



Health and Safety Training in Design and Technology

Design and Technology Association
Specialist Extension Level S9HS Portable Power Tools

Portable Power Tools

Name: _____ Surname: _____

School / College/ Institution _____

Course date: / /

These Training and Accreditation Guidelines are based on the following essential publications:

- Health and Safety Training Standards in Design & Technology: D&T Association
- BS 4163:2014 BRITISH STANDARD Health and safety for design and technology in educational and similar establishments – Code of practice
- Model Risk Assessment for D&T in Secondary Schools and Colleges: CLEAPSS

<p>Please tick against each of the standards below to confirm your knowledge, skills and understanding and that you have completed Assessment Tasks 1 and 2. The RDTHSC/Trainer will sign and date this form on completion</p>	Portable grinder	Rotating portable saw	Reciprocating portable saw	Biscuit Jointer/tenon jointer	Portable planing machine	Portable router
<p>This includes all portable power tools identified within BS4163: 2014 that should only be used under the supervision of specifically trained staff, i.e. portable grinders, rotating and reciprocating portable saws, biscuit jointers/tenon jointers, portable planing machines and routers. Colleagues must be able to demonstrate, through practical activities, their capability in using portable power tools, and their knowledge and understanding of:</p>						
<p>1. The types of power tools that can be safely used in school workshops, with reference to start/stop controls, safety devices, guards and dust collection/extraction, including battery powered, 110 and 240 volts and air powered tools</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>2. the general and specific hazards of using portable power tools, with reference to BS4163:2014, paras. 12.1 to 12.12</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>3. appropriate training and assessment arrangements for learners, including an assessment of learners' physically capability to use each piece of equipment</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>4. the use of correct personal protective equipment, including respiratory protective equipment if required</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>5. the different types of drills, bits, cutters, blades, abrasive wheels and sanding discs etc. commonly used and their purpose</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>6. the procedures for isolating power tools and for fitting/changing cutting tools</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>7. the safe holding of work pieces</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>8. safe working procedures for each piece of equipment, including the use of the router, turned over and fitted to a router table</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>9. the appropriate working environment, ensuring sufficient space for both the user and non-users of the equipment, and avoiding tripping hazards</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>10. the requirements for routine maintenance and safety checks</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RDTHSC/Trainer signature: _____

Date: _____

Colleagues must demonstrate their theoretical and practical knowledge, skills and understanding of the use of portable power tools in school workshops by completing the following assessment tasks. Please tick in the appropriate column(s) to confirm your knowledge and understanding and that you have completed the practical tasks set

Assessment Task 1

Knowledge and Understanding

1. The types of power tools that can be safely used in school workshops, with reference to start/stop controls, safety devices, guards and dust collection/extraction, including battery powered, 110 and 240 volts and air powered tools

Know that:

- By reference to BS4163:2014 colleagues can identify the types of power tools that can be safely used in school workshops. The Specialist Extension Level S9HS includes all portable power tools identified within BS4163:2014 that should only be used under the supervision of specifically trained staff, i.e. portable grinders, rotating portable saws, reciprocating portable saws, biscuit jointers/tenon jointers, portable planing machines and routers.

In relation to each power tool, know by reference to the manufacturer's instructions:

- The capacity of each tool
- Details of start/stop controls and safety devices fitted to each tool
- Details of the guarding of the abrasive disc/blade/cutter appropriate to each tool

Know the hazard of inhaling wood dust, i.e.:

