



Instruction Manual and Parts List

Tradescut 10S & Tradescut 20S Air Plasma



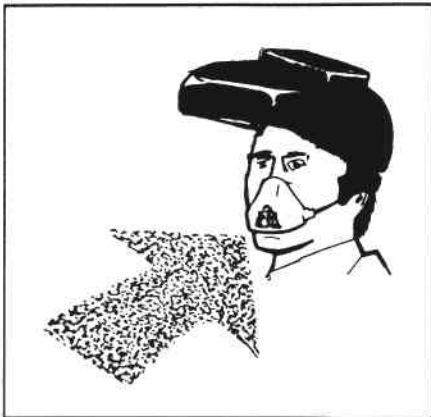
**Please ensure that this
Instruction Manual and
Parts List is made
available to the user**



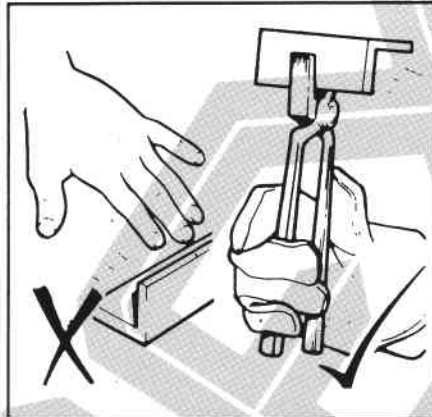
WARNING

This equipment has been designed, manufactured and tested to the highest quality standards to ensure long and trouble free life. However, regular maintenance is an essential part of keeping the machine operating in a reliable and safe manner and your attention is drawn to any maintenance instructions that are contained in this manual. In general, all welding and cutting equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used. Wear and tear, particularly in electro-mechanical and moving components, are gradual processes. Caught in time, repair costs are small and the benefits in performance, reliability and safety are significant. Left alone, they can put the equipment, and you, at risk. Have this equipment regularly inspected and maintained by an approved service centre.

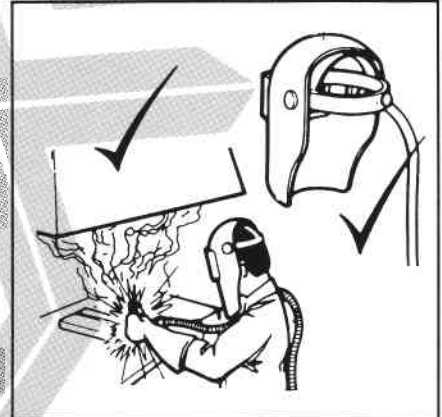
SAFETY Operators of Electric arc welding or cutting equipment must always be aware of the inherent risks involved in the arc processes. Your attention is therefore drawn to the Safety Leaflets available from the Welding Institute, particularly Publications 236 and 237.



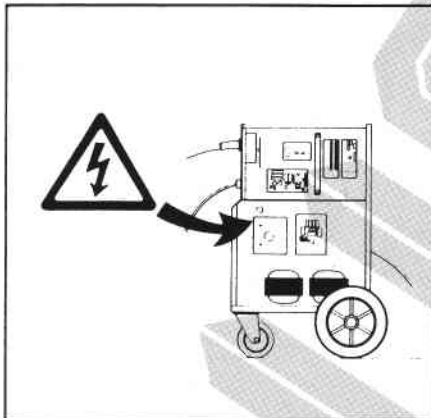
Protect the mouth and nostrils against dust inhalation.



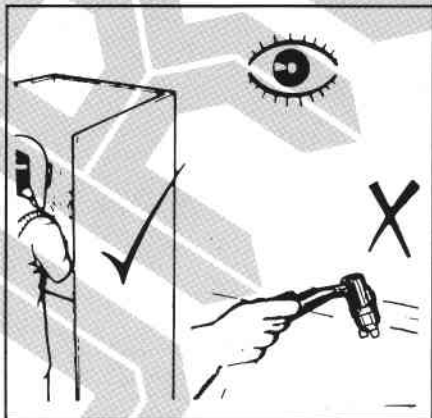
Don't burn yourself!, always wear gauntlets and use tongs.



