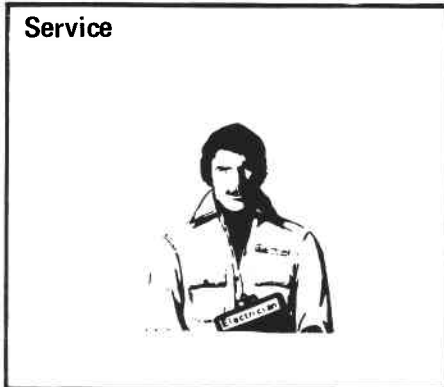


Transmig 500 pulse



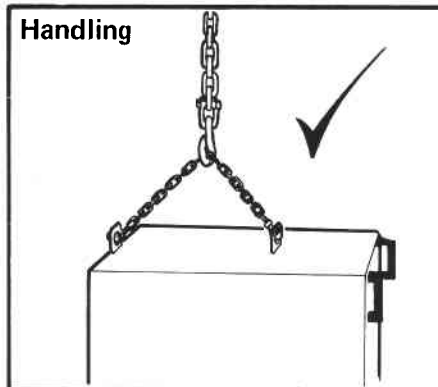
At the rear of this manual is a pull-out technical broadsheet and parts list. Please pass these documents to your Maintenance Department.

SAFETY Operators of Electric arc welding equipment must always be aware of the inherent risks involved in the arc welding process. Your attention is therefore drawn to the Safety Leaflets available from the Welding Institute, particularly Publications 236 and 237.



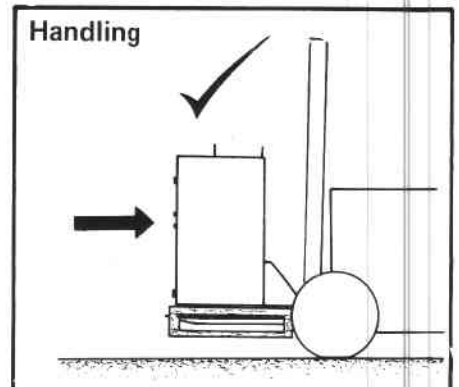
Service

Call in the experts if you don't know what to do.



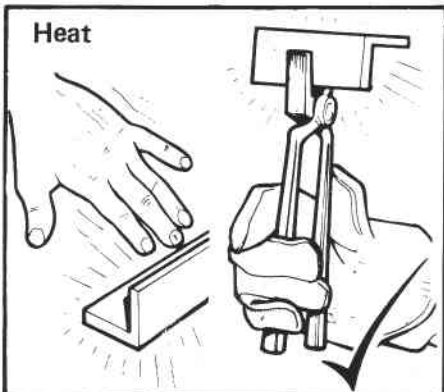
Handling

Lift the unit correctly



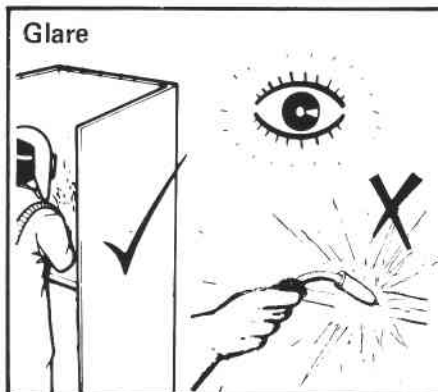
Handling

Most of the weight of this unit is at the rear, therefore transport with the front panel facing forward.



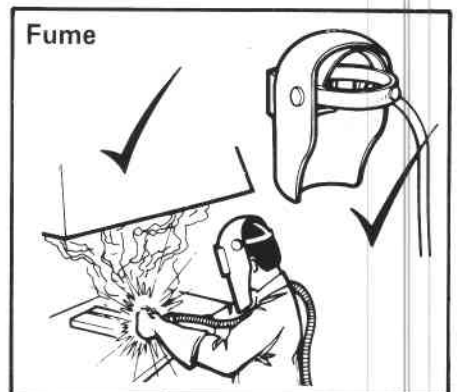
Heat

Don't burn yourself!
Wear gauntlets and use tongs.