- The COSHH Regulations 2002 (as amended) require employers to prevent, or to adequately control, exposure by inhalation to wood dust. Dust from all types of wood, hardwood, softwood and composite materials such as medium density fibreboard (MDF) has been assigned a workplace exposure limit (WEL) of 5 mg m³. This is a time weighted average over an eight hour period. For both hardwood and softwood dusts the COSHH Regulations require employers to ensure that exposure by inhalation is reduced as far as reasonably practicable and in any case to below the WEL
- A risk assessment should be carried out on woodworking machinery to evaluate risks to health and any action required to prevent or control risks. This should involve consideration of the dust concentrations inhaled and the length of time exposed
- This is particularly important where machining operations produce fine dust that remains airborne and is easily inhaled
- Higher dust concentrations are produced from MDF than from hardwoods or softwoods
- Wood dust should be controlled by an effective local exhaust ventilation (LEV) system that captures and removes the dust at source before it can spread. The LEV should be properly designed, maintained and used correctly. LEV systems should be thoroughly examined at least every 14 months by a competent person and the results recorded and kept for a minimum of 5 years
- In addition to thorough examinations, a weekly check should be done to verify that the basic operational features are functioning correctly
- Where an effective LEV system is not in place, a dust mask conforming to BS EN 149:2001+A1:2009 class FFP3 should be used. Class FFP3 should be used when emptying or cleaning LEV systems and maintaining machines
- Training should be provided on correct use of respirators. Disposable filtering respirators should be replaced as appropriate in accordance with the manufacturer's instructions

Know the main causes of accidents on portable power tools

2. The general and specific hazards of using portable power tools, with reference to BS4163:2014, paras. 12.1 to 12.12

Know the key documents which cover the safe use of portable power tools in school workshops, i.e.:

- BS 4163:2014 BRITISH STANDARD Health and safety for design and technology in educational and similar establishments – Code of practice
- CLEAPSS Model Risk Assessments for D&T

Know the following general hazards and control measures (*italics*) that must be adopted i.e.:

- Electric shock
- Batteries can spontaneously combust/explode if incorrectly used
- *Portable electric tools should be single purpose and robust, conforming to BS2769*
- *Attachments should not be used*
- *Only double insulated mains fed portable electric tools should be used*
- *A residual current device (RCD) should protect mains sockets*
- *Portable electric tools should be fitted with the correct plug to match the socket outlet and correctly fused. Adapters must not be used*
- *Portable tools and supply leads should be visually examined before use*
- *Portable tools should be securely and appropriately stored when not in use*
- *Battery powered portable electric tools should be used if possible. Batteries should be charged, fitted and disposed of in accordance with manufacturers' instructions*
- *A competent person should carry out inspections and tests at least every 12 months and records kept*
- Contact with cutters, blades, abrasive wheels can cause injuries
- The hazard of entanglement, e.g. by long hair or loose clothing
- The hazard of inadvertent operation
- *Portable tools should be immobilized when changing cutters, blades etc.*
- *Correct guards should be fitted*
- *Long hair and clothing should be secured*
- *Dangling jewellery should be removed*
- *Gloves or bandages should not be worn*
- Broken cutters, blades and abrasive wheels, and particles from cutting operations can be violently ejected
- *Eye protection should be used at all times*
- *Non-users should be kept at a safe distance from the operation*
- *Grinding/cutting discs, blades, cutters etc. should be securely fitted to machines in accordance with manufacturers' instructions*
- *Grinding/cutting discs, blades, cutters etc. should be inspected for damage prior to each use and changed accordingly*
- Trailing cables and compressed air lines can be a tripping hazard
- *Care should be taken to ensure that trailing leads and hoses do not become entangled with the operator or others in the vicinity. The length of the supply lead must be kept to a minimum*
- Contact with the open end of a compressed air line can force air through the skin into the bloodstream
- Unrestrained compressed air lines can lash about with force
- *Compressed air powered tools should be operated at the manufacturer's recommended pressure. A regulator and pressure gauge should be fitted between the equipment and the permanent supply. The length of the air hose should be kept to a minimum. Fittings should be regularly checked to ensure they are securely attached to the hose*
- The inhalation of dust
- *Risk assessment should be completed to evaluate the risks to health*
- *LEV or respiratory protective equipment should be provided and worn if required*
- Noise
- *Risk assessment should be completed to evaluate noise levels*
- *Ear protection should be provided if required*
- Vibration
- *Risk assessment on vibration levels should be carried out and appropriate control measures should be put in place*

