 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
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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.

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.
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- 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