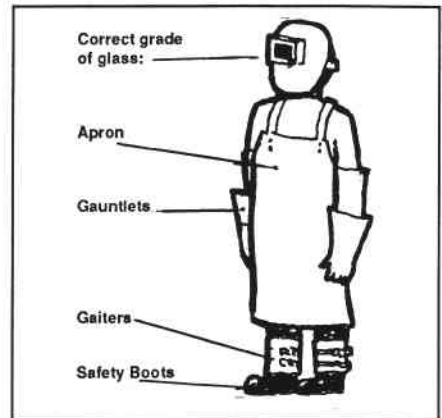
Ventilate the cutting area to protect against build of fumes.



Don't work with the covers off - leave it to the experts.



Wear a head or face shield and screen the cutting area.



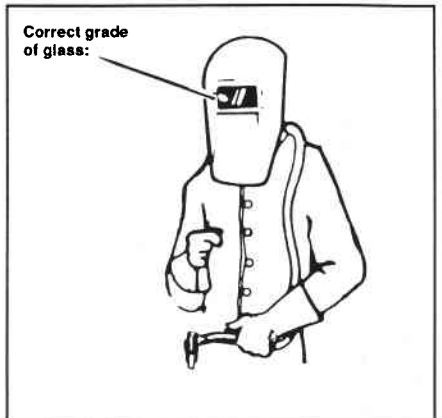
Dress correctly when cutting



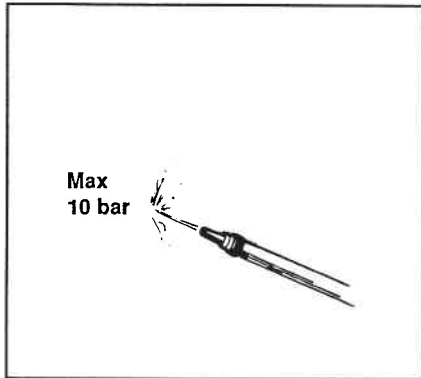
Call in your nearest MUREX Service Centre if you don't know what to do.



Before commencing cutting, clear the area of flammable materials.



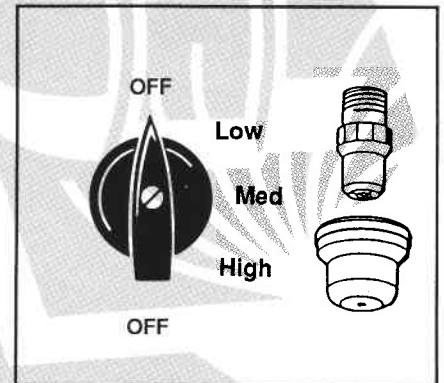
Keep the eyes protected at all times whilst cutting.



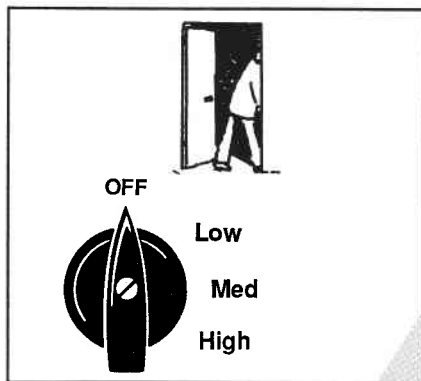
Use only dry compressed air.



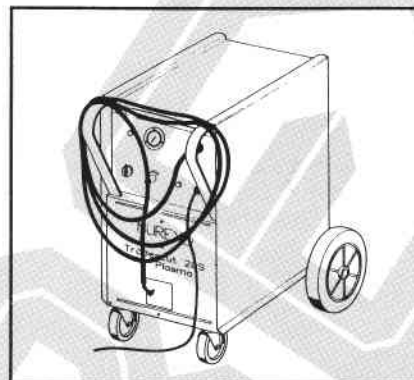
If ambient noise level rises above 81dba wear ear defenders.