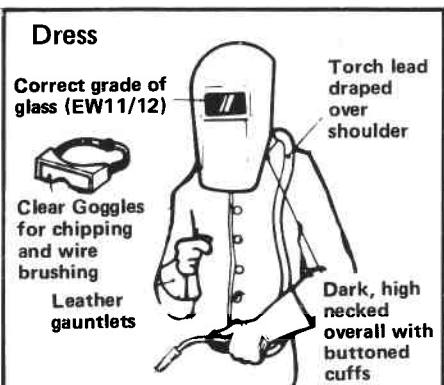
Glare

Wear your headshield (or face screen) and screen the welding area.



Fume

Ventilate the welding area to prevent a build-up of gas and fumes.



Dress

Correct grade of glass (EW11/12)

Clear Goggles for chipping and wire brushing
Leather gauntlets

Torch lead draped over shoulder

Dark, high necked overall with buttoned cuffs

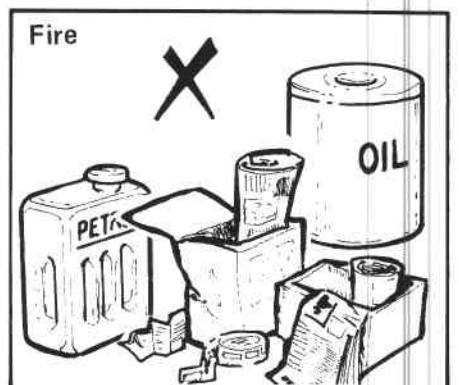
Dress correctly when welding and preparing the weld.



Dust

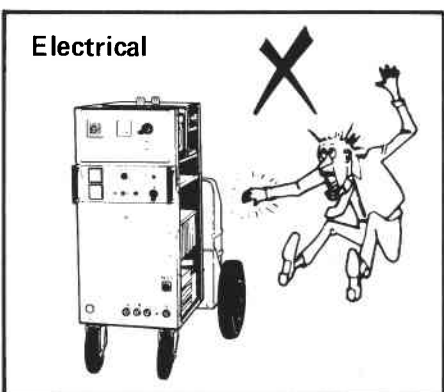
Note: Use only DRY air.

Wear goggles and mask when removing dust with an airline.



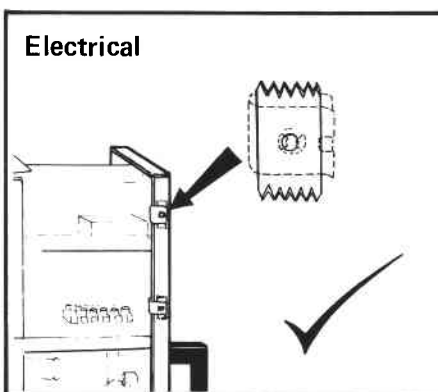
Fire

Before commencing welding, clear the area of inflammable materials.



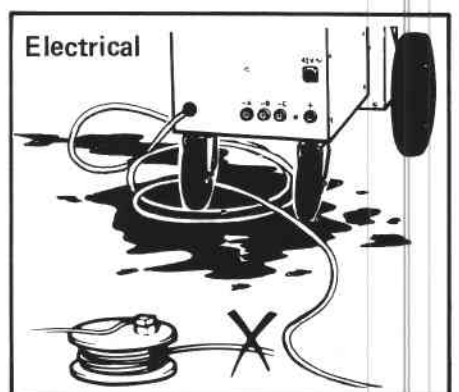
Electrical

Don't work with the cover off. Leave it to the experts.



Electrical

These serrated washers provide earth bonding, replace in position when refitting covers.



Electrical

Don't allow leads to lie in oil, water or corrosive liquid or extend them with extension leads - fit a longer cable.

