UNI-MIG WELDING

190 MIG 250 MIG

MIG INVERTER

Instruction Manual

UNIMIG 190 MIG

UNIMIG 250 MIG

JASIC

Welding Guns Of Australia Pty Ltd

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This welding equipment for industrial and professional use conforms to IEC 60974 International Safety Standard.

We hereby state that we provide one year of guarantee for this welding Power Source from the date of purchase.
Refer to Unimig for further details.

Please read and understand this instruction manual carefully before the installation and operation of this equipment.

The contents of this manual may be revised without prior notice and without obligation.

This instruction manual is issued on 1st April 2008.

Uni-Mig SB24 Gun Replacement Parts

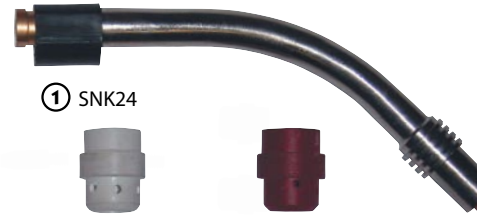
⑫ BZLH

⑮ SCS

⑲ TLR3M

⑱ SLR3M

⑳ NKSTL



① SNK24

⑩ PCGD24

⑪ PCGDR24

② PCTH24

③ PCT0009-08

⑬ BX0020

④ PGN24CYL

⑤ PGN24CON

⑥ PGN24TAP

⑦ PGN2SPOT

REF	WGA Part No.	Description
1	SNK24	Swan Neck
2	PCTH24	Contact Tip Holder
3	PCT0009-06	Contact Tip Steel (0.6mm)
	PCT0009-08	Contact Tip Steel (0.8mm)
	PCT0009-09	Contact Tip Steel (0.9mm)
	PCT0009-10	Contact Tip Steel (1.0mm)
	PCT0009-12	Contact Tip Steel (1.2mm)
	PCT0009-16	Contact Tip Steel (1.6mm)
	PCTZR009-09	Contact Tip Steel Long Life (0.9mm)
	PCTZR009-12	Contact Tip Steel Long Life (1.2mm)
	PCTAL0009-09	Contact Tip Aluminium (0.9mm)
	PCTAL0009-10	Contact Tip Aluminium (1.0mm)
	PCTAL0009-12	Contact Tip Aluminium (1.2mm)
4	PGN24CYL	Cylindrical Nozzle
5	PGN24CON	Conical Nozzle
6	PGN24TAP	Tapered Nozzle
7	PGN24SPOT	Spot Nozzle
10	PCGD24	Gas Diffuser (Ceramic)
11	PCGDR24	Gas Diffuser (Rubber)
12	BZLH	Ergo handle complete with Trigger
13	BX0020	Trigger
	BX0024	Extended Trigger
14	BW0195	Gun Plug Cover
15	SCS	Spring Cable Support (torch end)
16	215.12.01	Spring Cable Support (machine end)
17	AR0060	Euro Block
18	SLB3M	Blue Steel Liner 3M
	SLB4M	Blue Steel Liner 4M
	SLB5M	Blue Steel Liner 5M
	SLR3M	Red Steel Liner 3M
	SLR4M	Red Steel Liner 4M
	SLR5M	Red Steel Liner 5M
19	TLB3M	Blue Aluminium Liner 3M
	TLB4M	Blue Aluminium Liner 4M
	TLR3M	Red Aluminium Liner 3M
	TLR4M	Red Aluminium Liner 4M
	TLY3M	Yellow Aluminium Liner 3M
	TLY4M	Yellow Aluminium Liner 4M
20	NKSTL	Neck Spring for Aluminium

These parts are manufactured in China and are offered as replacement parts suitable for "BINZEL" style torches.

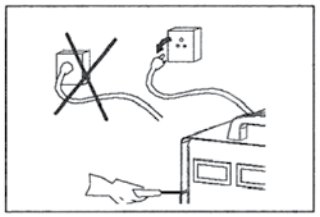
WARRANTY

- 1 Year from date of purchase.

- Welding Guns of Australia Pty Ltd warranties all goods as specified by the manufacturer of those goods. This Warranty does not cover freight or goods that have been interfered with. All goods in question must be repaired by an authorised repair agent as appointed by this company. Warranty does not cover abuse, mis-use, accident, theft, general wear and tear. New product will not be supplied until Welding Guns of Australian has inspected product returned for warranty and agree's to replace product. Product will only be replaced if repair is impossible. If in doubt please ring.

