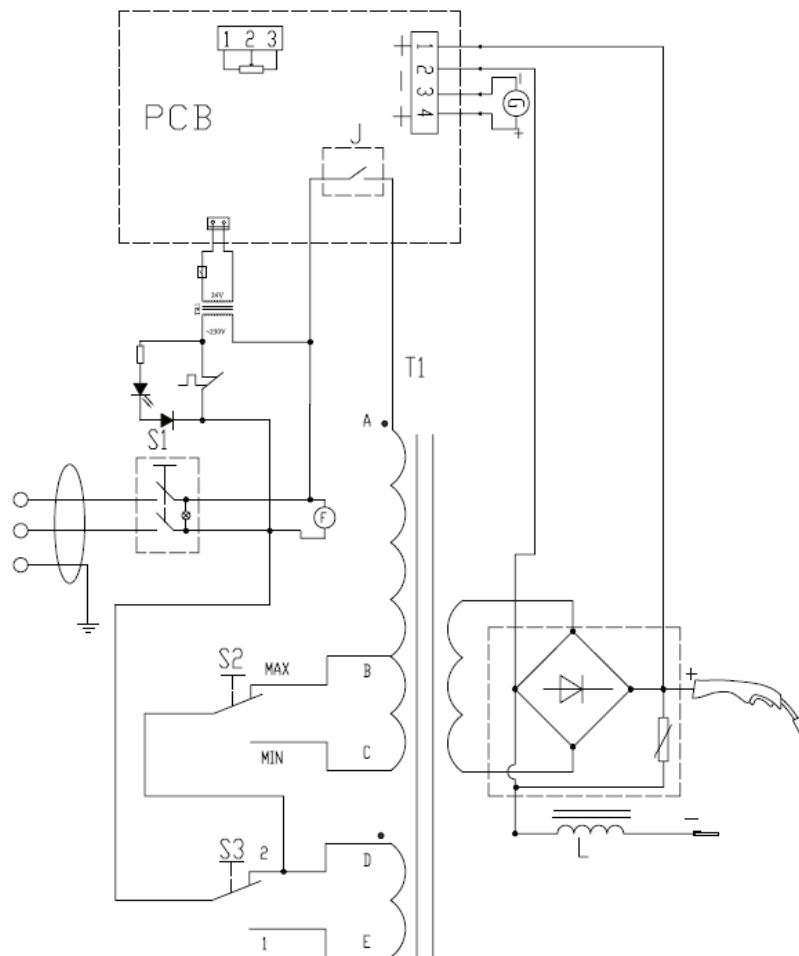
1. Remove the protective cap from the cylinder outlet and screw on the regulator fully, BUT DO NOT OVER TIGHTEN.
2. Simply push the gas hose, at the rear of the machine, into the gas regulator outlet, as far as possible and release. This is a self sealing coupling.

To remove the hose, hold back the ring then pull the hose out.