INTRODUCTION

This constant voltage characteristic power source is designed for use as a MIG/MAG Welding unit in conjunction with the TM 3.2S wire feed unit, for semi-automatic MIG/CO₂ and Argon mixture welding, using dip transfer/spray techniques. Inductance output sockets A, B & C are provided for these techniques (see page 7).

The power source is a fan-cooled, thyristor controlled welding rectifier fitted with automatically reset over-load protection.

A 220Volt output is provided to supply power to the OCD 1 cooling unit (see page 4).

The wire feed unit is supplied and controlled from an 8 pin socket on the front panel.

Remote control is selected by means of a switch on the front panel. This switch transfers control of welding current from the front panel to a hand-held control unit (see 'Optional Extras' page 6).

A voltmeter and an ammeter mounted on the lower front panel, indicate actual welding voltage and welding current values.

The upper portion of the unit contains a pulser unit. This unit produces pulses of fixed amplitude which are superimposed upon the welding output.

A twelve position switch allows the amplitude of these pulses to be adjusted for aluminium or steel wire, (changing amplitude of pulse changes heat input—see page 7).

For thin gauge metals (less than 2.5mm) or for positional welding, the pulse frequency may be cut by half (100Hz down to 50Hz) resulting in reduced heat input (see page 7).

PULSED TRANSFER (PULSED—ARC WELDING)

Pulsed arc welding is a controlled method of spray transfer welding. In spray transfer, droplets of metal are projected from the wire tip across the arc gap to the weld pool at a constant current. In dip transfer, metal is transferred to the weld pool somewhat irregularly during the periods of short circuiting. Pulsed arc welding enables the transfer of droplets to be controlled by projecting them across the arc gap at a regular frequency, using pulses of current.

Transfer of metal from the wire tip to the weld pool occurs only at the peak of the pulse, or 'nip off' current. During the intervals between pulses, the 'background' current maintains an ionized arc between the wire tip and the weld pool to keep the wire tip molten, but no metal is transferred.

Control of transfer means that the weld metal is projected across the gap at high current, whilst the mean welding current remains relatively low. The operator has independent control of the pulse height and the background current. This allows full control of both the heat input and the amount of metal deposited.

Pulse-arc transfer can be used on mild and low alloy steels, stainless steel, aluminium and its alloys with excellent results on light to medium plate sections.

FEATURES

- ✱ Unrivalled quality.
- ✱ Exceptional regularity of weld finish.
- ✱ Consistent penetration.
- ✱ No spatter.

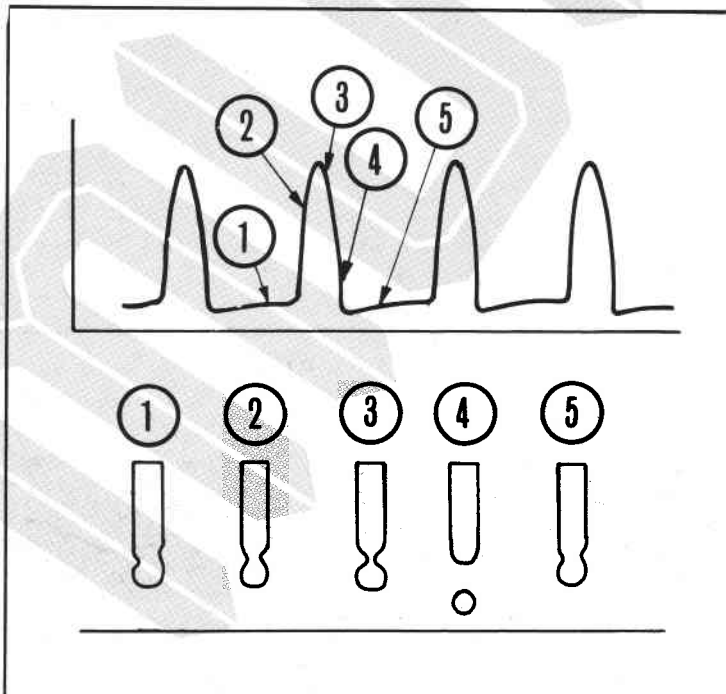
ADVANTAGES

Unbacked corner and butt joints are much easier to weld than with other techniques and have an excellent appearance.