SAFETY

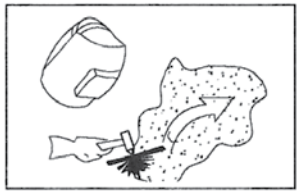
Welding and cutting equipment can be dangerous to both the operator and people in or near the surrounding working area, if the equipment is not correctly operated. Equipment must only be used under the strict and comprehensive observance of all relevant safety regulations. Please read and understand this instruction manual carefully before the installation and use/operation of this equipment.



·Do not switch the function modes while the machine is operating. Switching of the function modes during welding can damage the machine. Damage caused in this manner will not be covered under warranty.
·Disconnect the electrode-holder cable from the machine before switching on the machine, to avoid arcing should the electrode be in contact with the work piece.
·A safety switch is necessary to prevent the equipment from electric leakage.
·Welding tools and accessories should be of high quality and in good working order.
·Operators should be trained and or qualified.

Electric shock: It can kill.

·Connect the primary input cable according to Australian standard regulation.
·Avoid all contact with live electrical parts of the welding circuit, electrodes and wires with bare hands. The operator must wear dry welding gloves while he/she performs the welding task.
·The operator should keep the work piece insulated from himself/herself. Smoke and gas generated whilst welding or cutting can be harmful to people's health.
·Avoid breathing the smoke and gas generated whilst welding or cutting.
·Keep the working area well ventilated.

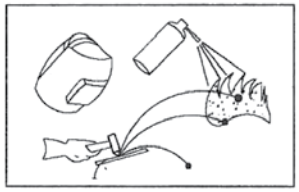


Arc rays: harmful to people's eyes and skin.

·Always wear a welding helmet and suitable protective clothing including welding gloves whilst the welding operation is performed.
·Measures should be taken to protect people in or near the surrounding working area, from all hazards associated with welding.

Fire hazard

·The welding sparks may cause fire, therfore remove flammable material away from the working area.
·Have a fire extinguisher nearby, and have a trained person ready to use it.
Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapours from substance inside. These can cause an explosion even though the vessel has been "cleaned". Vent hollow castings or containers before heating, cutting or welding. They may explode.



Noise: possibly harmful to people's hearing.

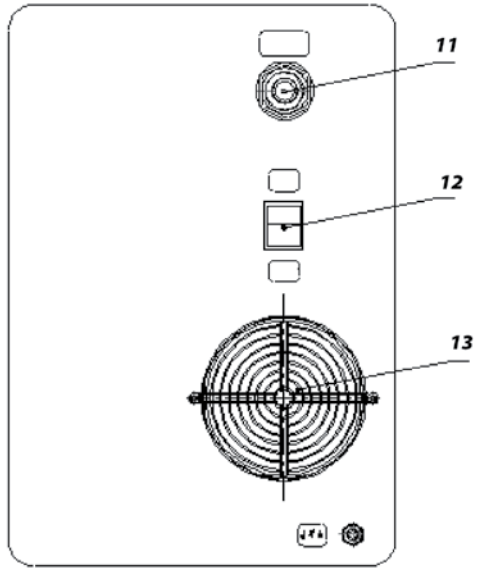
·Noise is generated while welding/cutting, wear approved ear protection if noise levels are high.

Machine fault:

·Consult this instruction manual.
·Contact your local dealer or supplier for further advice.

