

Switch the unit ON by moving the ON / OFF switch to the 'I' ON position.

Set the mode selector switch to MMA.

Turn the welding current selector dial to give the required welding current, displayed on the LED.

There is a hot start facility built into this unit and it is fully automatic, giving a 20% boost of the selected welding current for 1.5 seconds.

Control the MMA dynamics by adjusting the arc force dial. At minimum the arc is softer with less penetration and splatter. At maximum, the arc is rougher with deeper penetration but more splatter. Note also that the maximum end of the force range is ideal for use with cellulosic and low hydrogen electrodes.

If using the TIG facility

Ensure that the power unit is switched OFF and isolated from the power supply.

Using the connection cables supplied, connect the earth clamp cable to the positive (+) out terminal.

Connect the argon gas supply hose firstly to the 'argon gas in' connector on the rear of the unit and secure by turning clockwise, then attach the regulator to the argon cylinder and secure with the spanner supplied.

Finally, attach the TIG torch to the torch power and torch switch connections on the front control panel.

Switch the unit ON.

Set the mode selector switch to TIG 2 for standard torch operation; i.e. press the torch button to activate the arc and release to extinguish the arc.

If you set the selector switch to TIG 4, you will need to press and release the torch button to activate the arc then press and release again to extinguish the arc.

Slope up is pre-set at 40% of the chosen current, with a ramp to full current after 0.5 second in minimum setting and up to 3.5 seconds at maximum.

The slope down is pre-set to a minimum final current of 15% of the welding current being used. When minimum slope down is selected, the current shuts off immediately, at maximum, the arc will extinguish after approximately 15 seconds.

Set the frequency characteristics with the HF/Lift TIG switch.

Set the switch to 'SPARK TIG START' for non contact HF welding and to 'LIFT' for lift TIG welding.

The argon gas flow rate is pre-set. Note that the post gas flow is pre-set at 15 seconds.

Before operating the unit unit, turn the gas on at the cylinder.

You are now ready to weld.

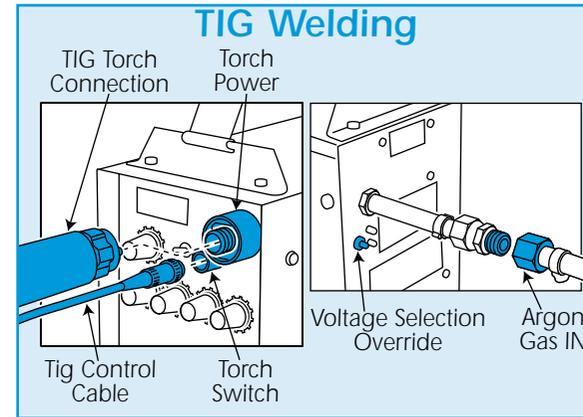
## BASIC TECHNIQUES

### MMA WELDING...

Holding the welding rod/electrode holder at an angle of 60-70 degrees to the surface, move it towards the work until it strikes an arc.

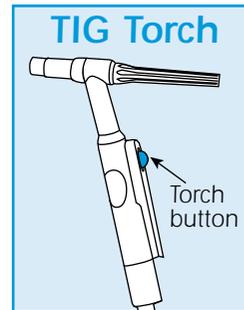
Now, keeping the arc about 3mm long, work slowly along the weld in a series of semicircular sweeps across the line of the joint.

Chip off any slag build-up on the weld before making a second pass along the joint.



### TIG WELDING...

Turn on the Argon gas cylinder and adjust the regulator until the float gauge registers a flow of 12 to 15 litres per hour when the torch is activated.



For HF Welding, hold the welding torch at an angle of 60-70 degrees to the workpiece and about 3mm above its surface, press the ON/OFF button and strike an arc.

For Lift TIG the tip must be in contact with the work. Press the ON/OFF button and lift the tip away to begin welding.

As soon as a pool of molten metal forms, simply move the torch slowly along the joint, keeping it at a constant angle and distance from the surface, if necessary feeding a length of filler rod into the weld pools leading edge as you go.

Note that the recommended settings are merely guides. In practice, changing them slightly may give better results. So, always begin by making a test weld and adjust the settings as necessary.

### WHATEVER YOU ARE USING...

Note that recommended settings are merely guides. Changing them slightly may give better results. So, always make a test weld.

## EQUIPMENT CARE

Never push the equipment beyond its design limits. If it will not do what you want with reasonable ease and speed, assume you have the wrong type or size of welder for the job. Ask at your local HSS Hire Weld Depot for advice.

When not in use, store the equipment somewhere clean, dry and safe from thieves.

Keep the equipment clean. You will find this less of a chore if you clean it up regularly rather than wait until the end of the hire period.

## FINISHING OFF

Whatever you are using...

Switch OFF and unplug the unit. Leave everything to cool then take the earth clamp off the work.