Using an argon-rich shielding gas, the alloy recovery is higher and the carbon level greatly reduced compared with CO₂ welding.

The high ratio of heat input to metal deposition gives much better quality positional welds than is possible with dip-transfer welding; the risk of lack of fusion is eliminated.

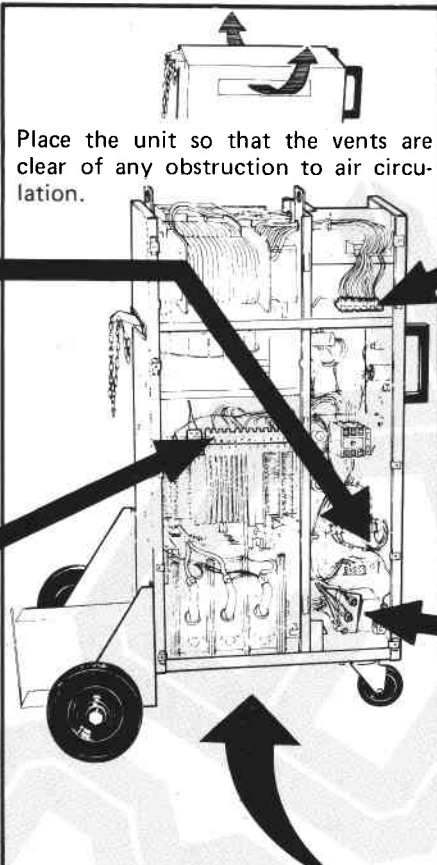
With pulsed-arc welding the usable current range on all wire diameters is extended, enabling only one wire size, or at most two, to be used for all applications — giving savings in time and cost.



INSTALLATION

Installation must only be undertaken by a qualified electrician or suitably trained person.

Voltage/ Freq.	01	02	03	04	05	11 A	12
380 50	37	30	-	29	-	18	-
415 50	30/37	-	-	29	-	18	-
500 50	30/37	-	-	29	18	-	-
415 60	30	37	-	29	-	18	-
550 60	30	37	-	29	-	18	-

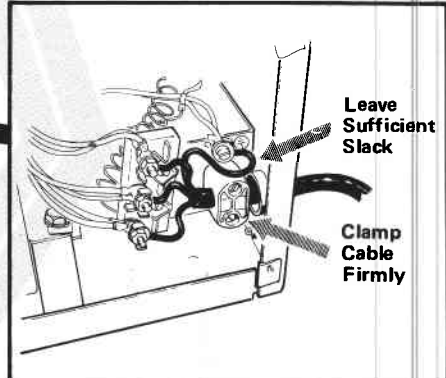


380V
415V
500V

Locate the pulse mains input selection links and set according to the supply voltage.

When changing input voltage the wires to the auxiliary transformer must be connected as shown above.