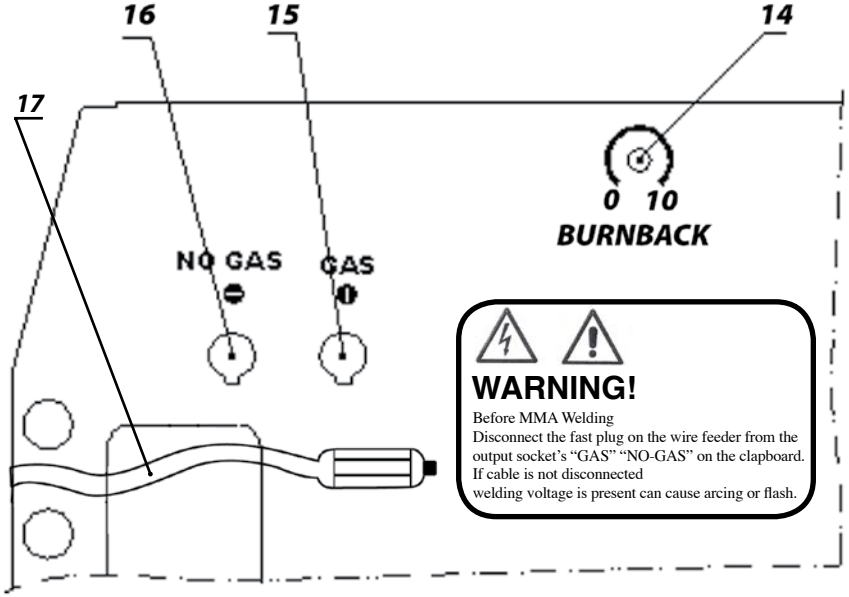
Back panel structure

11. Input power cable
12. Power switch
13. Fan



Clapboard structure

14. Burnback time adjustment
15. "+" output terminal "2"
16. "-" output terminal "2"
17. Fast Plug.



INSTALLATION & OPERATION

Note: ·Please install the machine strictly according to the following steps.
·The protection class of this machine is IP21S, so avoid using it in rain.

1. Connection of Input Cables
Primary input cable is supplied with this welding equipment. Connect the primary input cable with power supply of required input voltage. Refer to data plate on machine for Input voltage, Maximum Input Current (IMAX) and Effective input Current (IEFF).

Installation of MMA welding

1.Turn the power source on and select stick function through Stick/MIG selector
(See Panel Structure Diagram Number 7)

2. Set the welding current in relation to the electrode to be welded.
(See Panel Structure Diagram Number 4)
Generally, the required welding current is listed as follows:

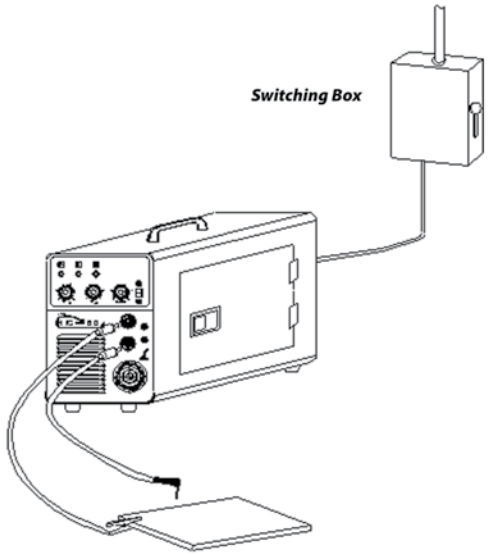
Φ2.5: 70-100A; Φ3.2: 110-160A; Φ4.0: 170-220A;

3. Connection of Output Cables
Two sockets are available on this welding machine. For MMA welding the electrode holder should generally be connected to the positive socket, while the work piece should be connected to the negative socket. However the polarity can be reversed and careful attention should be paid to the polarity recommended by the electrode manufacturer.
(See Panel Structure Diagram Number 8&9.)

Installation sketch map

WARNING!

