

~ FABRICATION ~



OPERATING INSTRUCTIONS



INTRODUCING

the



SPOT WELDER



Spot Welding Machine (fixed and portable type)
Access Level 1 - (see Metal Workshop Induction Guide on Access Levels)
Welds Ferrous metals together 10mm

PPE Basic

- Suitable work coat (provided)
- Spectacles, goggles or face shield rated to BS/EN 166 (provided)
- Heat-resistant gloves, rated to EN12477 & 407 (provided)
- Sturdy boots will help when working with sheet material or heavy portable machines

What to do before use

- If you have a PACEMAKER, wear a HEARING AID or are PREGNANT, DO NOT use this machine. A large, magnetic field is generated which may INTERFERE with the operation of pacemakers and hearing aids or child development
- ALWAYS do a VISUAL inspection of the machine BEFORE plugging in to a power supply or switching ON at an isolator
- CHECK the cable, if the equipment is portable, for signs of damage from being STOOD ON or ELECTRICALLY DAMAGED, especially in metalworking workshops with sharp edges on the floors and surrounding benching
- If PORTABLE, CHECK the plug for DAMAGE, including pins, cable strain relief and cable cover.
- If PORTABLE, ENSURE you are ABLE to safely LIFT the unit. It can be used free hand, though it is a HEAVY machine and it is often SIMPLER and SAFER to SECURE the machine to a bench or vice jaws and run the work ALONG a join rather than the other way around
- The PORTABLE equipment should also bear a CURRENT PAT inspection label to indicate it has PASSED electrical safety regulations

- **ENSURE** that the surrounding area is dry and that you or your clothes are **NOT** wet or damp **BEFORE** using the machine or that you are **STOOD** in water or a damp floor
- **CHECK** that the Copper electrodes are free from **DEFECTS** and **GOUGES** and are **NOT** heavily soot-blackened. If they are, they will need **CLEANING** with a **FINE-GRADE** abrasive before use
- The electrode **TIPS** should also be **HEMISPHERICAL** for correct operation. If they are **NOT** or appear damaged or melted, they will need re-shaping with a special shape-reaming tool. A **STAFF MEMBER** should do this

How to Use This Spot Welding Machine

- **Plug** in the machine to an appropriate socket **OR** switch **ON** via the wall isolator box
- **Set** your welding **TIME** (in 1/10th and whole seconds), which is usually marked **ON** the machine **OR** given to you via your **INSTRUCTOR**
- **Set** your welding **POWER LEVELS** – this depends upon the type and gauge (thickness) of sheet metal material you are using – again the machine itself or your instructor can supply you with this information
- You should have appropriate gloves on – **HEAT RESISTANT** for small piece work when the work gets hot due to heat conductance and **RIGGER GLOVES** or **PUNCTURE RESISTANT GLOVES** when handling larger sheets due to burrs and sharp edges
- **TAKE CARE** when working close to the welding electrode tips – Steel jewellery may get hot due to induction if using the machine for longer than 10 minutes. **REMOVE** finger and hand jewellery, if possible
- **Wear** a long work coat and, if possible, **BUTTON-UP** or **TAPE UP** the collar section to prevent **SPARKS** striking the chest area
- **ALWAYS** wear eye protection and it is best to use **FULL-FACE** shielding to prevent sparks hitting the face and upper chest. Sparks occur when the welding process begins and can be rapid and quite discomforting to feel
- **TAKE CARE** when applying several **SEQUENTIAL** welds; the work will begin to heat up – more quickly as the size of the work gets smaller.
- It is a good idea to have a second person **ASSIST** with the **HANDLING** of the sheet **OR** the **CLOSING** of the electrodes if handling and/or closing becomes problematic
- When you have **FINISHED**, switch **OFF** the machine first and allow the electrodes to **COOL**. If **PORTABLE**, remove from the vice and place in the **MIDDLE OF THE WORK TABLE**

- **MAKE SURE** the power cable is not left **TRAILING** on the floor.
- If it is a **FIXED** machine, a **WARNING SIGN** sometimes helps to **ALERT OTHERS** that the machine was recently used and **MAY BE HOT** in certain areas. If one is available, use it

I verify that I have read and understood the information detailed within this document

Date

Name

Signature