Technology: Risk Assessment Title: **Portable Router**  SEPTEMBER2015

**This is a generic Risk Assessment that must be modified to suit your place of work**. The Risk Assessment modifications should take into consideration the activity, age/stage/pupil ability, department/working environment and the experience of the teacher in charge. If Control Measures Required as described are implemented the risk is reduced to an acceptable level for mainstream students.

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| **Identify the Hazards** | **Who is at Risk?** | **What is the Harm?** | **Activity Taking Place** | **Control Measures Required** | **Additional Information** |
| Employees and learners should be made aware of the following hazards.  1. Hand, Hair or  Clothing Entanglement  2. Tripping On  Cables or Hoses  3. Electric Shock  4. Inhalation of Dust  5. Impact From  Ejected Pieces  6. Impact from Kick Back  or Biting In  7. Distraction of  the Operator  8. Exposure to Noise  9. Unauthorised Use  10. Skin Contact  11. Spindle Moulding  Action | Technology teachers, technicians and students  Technology teachers, technicians and students  Technology teachers, technicians and students  Technology teachers, technicians and students  Technology teachers, technicians, students and others nearby  Technology teachers, technicians and students  Technology teachers, technicians and students  Technology teachers, technicians and students  Unauthorised User  Technology teachers, technicians and students  Technology teachers, technicians and students | **Moving parts, including sharp cutters, into which long hair and loose clothing can become entangled.**  **Leads and hoses could be tripped over.**  **Electric shock is a risk should the cutter come in contact with the power cable.**  **Dust, which could be inhaled, affects the respiratory system.**  **Ejected particles can be flung towards the operator or others nearby.**  **Jamming, kicking back or biting in of the router cutter.**  **Distraction of the user can result in the loss of control of the router.**  **Exposure to loud noise can lead to hearing loss or damage.**  **Unauthorised use means that proper training, safe use and proper supervision are not present.**  **The cutting tool must be kept away from fingers and hands whilst in use.**  **Turning the Router tool upside town exposes the cutting tool.** | Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood  Routing Wood | **Technology teachers and technicians must be a competent person specifically trained in the use of a Portable Router. Records of this specific training must be kept within the department for future reference.**  Long hair and loose clothing should be tied or secured well away from rotating parts. A dust coat should be worn to protect clothing from ejected dust.  Trailing leads and extraction hoses should not become entangled with the operator or the cutter.  The machine should be included in a planned maintenance programme that should include electrical safety inspections and tests.  A push button no-volt and overload starting switch should be in place. In this mode, the machine should be controlled by a starter incorporating overload protection and no volt release and a conveniently positioned, emergency stop switches (which could be the normal “off” switch) or other suitable control device that can quickly stop the machine in an emergency.  An LEV unit should be used to control the dust hazard of the room. During use the operator should wear a dust mask conforming to BS EN 149:2001 + A1:2009 class FFP3. RPE should be worn as a substitute if appropriate.  If the Power Router has an integrated dust extraction facility it should used to keep the cutter area clear.  Suitable eye protection PPE conforming to BS EN 166:2002 1B should be worn at all times when using a Portable Router.  The peripheral speed of the router cutter should match the speed of the machine. The router cutter should be inspected for damage before being installed. A damaged cutter should not be used. The cutter should be securely fitted to the machine in accordance with the manufacturer’s instructions and should be removed when the machine is not in use.  Instruction should be given to ensure that routing operations are undertaken well away from persons and objects that could be affected by material being ejected from the operation.  The person using the machine should be sufficiently strong to withstand any kicking back or biting in that might take place when the router is in use.  Soft start can allow users to gradually increase the cutter speed and help with control.  A Portable Router should not be used when there is a likelihood of the operator being distracted when using the machine. Either remove the distraction or delay the routing activity till no distraction is present.  Hearing protection PPE conforming to BS EN 352 should be worn when using a Portable Router.  A Portable Router should be kept in a lockable box or lockable cupboard when not in use. It must not be left unattended or energised in the craft room.  A push stick or push blocks, and anti-kickback devices should be used when available.The Portable Router must be disconnected from the mains to clear any jams or blockages.  A Portable Router machine may be turned over and fitted to a proprietary purpose-made table and designed for intensive use to act as a small spindle-moulding machine using one piece cutters. **In this mode of working, the Portable Router should only be used by a Technology teacher or technician, who must be a competent person specifically trained in its use, or by students formally trained and assessed as competent and under direct supervision of trained staff at all times.**  The cutter must be guarded at all times when in use.  **Homemade router tables should not be used in any schools.**  Portable Routers must not be placed upside down in bench vices or G-clamped to table tops. | Reference BS 4163:2014  **WARNING:** **Learners should only use portable routers when they have been assessed and the assessment has shown that they are competent, and they are under the direct supervision of specifically trained employees (Technology teachers or technicians.)**  All assessments demonstrating competence of students must be retained in the department.  Manufacturer’s instruction guide should be followed and kept within the department for future reference.  Best practice is to use a ceiling mounted drop down socket.  The risk of electric shock is reduced by good maintenance and the use of double insulated machines.  The amount of saw dust created when using the Power Router means that effective LEV is required to avoid the craft room becoming ‘clouded’ with dust.  Damaged cutters should be removed immediately and reported for replacement.  Specifically trained Technology teachers or technicians must be in direct supervision at all times.  Continued exposure to the Power Router noise means supervising staff should also wear hearing protection.  The Power Router should be vacuumed down after use to limit standing dust on it. |
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