Where applicable remove the welding rod and disconnect all leads and coil them up neatly ready for return.



### ...any comments?

If you have any suggestions to enable us to improve the information within this guide please fax your comments or write to the Product Manager at the address below

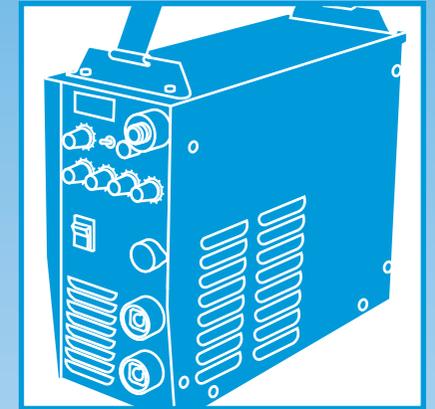
Fax: 020 8687 5001

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Group Office: 25 Willow Lane, Mitcham, Surrey CR4 4TS

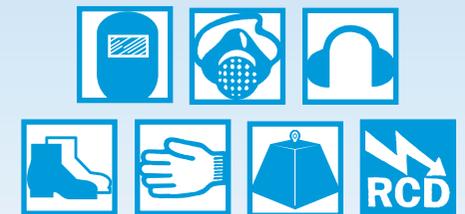
Web Site: <http://www.hireweld.com>

# HSS Hire-Weld



## 200AMP MMA/TIG Inverter

An inverter based MMA/TIG welding unit giving a maximum 150amp when MMA welding and 200amp when using the TIG facility.



## GENERAL SAFETY

For advice on the safety and suitability of this equipment contact your local HSS Hire Weld Depot.

There is a serious risk of personal injury if you do not follow all instructions laid down in this guide.

The hirer has a responsibility to ensure that all necessary risk assessments have been completed prior to the use of this equipment.

Most welding tasks may be considered as hot work in site situations and may be subject to specific permits to work.

This equipment should only be used by an operator who has been deemed competent to do so by his/her employer.

This equipment should be used by an able bodied, competent adult who has read and understood these instructions. Anyone with either a temporary or permanent disability, should seek expert advice before using it.

Keep children, animals and bystanders away from the work area. Cordon off a NO GO area using cones and either barriers or tape, available for hire from your local HSS Hire Weld Depot.

Welding screens are also available for hire from your local HSS Hire Weld Depot.

 Never use this equipment if you are ill, feeling tired, or under the influence of alcohol or drugs.

### Warning

If you are wearing an electronic life support device (a heart pacemaker) you must consult your doctor before going near or working with this equipment. Magnetic fields associated with high currents may affect these devices.

 This equipment generates potentially harmful noise levels. To comply with health and safety at work regulations, ear defenders must be worn by everyone in the vicinity.

 Fumes produced by the welding process, if inhaled, can be harmful to health. A suitable mask must be worn when using this equipment. Respiratory protective equipment is available for hire, contact your local HSS Hire Weld Depot for details.

 Skin must be covered – wear practical, protective clothing, gloves and footwear.

 A head shield with an 11 EW shade MUST be worn by anyone in the work area – goggles are not suitable. Avoid loose garments and jewellery that could interfere with the work.

If the headshield or lens becomes damaged, return it to your local HSS Hire Weld Depot.

Never use welding equipment near computers or any sensitive electronic equipment.

## Let It Cool

Handle welding equipment and work with care – it will be hot. Leave equipment to cool before changing welding rods, moving earth clamps, and so on.

Always transport, store and operate the machine in an upright position.

Keep the power unit's air vents clear of all obstructions.

Always switch equipment OFF before making any adjustments to it. Never leave it switched ON and unattended.

Ensure the work area is well lit and ventilated, a fume extractor or smoke eliminator should be used. If in doubt, ask about lighting and ventilation equipment at your local HSS Hire Weld Depot.

Do not work near flammable gases or liquids, petrol or paint thinner fumes for example. Keep combustible materials at a safe distance – at least 5m.

Make sure you know how to switch this machine OFF before you switch it ON in case you get into difficulty.

## Vehicle Safety

Before carrying out welding work on cars/lorries and similar vehicles...

Remove the vehicle's battery and disconnect the alternator.

Remove all combustible material and other fire/explosion hazards.

Check the condition of the equipment before use. If it shows signs of damage or excessive wear, return it to your local HSS Hire Weld Depot.

COSHH information sheets are available from your local HSS Hire Weld Depot.

## ELECTRICAL SAFETY

The HSS 200A MMA/TIG welding power unit can be plugged into a standard 230V 13amp power socket, or a 110V generated supply. Where a transformer is used to step the voltage down from 230V to 110V, the transformer MUST be a minimum 5kVA continuous rated.

