

## Assessment Requirements

### Unit BP20K – Knowledge of Motor Vehicle Body Resistance Spot Welding Operations

#### Content:

- a The specific safety precautions to be taken when operating resistance welding installations (working with machinery; the use of appropriate personal protective equipment machine guards; operation of machine safety devices; stopping the machine in an emergency; closing down the machine on completion of the welding activities; statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH and Work Equipment Regulations; safe disposal of waste materials), any regulations relating to EMF (Electric Magnetic Field)
- b The hazards associated with resistance welding machines (dangers from live internal electrical components, fumes, hot metal, expulsion of hot particles, moving parts of machines), and how they can be minimised
- c The principles of resistance welding; terminology used in welding
- d Mechanised and automated welding s (types of installation; machine functions; control systems; safety features)
- e The key components and features of the equipment used (power source; electrical parameters such as arc voltage, current, electrode pressure and welding time; systems for parameter control; how variation in the parameters influence weld features, quality and output)
- f Extracting the information required from drawings and welding procedure specifications
- g Operation of the machine controls and their function; clamping of components and equipment care procedures
- h Setting up and aligning the work piece
- i Monitoring the the welding process; recognition of problems, and action to be taken
- j Problems that can occur with the welding activities, materials and weld defects
- k Self inspection of completed work
- l Organisational quality systems (standards to be achieved; production records to be kept)
- m Personal approval tests and their applicability to your work
- n The extent of your own authority and whom you should report to if you have problems that you cannot resolve
- o Reporting lines and procedures, line supervision and technical experts
- p The requirements of the power supply to the unit and the use of extension cables