- Start-up torque, jamming or 'kick back'
- *Check whether the operator has sufficient strength to withstand the start-up movement of the portable tool, 'kick back' or turning movement if a tool becomes jammed*

In addition, know the **specific** hazards associated with each power tool and the control measures (*italics*) that must be adopted, i.e.:

- **Portable grinders**

Overspeeding, damaged or incorrectly mounted abrasive wheels can break whilst rotating and can be violently ejected
Hot work pieces can cause burns

Incorrect disc

The grinding or cutting disc should have a safe working speed that exceeds the machine speed

The grinding or cutting disc should be inspected for damage prior to each use and changed accordingly

When using portable grinders consideration should be given to the use of gloves to protect the operator from hot material

The composition of grinding discs should suit the material of the work piece being ground

Grinders should be used in accordance with the recommendations of HSG 17, Safety in the Use of Abrasive Wheels, and in accordance with the manufacturer's instructions

- **Rotating (circular) portable saws**

Rotating parts

Instruction should be given to ensure that users do not touch the rotating parts of the saw

The peripheral speed of the saw blade should match the speed of the machine

- **Reciprocating portable saws**

Reciprocating parts

Instruction should be given to ensure that users do not touch the reciprocating parts of the saw

The blade should only be used on materials specified by the manufacturer

- **Biscuit jointers/tenon jointers**

Rotating parts

Instruction should be given to ensure that users do not touch the rotating parts of the biscuit jointer/tenon jointer

The peripheral speed of the saw blade should match the speed of the machine

Mortising bits used with tenon jointers should be rated for at least the speed recommended on the tool

- **Portable planing machines**

Rotating parts

Instruction should be given to ensure that users do not touch the rotating parts of the planer

Portable planing machines should not be turned over and fitted to a bench for use as overhand planers

- **Routers**

Rotating parts

Instruction should be given to ensure that users do not touch the rotating parts of the tool

The peripheral speed of the router cutter should match the speed of the machine

A portable routing 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 an employee, who should be a competent person specifically trained in its use, or by learners assessed as competent under the direct supervision of a competent person specifically trained in the use of the machine. The cutter should be guarded at all times when in use

3. Appropriate training and assessment arrangements for learners, including an assessment of learners' physically capability to use each piece of equipment

Know that:

- BS4163:2014 (as stated above) identifies the following power tools that should only be used under the supervision of specifically trained staff, i.e. portable grinders, rotating portable saws, reciprocating portable saws, biscuit jointers/tenon jointers, portable planing machines and routers
- Learners may only use these portable tools when they have been trained and assessed and the assessment has shown that they are competent
- A record of learners' competence should be kept
- Learners should be physically capable of using portable tools, and should be supervised at all times by a trained, competent person
- It is essential that risk assessments are completed to cover the use of portable power tools by learners and colleagues. This will normally involve the adoption and adaptation of model risk assessments, e.g. BS4163:2014 and CLEAPSS
- Learners should be aware of the hazards associated with portable tools and precautions that should be taken during use
- N.B. In relation to the use of portable routers, to know (as stated above) that if a portable router is turned over and fitted to a proprietary purpose-made table to act as a small spindle moulding machine, it may only be used by an employee, who should be a competent person specifically trained in its use, or by learners assessed as competent under the direct supervision of a competent person specifically trained in the use of the machine

4. The use of correct personal protective equipment, including respiratory protective equipment if required

Know that:

- Appropriate eye protection must be worn when using portable power tools
- High levels of noise can cause permanent hearing loss
- Ear protection should be used if a noise risk assessment indicates that daily personal exposures exceed the action levels specified in the Control of Noise at Work Regulations 2005
- Appropriate signs should be provided in each area to advise colleagues and learners on the use of personal protective equipment (PPE)
- There are general safety measures which must be applied when using portable power tools, i.e. long hair should be protected from entanglement, loose clothing should not be worn, jewellery should be removed