The unit is fitted with a voltage sensor, which determines the supply voltage. When the unit is switched ON, the set defaults automatically to 230V operation. If the supply voltage is 230V the set will work correctly. If the supply voltage is 110V, the set will not work until the red button on the rear panel is pressed.

If a break in the power supply occurs the unit will revert to 230V operation and the red light next to the red button will flash. To return to 110V

operation, the red button must be pressed twice, once to clear the fault situation when the red light will extinguish and the second time to reset to 110V operation.

If a supply fault condition keeps occurring it may be due to a problem with the mains installation. Either too small a transformer or an extension cable that is too long or of the wrong thickness of wire.

If the equipment fails, or if its power supply cable or plug becomes damaged, return it. Never try to repair it yourself.

Keep cables out of harms way, and clear of the work area.

Extension leads should be fully unwound and loosely coiled, away from the equipment. Never run them through water, over sharp edges or where they could trip someone.

If running the unit from a 110V supply, it is important that any extension cable is of the correct size, see chart.

Keep the equipment dry, using electrical equipment in very damp or wet conditions can be dangerous.

 To reduce the risk of electric shock, always use a suitable RCD (Residual Current-Operated Device) available from your local HSS Hire Shop. Or power the equipment from a mains circuit with a built in RCD.

Ensure the welder and power socket are switched OFF before plugging into the power supply.

## GETTING STARTED

This guide is designed to help the user to safely set up and dismantle the welder. It is not intended as a guide to welding techniques as it is assumed that the user already has the necessary training/knowledge and experience.

It is important that the equipment duty cycle is taken into consideration when in use.

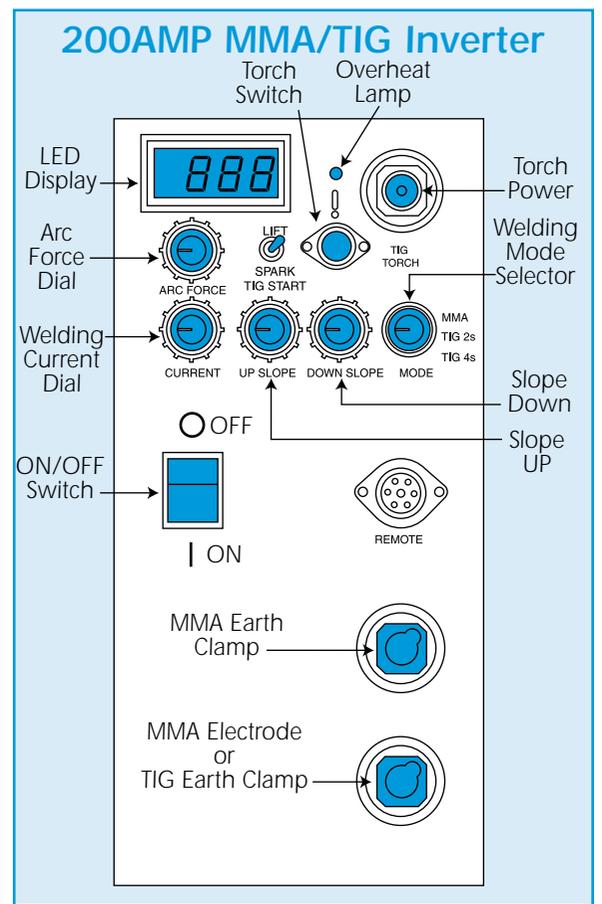
Place the unit on a suitable surface and make sure that there is a minimum of 200mm clearance around the unit to allow a good circulation of air.

DO NOT use the unit if it is raining or in extremely damp environments.

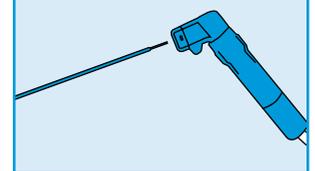
Set the unit's ON/OFF switch to the '0' OFF position and plug the unit into its power supply.

If MMA Welding

Cable Length	Cable Diameter
5M	4mm <sup>2</sup>
10M	6mm <sup>2</sup>
20M	10mm <sup>2</sup>
30M	16mm <sup>2</sup>

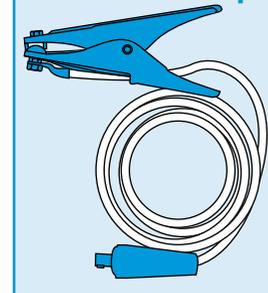


## Electrode Holder



Connect the electrode holder cable to the positive (+) terminal and the earth clamp cable to the negative (-) terminal (see illustration). Clamp workpieces securely in their final positions to stop them moving during welding.

## Earth Clamp



Clip the earth clamp onto the work piece, choosing an area of clean, bright metal close to the proposed weld to ensure a good electrical connection.

Now, insert a welding rod into the notch in the electrode holder's jaws. Squeeze the lever to open them; release to close.