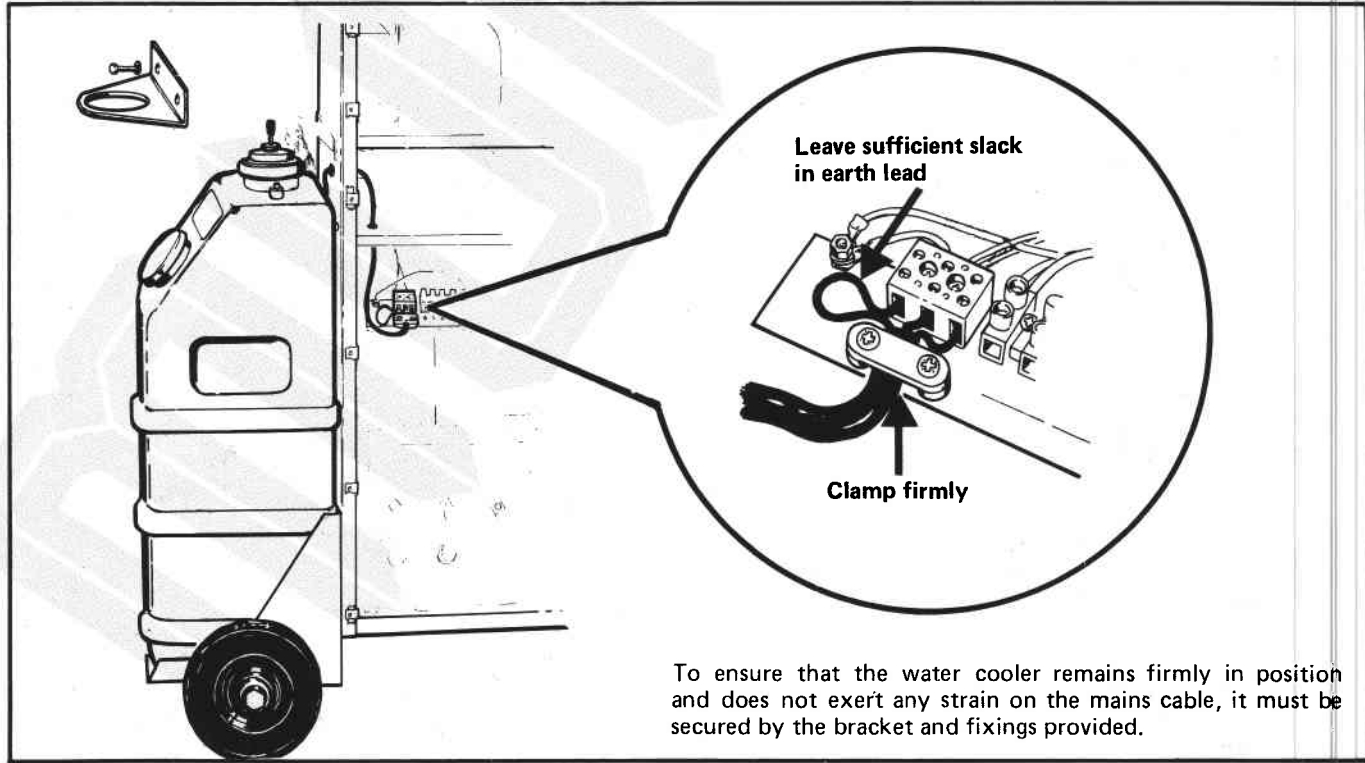
380V 50Hz
415V 50Hz 440V 60Hz
500V 50Hz 550V 60Hz



Locate the mains input selection links and set according to the supply voltage.