5. The different types of drills, bits, cutters, blades, abrasive wheels and sanding discs etc. commonly used and their purpose

In relation to each power tool, know:

- The types of discs/blades/cutters in normal use, and how to choose the appropriate cutting tool for different applications
- The principle features of discs/blades/cutters in normal use
- Correct methods for cleaning blades/cutters
- The importance of working with sharp discs/blades/cutters, to avoid putting unnecessary pressure onto the work piece

6. The procedures for isolating power tools and for fitting/changing cutting tools

Know:

- Portable power tools must be isolated from the power source when left unattended, when the qualified staff are not in the work area, before clearing out any blockage, before cleaning is undertaken, before abrasive discs/blades/cutters are changed or before guards are adjusted
- In relation to each power tool, the procedures for changing the abrasive disc/cutter/blade, how to identify blunt cutters/blades, the correct tools should be used

7. The safe holding of work pieces

8. Safe working procedures for each piece of equipment, including the use of the router, turned over and fitted to a router table

In relation to the **reciprocating portable saw**, know:

- The correct choice of speed, and correct adjustment of the orbital action to suit the material being cut
- How to support work safely for sawing, e.g. using G-cramps, vice etc
- How to use the jigsaw safely, e.g. making freehand cuts, cutting parallel to an edge using the adjustable side fence, cutting against a batten, cutting a bevel, cutting an aperture
- To check that the intended path of the blade is clear below the work
- To ensure that the flex trails behind the tool and is kept well clear of the blade
- Correct positioning of both hands when using the jigsaw, i.e. never curling fingers around the workpiece near the line of cut
- The appropriate rate of feed to suit the material being cut
- To relieve the pressure on the saw as you are about to finish a cut, to avoid sudden acceleration as the blade leaves the kerf
- To switch off and wait until the blade has completely stopped moving before the saw is put down
- To use only sharp blades
- The advantages of using cordless tools

In relation to the **rotating (circular) portable saw**, know:

- The capacity of the saw, i.e. maximum depth of cut
- How to adjust the depth of cut, i.e. so that the blade projects no more than 3mm below the workpiece
- How to support work safely for sawing, e.g. using a sacrificial table
- How to use the portable circular saw safely, e.g. using a cross-cutting T-square and cutting against a batten
- To check that the intended path of the blade is clear below the work
- To ensure that the flex trails behind the tool and is kept well clear of the blade
- Correct positioning of both hands when using the circular saw, i.e. keeping both hands on the tool
- The appropriate rate of feed to suit the material being cut
- To switch off and wait until the blade has completely stopped moving before the saw is put down
- To use only sharp blades and blades which are not cracked or damaged
- How to adjust the riving knife, i.e. between 2.5mm and 5mm from the blade and between 2.5mm and 5mm above the lowest saw tooth

In relation to the **biscuit jointer/tenon jointer**, know:

- How to adjust the depth of cut
- How to support work safely for biscuit/tenon cutting , e.g. using G-cramps, vice, jigs etc.
- How to use the biscuit/tenon jointer safely, e.g. using the base as a reference, using the adjustable fence
- To ensure that the flex trails behind the tool and is kept well clear of the saw blade/mortising bit
- Correct positioning of both hands when using biscuit/tenon jointers, i.e. keeping both hands on the tool
- To ensure that the saw blade/mortising bit is not be plunged into the wood until it has reached full speed
- The appropriate rate of feed to suit the material being cut
- To switch off and wait until the saw blade/mortising bit has completely stopped moving before the saw is put down
- To use only sharp saw blades/mortising bits which are not cracked or damaged

In relation to the **portable planing machine**, know:

