~FABRICATION~

OPERATING INSTRUCTIONS

METALWORK

INTRODUCING

METALWORK

the

PILLAR DRILL

Pillar Drill Press machine. Metal Workshop
Access Level 2 (see Metal Workshop induction Guide on Access Levels)
Drilling holes into a variety of Metals, Plastics and Woods

PPE Basic

- Suitable work coat (provided) ☐
- Spectacles, Goggles or Faceshield rated to BS/EN166 (provided) ☐
- Stout footwear ☐

What to do before use

- INFORM a member of staff that you wish to use the drill BEFORE use ☐
- CHECK machine isolator is in the OFF position ☐
- VISUAL check of the machine for signs of damage or problems and report to a technical member of staff team ☐
- When changing SPEEDS, it is RECOMMENDED that you perform a RUNNING check, to ensure the machine is functioning normally ☐
- NO rings, wrist watches, bracelets, or other jewellery that could get caught in the rotating parts of the equipment ☐
- NO GLOVES UNLESS HANDLING SHARP TOOLS ON AN INSERT MACHINE ONLY ☐
- Check GUARDS are in good condition ☐
- KNOW the location of START and STOP switches ☐
- KNOW the locations of EMERGENCY STOPS including FOOT STOPS ☐
- You should CENTRE-PUNCH your work CAREFULLY to allow the drill to SAFELY centre and not WANDER across the work surface, possibly leading to sudden drill BREAKAGE ☐
- If you are drilling wood for any reason, on this machine, you MUST use extraction or some form of LEV to remove wood dust and shavings. This must be setup and ON BEFORE starting work ☐

- Pre-locate the support table and adjust the drill depth of the hole to be machined, using the machine DRILL STOP ☐
- ENSURE that there is some SACRIFICAL packing between the work and the support table or that the bit DOES NOT drill into the vice or clamps ☐

How to Use This Drilling Machine

- Make sure SOMEONE knows that you are using the drill press, in case of an emergency ☐
- ENSURE the machine power is OFF BEFORE fitting drills or changing rotation speeds ☐
- USE the CORRECT drill-bit type for the material you are drilling. IF IN DOUBT, seek advice from a member staff ☐
- DO NOT insert a drill chuck key into the chuck UNLESS the power is shut OFF and the machine has COME TO A COMPLETE STOP ☐
- All stock material MUST be secured with a vise or clamps PRIOR to machining ☐
- If the stock becomes LOOSE in the vise or clamp, STOP the machine immediately. DO NOT attempt to hold the work by hand ☐
- Set the CORRECT drill speed for the material and drill type. If you are UNSURE seek advice from the technical team on WHICH speed setting is appropriate and WHY ☐
- To SET a rotation speed, make sure the power is OFF. Take hold of the chuck and rotate, by hand, moving the speed control levers until the required speed is chosen ☐
- LONG drill bits or SCREW-MOUNTED drill bits should NOT be used in Jacob Chuck-type vertical drill press machine ☐
- There are TWO parts to a drill; the MOUNTING SHANK (normally cylindrical) and the CUTTING PROFILE. You should ONLY mount the drill, CUTTING PROFILE DOWN, in the chuck as far as the MOUNTING SHANK ☐
- For very SMALL drills, you should ALSO ENSURE that the drill is CENTRALLY-mounted between all three or four chuck jaws. LOOK right under the chuck and CHECK that the drill bit is NOT locked BETWEEN the vice jaws – which will cause the drill to drill off-centre when switched on ☐
- Ensure that the SAFETY STOP EXTENSION is set to the DEPTH of the drill operation – this will stop the machine IMMEDIATELY if the work comes loose from the vice or clamp and spins in the drill bit ☐

- Switch ON the machine via the GREEN START button. Allow the drill bit to come to full-speed before working ☐
- SLOWLY turn the feed handle around so that the drill bit comes into contact with the work SLOWLY as well ☐
- For Steel, other metals, plastics and LARGE DIAMETER drill bits, it is RECOMMENDED to use PULSE drilling. Pulse drilling involves drilling DOWN a few mm, then RETRACTING back the bit to clear it of waste material, then drilling DOWN a few more mm – and so on. This keeps the drill bit COOL and DOES NOT allow swarf to form into a thick, rotating bundle ☐
- When an operator has finished working on the drill press, switch OFF the machine and wait for it to come to complete STOP ☐
- DO NOT LEAVE a drill machine running unattended. You should switch OFF the machine and wait until it has stopped BEFORE leaving the machine – NOT even for a minute ☐
- All operators MUST CLEAN and TIDY the machine of waste material and off-cuts BEFORE leaving the machine ☐
- ENSURE the machine is switched OFF at the wall box before leaving the machine ☐

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

Date

Name

Signature