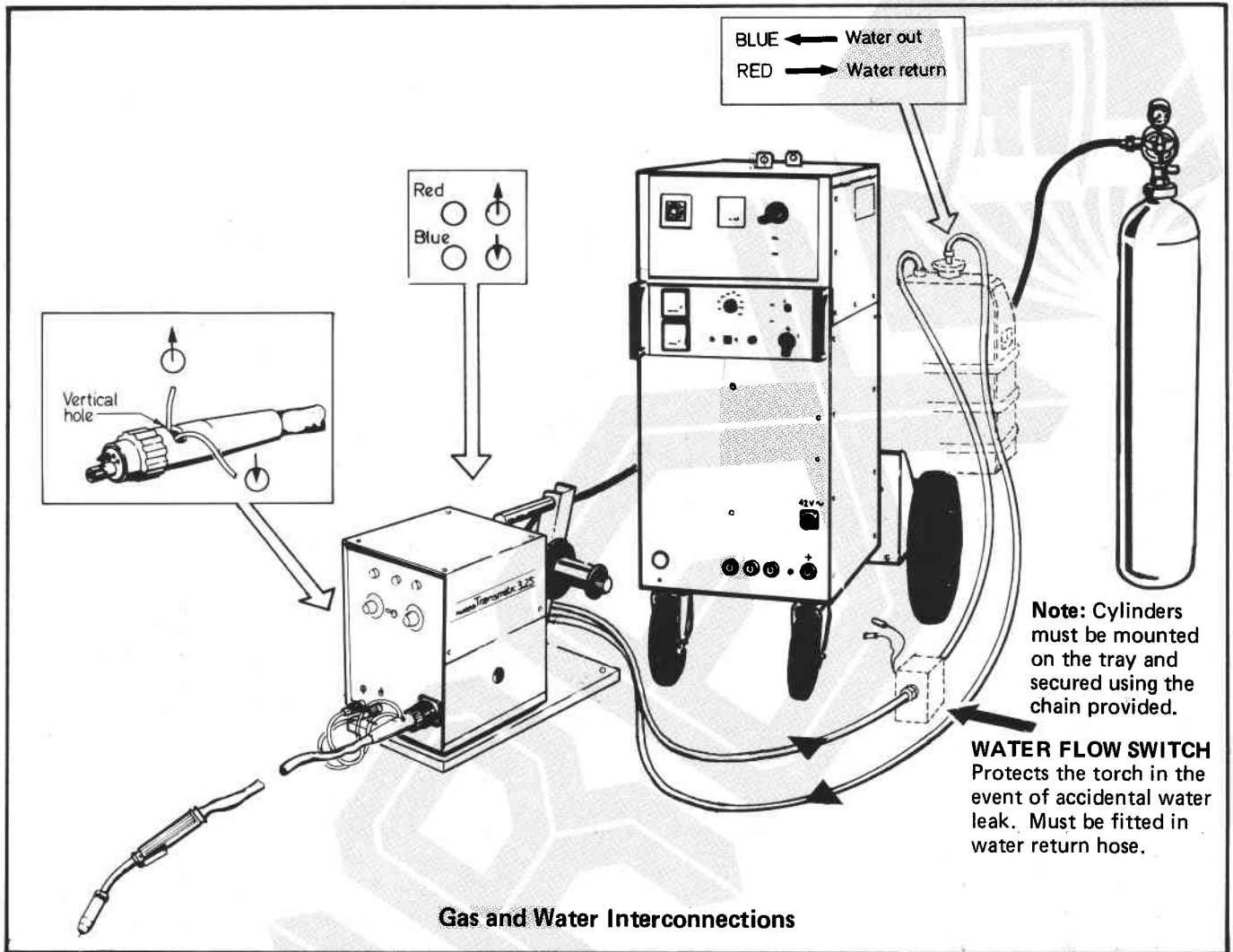
CAUTION: Do not operate this unit without the undergear fitted, observe the ventilation note given above.

Locate the mains input terminal block (TB1). Connect the three phase wires and the earth wire (allowing sufficient slack) as shown above.



To ensure that the water cooler remains firmly in position and does not exert any strain on the mains cable, it must be secured by the bracket and fixings provided.

INSTALLATION (Continued)



UNDERGEAR FITTING

1. Remove the two 16mm bolts (2) from the rear panel of the power source.
2. Fit plate (A) to bracket (B), and (C) to (D) using 16mm x M8 nuts, washers and bolts (2 off each), (1).
3. Loosely assemble AB and CD to back of unit using 2 each of 20mm x M8 bolts (3) and previously removed 16mm bolts (2).
4. Hold the tray in position between brackets (B) and (D) and slide in the axle.
5. Bolt the tray and brackets together using the 20mm x M8 nuts, washers and bolts (4) in four positions.
6. Tighten the assembly.