- The capacity of the planer, i.e. maximum width and depth of cut
- How to adjust the depth of cut
- How to support work safely for planing, e.g. using vice etc
- How to use the planer safely, e.g. planing a face and planing an edge using a side fence
- To ensure that the flex trails behind the tool and is kept well clear of the blades
- To check that the planer is not locked for continuous running before plugging in
- Correct positioning of both hands when using the planer, i.e. never curling fingers around the edge of the sole
- The appropriate rate of feed to suit the material being cut
- To plane in the direction of the grain
- To switch off and wait until the blades have completely stopped moving before the planer is put down
- To use only sharp blades

In relation to the **portable router**, know:

- How to fit cutters, following the manufacturer's instructions
- The correct choice of speed to suit the chosen cutter
- How to support work safely for routing, e.g. using G-cramps, vice, non-slip mat, hot-melt glue etc
- How to use the router safely, e.g. cutting stopped and through rebates and grooves using the fence, cutting housings using a batten, cutting mouldings using bearing guided cutters and using templates with guide bushes
- The direction of routing must always be opposite to the cutter's direction of rotation, i.e. moving left to right along an edge
- To ensure that the flex trails behind the tool and is kept well clear of the cutter
- Correct positioning of both hands when using the router, i.e. keeping both hands on the handles
- The appropriate rate of feed to suit the material being cut, i.e. ensuring that the router is always advanced steadily into the workpiece using only light pressure
- When using a plunging router, to withdraw the cutter at the end of the operation and before switching off
- To make sure the cutter has stopped revolving before the router is laid down

In relation to the use of the **router table**, know:

- The router must be fitted with a push button no-volt and overload starting switch to override the router's own switch. 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
- The table manufacturer's cutter guard must be used at all times
- How to fit cutters, following the manufacturer's instructions
- The correct choice of speed to suit the chosen cutter
- How to hold work safely for table routing, i.e. using feather boards, using the mitre fence, using a push stick
- How to use the router table safely, e.g. cutting through rebates and grooves, cutting mouldings using bearing guided cutters
- The direction of routing must always be opposite to the cutter's direction of rotation, i.e. moving right to left against the fence
- The appropriate rate of feed to suit the material being cut, i.e. ensuring that the router is always advanced steadily into the workpiece using only light pressure
- To make sure the cutter has stopped revolving before the router is left

9. The appropriate working environment, ensuring sufficient space for both the user and non-users of the equipment, and avoiding tripping hazards

- Lighting – at least 500 lx should be provided for normal bench work
- Heating and ventilation - work areas should be maintained at a temperature comfortable to work in when appropriate protective clothing is worn. Fan assisted heating should be avoided
- Flooring - floors should be provided with a non-slip surface which should be maintained in good condition. Accumulations of waste materials should be removed from floors each day. Floors should be kept free of obstacles and tripping hazards
- Colleagues and learners using power tools should keep a safe distance away from others
- The need for good housekeeping around the working area, e.g. floors should be kept clear of obstacles and tripping hazards
- Power tools should be stored securely after use

10. The requirements for routine maintenance and safety checks

Know:

- Power tools should be maintained in line with the requirements of the 'Provision and Use of Work Equipment Regulations 1998', (i.e. by a person competent to repair and maintain equipment)
- A competent person should carry out regular formal inspections to identify any faults that require repairs
- A maintenance log should be kept
- The need for electrical testing of equipment in line with 'The Electricity at Work Regulations 1989'
- Power tools should be visually examined before use to ensure that cables/parts are not damaged, plugs are loose and that wires are not exposed
- The requirements of routine maintenance as recommended by the manufacturer, e.g. to undertake regular lubrication, to regularly inspect abrasive discs/ blades/cutters for damage, e.g. TCT blades for chipped teeth or cracks
- The procedures for sharpening cutters/blades