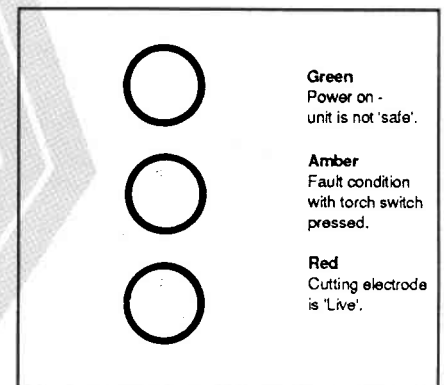
Switch off before changing consummables.



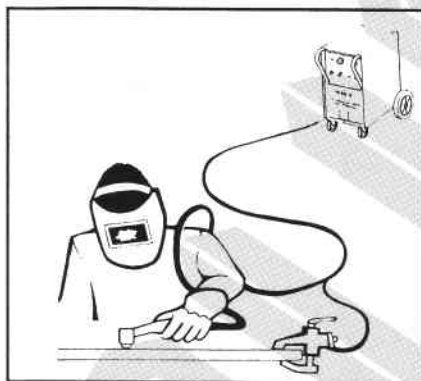
Switch off when equipment is not in use.



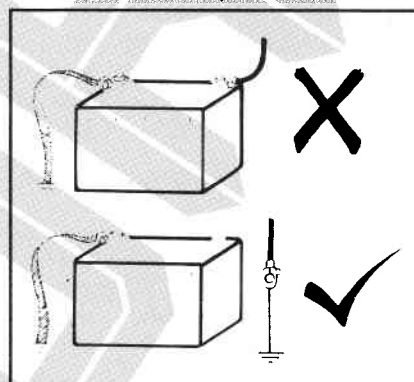
To protect the torch/torch leads, drape over handle for transportation.



The warning lamps give an indication of equipment 'state'. Keep an eye on them !



To avoid the fan drawing in metallic objects, position the equipment away from the cutting area.



To protect vehicle electrics from damage, ground the 'electrics' battery supply lead.

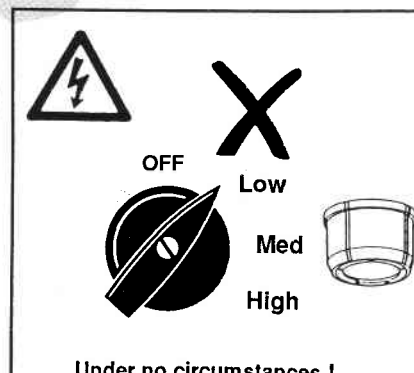


Check for 'hidden' wires before cutting



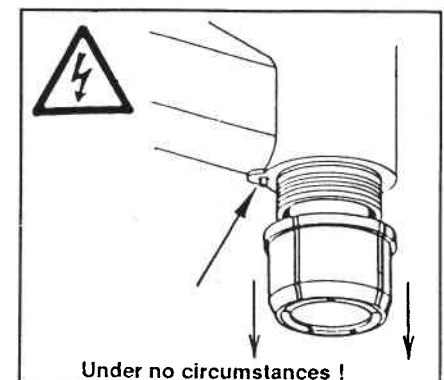
Under no circumstances !

The 'Live' cutting head must never be allowed near hand or body.



Under no circumstances !

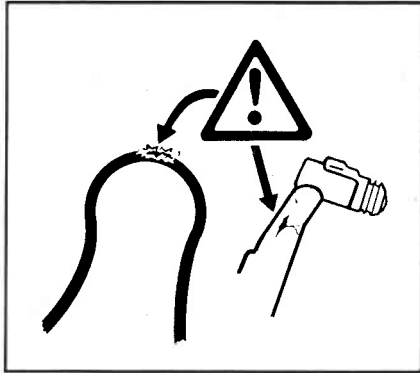
The Safety shroud must not be removed with the power switch in any 'ON' position.