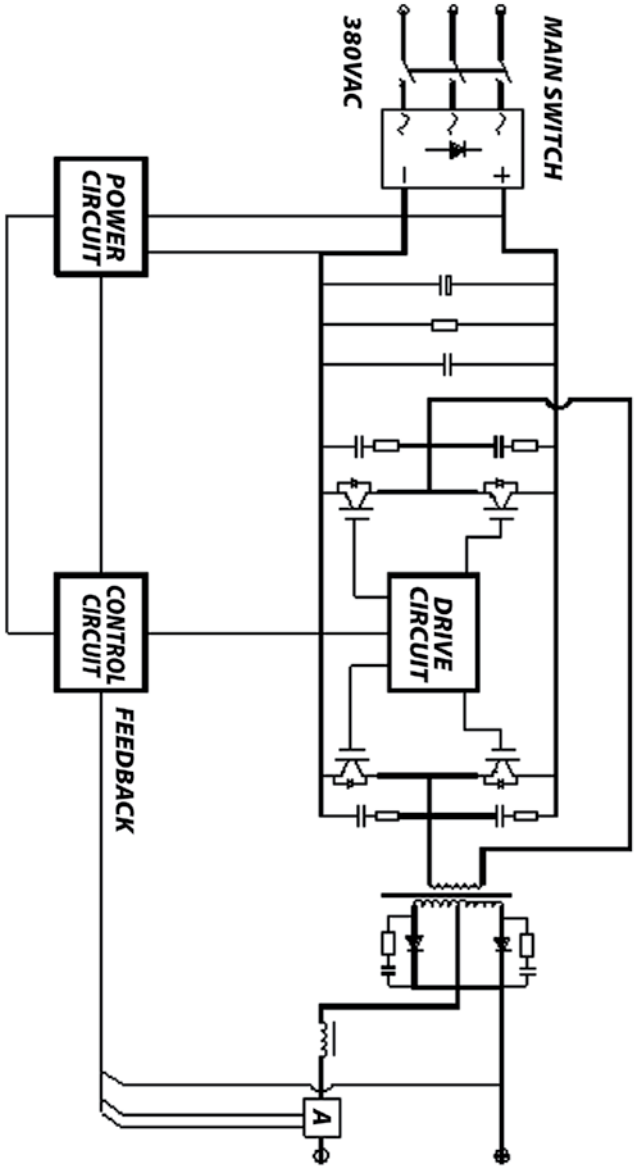
Disconnect the fast plug on the wire feeder from the output socket's "GAS" "NO-GAS" on the clapboard.
(See Panel Structure Diagram Number 15&16.)
If cable is not disconnected welding voltage is present and can cause arcing or flash.



MIG - STICK INVERTER

The MIG 190 is Developed and Designed with the most advanced IGBT technology, for both MIG welding (Gas/Gasless) and MMA welding.

Circuit Diagram



MAIN PARAMETERS

This specification table is suitable only to MIG190.

TYPE	MIG190
Input power voltage (V)	
Single-phase	AC240V±15% 50/60Hz
Rated MAX input current (A)	29
Rated EFF input current (A)	17
Rated power capacity (KVA)	7
Recommended fuse capacity (A)	16
Current adjustment range (A) MMA	10-175
Current adjustment range (A) MIG	30-190
Voltage adjustment range (V) MIG	15.5-23V
No-load voltage (V)	53V
Feeding speed adjust range (m/min)	1.5-16
Welding wire diameter (mm)	0.6/0.8/0.9
Rated duty cycle	
(MMA welding) 40°C	35% @160 A
	100% @ 95 A
(MIG welding) 40°C	35% @175 A
	100% @ 103 A
Efficiency (%)	85
Power factor	0.72
Protection class	IP21S
Insulation class	F
Size (mm)	480×230×360
Weight (Kg)	18
Made in China	

CAUTION

1. Working Environment.

1.1 The environment in which this welding equipment is installed must be free of grinding dust, corrosive chemicals, flammable gas or materials etc, and at no more than maximum of 80% humidity.

1.2 When using the machine outdoors protect the machine from direct sun light, rain water and snow etc; the temperature of working environment should be maintained within -10°C to +40°C.

1.3 Keep this equipment 30cm distant from the wall for ventilation.

1.4 Ensure the working environment is well ventilated.

2. Safety Tips.

2.1 Ventilation

This equipment is small-sized, compact in structure, and of excellent performance in amperage output. The fan is used to dissipate heat generated by this equipment during the welding operation.

Important: Maintain good ventilation of the louvers of this equipment. The minimum distance between this equipment and any other objects in or near the working area should be 30 cm. Good ventilation is of critical importance for the normal performance and service life of this equipment.

2.2 Thermal Overload protection.

Should the machine be used to an excessive level, or in high temperature environment, poorly ventilated area or if the fan malfunctions the Thermal Overload Switch will be activated and the machine will cease to operate. Under this circumstance, leave the machine switched on to keep the built-in fan working to bring down the temperature inside the equipment. The machine will be ready for use again when the internal temperature reaches safe level.

2.3 Over-Voltage Supply

Regarding the power supply voltage range of the machine, please refer to “Main parameter” table. This equipment is of automatic voltage compensation, which enables the maintaining of the voltage range within the given range. In case that the voltage of input power supply amperage exceeds the stipulated value, it is possible to cause damage to the components of this equipment. Please ensure your primary power supply is correct.

2.4 Do not come into contact with the output terminals while the machine is in operation. An electric shock may possibly occur.