Assessment Task 2 Practical Skills	Portable Grinder	Rotating portable saw	Reciprocating portable saw	Biscuit jointer/tenon jointer	Portable planing machine	Portable router
8. Safe working procedures for each piece of equipment, including the use of the router, turned over and fitted to a router table						
Portable power tool operations						
All tools – remove blades and replace with sharpened abrasive discs/ blades/cutters, to demonstrate: <ul style="list-style-type: none"> • Use of the correct tools • The correct procedure for fitting abrasive discs/blades/cutters as appropriate 						
Portable grinder Cutting – using cutting discs, to demonstrate: <ul style="list-style-type: none"> • Use of appropriate PPE • Correct holding of workpiece, e.g. using G-cramps, vice etc. • Choice of suitable cutting disc • Correct positioning of hands on tool • Correct cutting procedure Grinding – using grinding discs, to demonstrate: <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, vice etc. • Choice of suitable grinding disc • Correct grinding procedure 	<input type="checkbox"/>					
Rotating portable saw Cross-cutting timber to length, to demonstrate: <ul style="list-style-type: none"> • Use of appropriate PPE/LEV • Correct holding of workpiece, e.g. using G-cramps, vice etc. • Choice of suitable saw blade • Correct adjustment of depth of cut • Use of a cross-cutting T-square or guide batten • Correct positioning of hands on tool • Correct cutting procedure Cutting sheet material, to demonstrate: <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using a sacrificial bed • Choice of suitable saw blade • Use of a guide batten • Correct adjustment of depth of cut • Correct positioning of hands on tool • Correct cutting procedure 		<input type="checkbox"/>				

<p>Reciprocating portable saw</p> <p>Cutting a profile shape, to demonstrate:</p> <ul style="list-style-type: none"> • Use of appropriate PPE/LEV • Correct holding of workpiece, e.g. using G-cramps, vice • Choice of suitable saw blade • Selection of suitable speed and orbital action • Correct positioning of hands on tool • Correct cutting procedure <p>Cutting an internal shape, to demonstrate:</p> <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, vice • Choice of suitable saw blade • Correct cutting procedure, e.g. drilling a starter hole for the blade 	<p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p>
<p>Biscuit jointer</p> <p>Edge to edge jointing using the base of the machine, to demonstrate:</p> <ul style="list-style-type: none"> • Use of appropriate PPE/LEV • Correct holding of workpiece, e.g. using G-cramps, vice, jig etc. • Selection of appropriate biscuit size • Correct positioning of hands on tool • Correct cutting procedure <p>Edge to edge jointing using the fence of the machine, to demonstrate:</p> <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, vice, jig etc. • Selection of appropriate biscuit size • Correct adjustment of fence • Correct positioning of hands on tool • Correct cutting procedure <p>Cabinet jointing – carcass construction - to demonstrate:</p> <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, vice, jig etc. • Selection of appropriate biscuit size • Correct positioning of hands on tool • Correct cutting procedure <p>Cabinet jointing – mitre joint – to demonstrate:</p> <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, vice etc. • Selection of appropriate biscuit size • Correct adjustment of fence • Correct positioning of hands on tool • Correct cutting procedure <p>Tenon jointer</p> <p>Butt jointing, e.g. for a box or drawer construction, to demonstrate:</p> <ul style="list-style-type: none"> • Use of appropriate PPE/LEV • Correct holding of workpiece, e.g. using G-cramps, vice, jig etc. • Selection of appropriate loose tenon size • Correct positioning of hands on tool • Correct cutting procedure 	<p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p>

Frame jointing, e.g. for a table or chair construction, to demonstrate:

- Correct holding of workpiece, e.g. using G-cramps, vice, jig etc.
- Selection of appropriate loose tenon size
- Correct adjustment of fence
- Correct positioning of hands on tool
- Correct cutting procedure

Portable planing machine

Flattening - using the portable planer to prepare a face side, to demonstrate:

- Use of appropriate PPE/LEV
- Correct holding of workpiece, e.g. using vice etc.
- Correct adjustment of depth of cut
- Correct positioning of hands on tool
- Correct cutting procedure

Edging - using the portable planer to prepare a face edge, to demonstrate:

- Correct holding of workpiece, e.g. using vice etc.
- Correct fitting of side fence
- Correct adjustment of depth of cut
- Correct positioning of hands on tool
- Correct cutting procedure