Disconnect the bottle when not in use



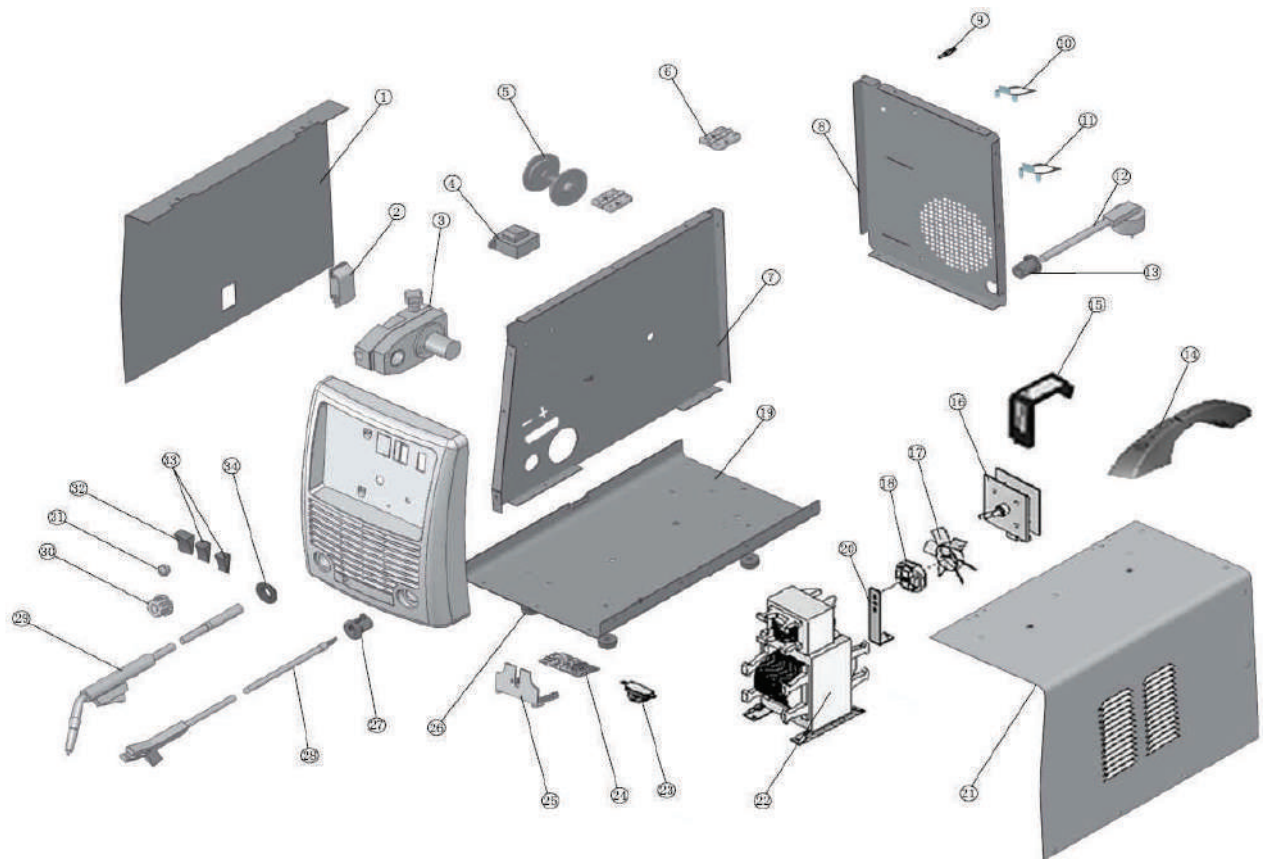
CIRCUIT DIAGRAM



TROUBLESHOOTING GUIDE

No.	Breakdown	Analysis	Solutions
1	No current output	No voltage input	Check the fuse and or circuit breaker
		Wrong Fuse or breaker rating	Replace with correct rating fuse or breaker
		Thermal over load lamp lit	Allow the unit to cool
2	Bad wire feed	Low wire feed pressure	Tighten the wire tension adjustment nut
		No back tension on reel	Check the wire spool clip
		Wire is oxidised	Replace wire spool. Replace liner
3	Poor weld penetration	Low input voltage	Check that if input voltage is the same with rated voltage
		Bad connection	Check grounding cable/ clamp, make sure of a good connection.
		Contact tip worn	Replace contact tip
4	Porosity in weld	No gas ,little gas or wrong gas	Check all gas
		Blockage of gas line	Use compress air to clear the Blockage
		Torch valve has been blocked	Open the welding torch and check
		Bad gas and wire	Gas must be dry, use another type wire
5	No wire feed	Control wire broken or Faulty switch in the handle	Check by inspection
		Wire Control PCB faulty	Replace the PCB

PARTS IDENTIFICATION



Ref	Description	Ref	Description
3	Wire feed assy.	24	Wire feed control PCB
5	Wire spool holder	33	Weld current switch
10-11	Gas bottle holders	12	Mains Cable
14	Handle	28	Earth lead
16	Rectifier assy.	29	Torch assy.
18	Fan Blade	32	Mains switch
18	Fan Motor	4	Aux Transformer
22	Main transformer		
23	Thermal sensor		

WARRANTY:

This product has been manufactured to a high quality standard. It is guaranteed against faulty materials and workmanship for 12 months from the date of purchase. Please retain your receipt as proof of purchase.

If the product is found to be defective within the relevant time period, we will either replace all defective parts or, at our discretion, replace the unit free of charge.

This guarantee does not cover defects caused by or resulting from: misuse, abuse or neglect; trade, professional or hire use; repairs attempted by anyone other than our authorised service agent; or damage caused by foreign objects, substances or accident.

Note: Consumable items such as swan necks, nozzles, contacts tips, wire liners etc are not covered by warranty.

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