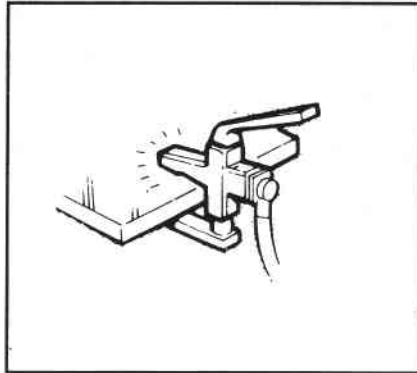
Under no circumstances !

The Safety shroud must never be overridden e.g. by shorting out the pins.

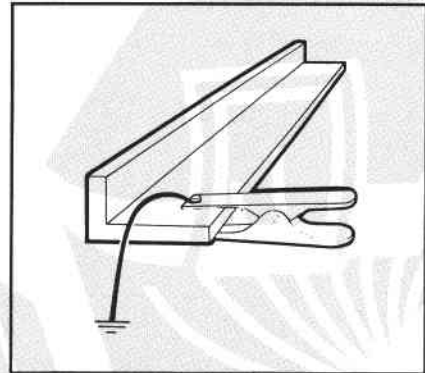
Safety - continued



The torch leads carry high voltages. Inspect them regularly for deterioration and wear.



Ensure the work lead is in good repair and firmly clamped to a 'bared' contact area on the workpiece.



To reduce risk from radiation, ground the work to a good local earth terminal.

Unpacking

Check the kit contents:

1. Axle
2. Handles (2)
3. Castors (2)
4. Accessory Kit
5. Wheels (2)

WARNING

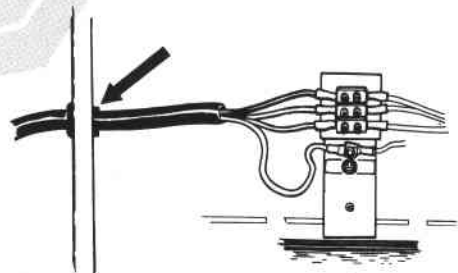
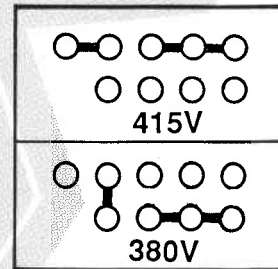
Use only forks when lifting the unit.

Leave the unit on the pallet and remove the packing.
Fit the castors and wheels (washers/wheel/washer/circlip).
Fit the handle. First remove the 2 screws from the left and right top edges of side panels..

INSTALLATION

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

1. Position the unit so that the vents are clear of any obstruction and permit the free flow of air around the unit.
2. Ensure that the tappings on the mains input selection panel are set for the mains input voltage in use. (see opposite).
3. Locate the mains input terminal block and earthing point. Connect the input wires to the terminal block as shown opposite. Connect the earth wire to the earthing point, leaving sufficient slack in the wire so that, in the event of possible strain on the cable, the earth wire is last to be affected.
4. Clamp the cable firmly using the panel clamp provided.