Portable router

Grooving/rebating – stopped and through - using a straight cutter, to demonstrate:

- Use of appropriate PPE/LEV
- Correct holding of workpiece, e.g. using G-cramps, non-slip mat, hot-melt glue etc
- Selection of appropriate cutter
- Correct adjustment of depth of cut
- Use of the plunge facility for stopped work
- Correct adjustment of fence
- Selection of suitable speed
- Correct positioning of hands on tool
- Correct cutting procedure, i.e. ensuring that the direction of routing is always opposite to the cutter's direction of rotation, moving from left to right

Housings - using a straight cutter, to demonstrate:

- Correct holding of workpiece, e.g. using G-cramps etc
- Use of a clamp guide or guide batten
- Selection of appropriate cutter
- Correct adjustment of depth of cut
- Selection of suitable speed
- Correct positioning of hands on tool
- Correct cutting procedure

Bearing guided cutting – using a bearing guided cutter, to demonstrate:

- Correct holding of workpiece, e.g. using G-cramps, non-slip mat, hot-melt glue etc
- Use of a bearing guided cutter
- Correct adjustment of depth of cut
- Selection of suitable speed
- Correct positioning of hands on tool
- Correct cutting procedure, i.e. cutting the end grain first and moving from left to right

<p>Template routing – using a guide bush and template, to demonstrate:</p> <ul style="list-style-type: none"> • Correct holding of workpiece, e.g. using G-cramps, non-slip mat, hot-melt glue, jig etc • Correct holding of template, e.g. using double sided tape, screws, pins etc • Choice of a suitable cutter and guide bush • Correct adjustment of depth of cut • Selection of suitable speed • Correct positioning of hands on tool • Correct cutting procedure, i.e. cutting in an anticlockwise direction to cut an external shape and a clockwise direction to cut an internal shape 	<p align="right"><input type="checkbox"/></p>
<p>Table router</p> <p>Grooving/rebating - using a straight cutter, to demonstrate:</p> <ul style="list-style-type: none"> • Use of appropriate PPE/LEV • Correct adjustment of depth of cut • Selection of suitable speed • Correct adjustment of fence/cutter guard/feather boards • Use of the NVR switch • Correct positioning of hands and procedures for passing workpiece across the cutter, e.g. using the mitre fence, using a push stick etc. depending upon the width of the timber • Correct cutting direction, i.e. ensuring that the direction of routing is always opposite to the cutter’s direction of rotation, moving from right to left <p>Bearing guided cutting – using a bearing guided cutter to cut a moulding, to demonstrate:</p> <ul style="list-style-type: none"> • Use of a bearing guided cutter • Correct adjustment of depth of cut • Selection of suitable speed • Correct adjustment of fence/cutter guard/feather boards • Correct cutting procedure, i.e. cutting the end grain first moving from right to left • Correct positioning of hands and procedures for passing workpiece across the cutter, as above 	<p align="right"><input type="checkbox"/></p> <p align="right"><input type="checkbox"/></p>
<p>All portable power tools</p> <p>Safety checks, to demonstrate:</p> <ul style="list-style-type: none"> • Safe positioning and electrical isolation of power tools when machining is complete 	<p align="right"><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>

Supplementary materials

- The following references provide additional notes and guidance to support training sessions:
www.hse.gov.uk/pubns/woodindx.htm

Hyperlink to a series of HSE leaflets, all available as PDF files. Guidance on a range of issues relating to the use of woodworking machinery and the collection of dust, i.e.

'Wood dust: hazards and precautions' – woodworking information sheet 1

'COSHH and the woodworking industries' – woodworking information sheet 6

'Wood dust – controlling the risk' – woodworking information sheet 23

'Selection of respiratory protective equipment suitable for use with wood dust' - woodworking information sheet 14

'Toxic woods' – woodworking information sheet 30

'Safe collection of woodwaste: prevention of fire and explosion' – woodworking information sheet 32