MAINTENANCE

Exposure to extremely dusty, damp, or corrosive air is damaging to the welding machine. In order to prevent any possible failure or fault of this welding equipment, clean the dust at regular intervals with clean and dry compressed air of required pressure.

Please note that: lack of maintenance can result in the cancellation of the guarantee; the guarantee of this welding equipment will be void if the machine has been modified, attempt to take apart the machine or open the factory-made sealing of the machine without the consent of an authorized representative of the manufacturer.

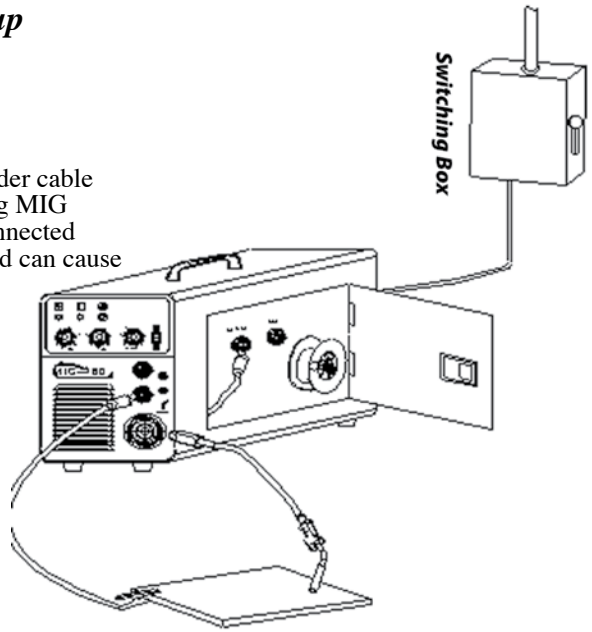
Installation of self shielded arc welding (No Gas)

(1) Turn the power source on and select the MIG function through the STICK/MIG selector. (See Panel Structure Diagram Number 7)
(2) Plug the welding torch into the output socket “10” on the front panel, (See Panel Structure Diagram Number 10) and tighten it.
(3) Insert the earth cable plug into the positive socket “9” on the Panel Structure Diagram, and tighten it clockwise.
(4) Insert the fast plug on the wire feeder into the output socket “NO GAS” on the clapboard, and tighten it clockwise. (See Clapboard Structure Diagram Number 16)
(5) Remove the right side cover of the unit and push the wire spool onto the spindle. Make free the end of the wire and cut it smoothly. Unlock the pressure arm and align the wire into the groove of the drive roll putting a short part of the wire into the torch receptacle. Check that the drive roll being used complies with the wire diameter, replace the roller if necessary. Lock the pressure arm and check that the bearing roll presses the wire exactly into the groove.
(5a) Please notes that a knurled drive roller sholud be fitted when using self shielded wire.
(6) Press selector switch on for “wire inching” (See Panel Structure Diagram Number 3) Press and hold until wire is visible at end of torch.
(7) Adjust the welding voltage adjustment knob and wire feeding speed adjustment knob according to practical needs to get the desired welding voltage and welding current. (See Panel Structure Diagram Number 5&6)
(8) Press the welding torch switch, and welding can be carried out.
(9) Adjust the burnback time potentiometer on the clapboard to get the desired length of welding wire stretching into the contact tip after welding. (See Clapboard Structure Diagram Number 14)

Installation sketch map

WARNING!

Disconnect the Electrode Holder cable from the machine before using MIG function. If cable is not disconnected welding voltage is present and can cause arcing or flash.



MAIN PARAMETERS

This specification table is suitable only to MIG250.

TYPE	MIG250	
Input power voltage (V)		
Single-phase	AC240V±15% 50/60Hz	
Rated MAX input current (A)	51MMA	45MIGMAG
Rated EFF input current (A)	28MMA	26.6 MIGMAG
Rated power capacity (KVA)	12.2MMA	10.8MIGMAG
Current adjustment range (A) MMA	10-250	
Current adjustment range (A) MIG	30-250	
Voltage adjustment range (V) MIG	15.5-26.5	
No-load voltage (V)	56.5	
Welding wire diameter (mm)	0.6/0.8/0.9/1.0 Solid	
	0.9/1.0/1.2 Flux Cored	
	0.9/1.0/1.2 Alloy	
Rated duty cycle		
(MMA welding) 40°C	35% @ 224A	
	100% @ 137A	
(MIG welding) 40°C	35% @ 250A	
	100% @ 148A	
Efficiency (%)	85	
Power factor	0.72	
Protection class	F	
Insulation class	IP21S	
Size (mm)	580×230×450	
Weight (Kg)	24	
Made in China		

INSTALLATION & OPERATION

Note: ·Please install the machine strictly according to the following steps.
·The protection class of this machine is IP21S, so avoid using it in rain.