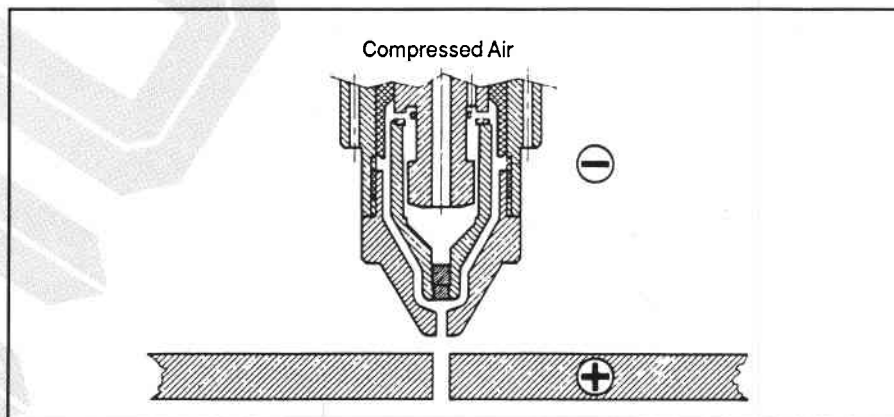
Principle of Plasma Cutting

This cutting system uses a very high temperature of approximately 25,000°C which is produced by combination of an electric arc, struck between electrode and workpiece, and an air jet through a small hole in the torch nozzle.

The high intensity of the arc, together with the air flow under pressure, creates a plasma jet which melts and disperses the metal.

The air flow has two functions:-

- a. Together with the electric arc it contributes to form the plasma jet.
- b. The post-cut air flow helps to cool the torch.



Air Plasma Cutting

OPERATION

Before commencing any cutting operation, read the safety notes in this manual and the PCA55/95 manual.

WARNING

Before attempting cutting operation ensure that the cutting torch is assembled with the correct nozzles and air regulators as described in the PCA55/95 manual.

Preparation

1. **Air inlet connection** - Attach the air line connector (supplied) to the air hose and fit to the machine inlet connection on the rear panel (right hand side).
Maximum inlet supply pressure - 10 bar.
2. **Air pressure setting** - Pull out the red knob on the front panel and set it to the recommended pressure given in the table on page 7.
Push in the red knob to lock.
3. **Work return lead connection** - Connect the work return clamp to a bared metal surface on the workpiece - see Safety Notes.
4. **Power 'ON' selection** - Switch the 'Power on' switch to either low, medium or high range dependant upon material to be cut.
5. **Check Power 'ON'** - Listen for fan rotation and ensure the green lamp is lit.

6. **Pilot arc operation** - Holding the torch away from the body (see Safety Notes) or metal parts, press the torch button, the pilot arc should ignite and stay lit for approximately 1.5 seconds.
The pilot will extinguish after 1.5 seconds if an arc is not struck with the workpiece.

Note

As the electrode and nozzle wear, and at low settings, some discontinuity and re-striking can be expected in the pilot arc. This is normal and has no effect on cutting performance.

7. **Torch cooling** - Release the torch button, air should continue to flow for a period of approximately 30 seconds after the button is released, cooling the torch.
8. Read the further operation instructions contained on page 4 of the PCA55/95 manual.

WARNING

The instructions given under 'Safety' cannot be over emphasised. Read these instructions before commencing cutting operations and comply with them. It is strongly recommended that these instructions are made available to operators of this equipment at the workplace.

Operating Faults

Fault Indication		Possible Remedy	
1.	Mains applied, Green lamp unit Fan not running	a.	Check for broken line fuses
2.	As above but fan running	a. b.	Check auxiliary supply Replace auxiliary 2A Fuse
3.	Green lamp lit but no Red lamp when torch button pressed. Amber lamp lights	a. b. c.	Check air pressure incorrect - see page 7. Thermal trip-leave to cool Switch off and check Gas diffuser - See "Safety"
4.	Red lamp lights momentarily when torch button pressed then extinguishes. No Amber lamp - machine trips	a.	Electrode short circuited at nozzle. Switch off power remove diffuser & nozzle and check electrode - replace if necessary
5.	Irregular cutting and lack of cutting power	a. b.	Check for 'ovalised' nozzle hole - replace if necessary. Check for moisture in air filter- Use only dry air
6.	Insufficient penetration of cut	a. b.	Material is too thick. Cutting speed is too high
7.	Excess of arc 'flash'	a.	Air pressure too high - decrease to pressure setting given on page 7.