1. Connection of Input Cables
Primary input cable is supplied with this welding equipment. Connect the primary input cable with power supply of required input voltage. Refer to data plate on machine for Input voltage, Maximum Input Current (IMAX) and Effective input Current (IEFF).

Installation of MMA welding

1.Turn the power source on and select stick function through Stick/MIG selector (See Panel Structure Diagram Number 7)

2. Set the welding current in relation to the electrode to be welded.
(See Panel Structure Diagram Number 4)
Generally, the required welding current is listed as follows:

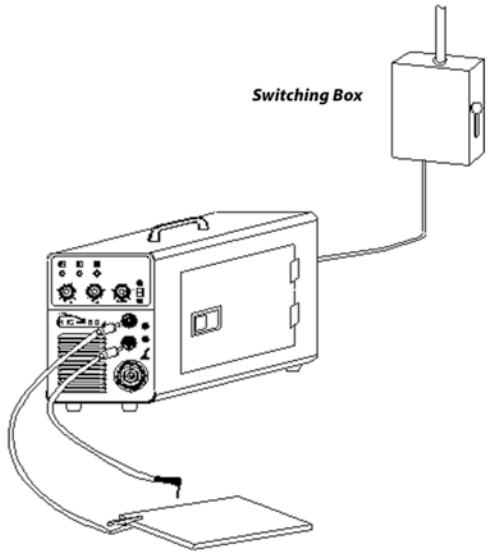
Φ2.5: 70-100A; Φ3.2: 110-160A; Φ4.0: 170-220A;

3. Connection of Output Cables
Two sockets are available on this welding machine. For MMA welding the electrode holder should generally be connected to the positive socket, while the work piece should be connected to the negative socket. However the polarity can be reversed and careful attention should be paid to the polarity recommended by the electrode manufacturer.
(See Panel Structure Diagram Number 8&9.)

Installation sketch map

WARNING!

Disconnect the fast plug on the wire feeder from the output socket's "GAS" "NO-GAS" on the clapboard.
(See Panel Structure Diagram Number 15&16.)
If cable is not disconnected welding voltage is present and can cause arcing or flash.



Installation of gas shielded arc welding

(1) Turn the power source on and select the MIG function through the STICK/MIG selector. (See Panel Structure Diagram Number 7)
(2) Plug the welding torch into the output socket "10" on the front panel, (See Panel Structure Diagram Number 10) and tighten it.
(3) Insert the earth cable plug into the negative socket "8" on the Panel Structure Diagram, and tighten it clockwise.
(4) Insert the fast plug on the wire feeder into the output socket "GAS" on the clapboard, and tighten it clockwise. (See Clapboard Structure Diagram Number 15)
(5) Remove the right side cover of the unit and push the wire spool onto the spindle. Make free the end of the wire and cut it smoothly. Unlock the pressure arm and align the wire into the groove of the drive roll putting a short part of the wire into the torch receptacle. Check that the drive roll being used complies with the wire diameter, replace the roller if necessary. Lock the pressure arm and check that the bearing roll presses the wire exactly into the groove.
(6) Press selector switch on for "wire inching" (See Panel Structure Diagram Number 3) Press and hold until wire is visible at end of torch.
(7) Tightly connect the gas hose, which comes from the back of the machine to the brass nipple of supplied regulator, adjust argon regulator to deliver the required litres per minute.
NOTE. reffer to instruction manual of argon regulator for proper use.
(8) Adjust the welding voltage adjustment knob and wire feeding speed adjustment knob according to practical needs to get the desired welding voltage and welding current.
(See Panel Structure Diagram Number 5&6)
(9) Press the welding torch switch, and welding can be carried out.
(10) Adjust the burnback time potentiometer on the clapboard to get the desired length of welding wire stretching into the contact tip after welding.
(See Clapboard Structure Diagram Number 14)

Installation sketch map

WARNING!

Disconnect the Electrode Holder cable from the machine before using MIG function. If cable is not disconnected welding voltage is present and can cause arcing or flash.