### FIXED PLANT/EQUIPMENT RISK ASSESSMENT PORTABLE PLANT POWER DRILL

(Hand drill)

# Scope

This document is to be completed for staff and student use of machinery, plant and equipment as a part of a school curriculum activity or program.

Refer to the <u>ITD Guidelines</u> for further staff advice on the risk management process for practical ITD curriculum activities in schools.



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Plant/Equipment Description: Battery operated Hand Power Drill and Impact Driver				
Teachers/Leaders: Caleb McKee, Melinda Deeks, Allison Kerr-Hislop				
Room Locations: Centre Grounds				
Assessment Date: 08/05/2023	Review Date: 23/01/2024			

N.B. This assessment can remain active for up to 5 years. However, an annual monitoring and review process should be undertaken and recorded – refer to the last page of this document.

Below are the details of the manufacturing or production processes attributed to this item of equipment categorised by their assessed inherent risk levels (refer to the Equipment/Process Risk Matrix). The actions required for approval for each level of inherent risk are mandatory.

Inhe	rent Risk Level	Details of Processes	Action Required/Approval
Ø	Low	<ul> <li>When drilling smaller holes in various materials, particularly wood produces, using a standard twist drill.</li> <li>When the work piece is securely held in vice or similar to reduce the possibility of unexpected movement, slipping or drill bit breakage.</li> </ul>	<ul> <li>Manage through regular planning processes</li> </ul>
Ø	Medium	<ul> <li>When drilling into harder or highly resistant materials.</li> <li>When the manufacturing process requires a pilot hole to be drilled prior to producing the larger, desired result.</li> <li>When drilling at high speeds, or when drilling at increased depths.</li> <li>When using the portable hand drill with larger hole saw bits, spade bits and auger bits, etc.</li> <li>When using the Hammer Drill or Impact Drill variations of this power tool.</li> </ul>	<ul> <li>Document controls in planning documents and/or complete this <i>Plant Risk Assessment</i>.</li> <li>Consider obtaining parental permission.</li> </ul>



### Minimum standards

Minimum qualifications and experience
Listed below are the general "minimum" recommendations for the management of this Plant/Equipment.
☑ Indicate the minimum management controls.
Registered teachers with experience, ability and competency in the safe use of this plant/equipment
(indicate one or more of the following):
Specific knowledge of the safe and correct use of this plant/equipment
Experience (i.e. previous involvement and familiarity) in the safe use of this plant/equipment
Demonstrated expertise, ability and competency with this plant/equipment
Documented qualifications relating to the use of this plant/equipment (e.g. in a staff profile)
OR
An adult staff member or leader, other than a registered teacher, with:
Expertise in the safe and correct use of this plant/equipment
Documented qualifications that demonstrate experience, ability and competency in the safe use of this plant/equipment.
Will any ITD staff require initial and/or ongoing training for the safe use of this plant/equipment?
If yes, give details:
Will students be operating this plant/equipment?
If yes, state how student use of this plant/equipment will be managed (e.g. Workshop Safety Induction)
Give details: Students will be inducted in safe use of the equipment by a registered teacher and supervised while using this equipment by a registered teacher or leader with the above experience, ability and competency. Students will receive demonstrations from staff regarding safe use.
Further information if required:

### Minimum control requirements

Supporting documentation available in the school on this plant/equipment includes:

- Operators Manual
- Safe Operating Procedures (SOP)
- Equipment Maintenance Records (EMR)
- A process for recording student safety induction e.g. Student induction register
- A process for recording staff training and experience, e.g. ITD Staff induction register
- All guards are in place and in good working order for this plant/equipment
- Safe Working Zones are defined for this plant/equipment (e.g. yellow lines and/or appropriate signage)
- Suitable personal protective equipment (PPE) is available to be used by all operators
- This plant/equipment complies with relevant safety standards

#### Further information if required:

- Equipment used is either centre owned or borrowed from partner organisations such as Bunnings and Mens' Shed. Equipment is checked prior to each use with centre equipment maintenance recorded in EMR
- Students are inducted in safe use of equipment by a registered teacher as per induction sheet and SOP.
- Safe working areas are established outdoors using portable saw horses and benches.
- PPE is provided to students and staff including safety glasses and hearing protection when noise levels are excessive.



# Hazards and control measures

Listed below are indicative hazards/risks and suggested control measures. These are by no means exhaustive lists. Add details of any other hazards/risks or additional controls you intend to implement.

Indicate the control measures adopted. Detail their implementation and any additional controls required.

Hazards/Risks	Hierarchy of Recommended Control Measures	Yes	No	Details of how this will be implemented (and any additional controls)
Exposure to Rotating or Moving Parts:	<ol> <li>Where possible, potentially hazardous portable power tools, including all power drills (240v), are substituted or replaced with less hazardous alternatives.</li> </ol>			Use hand operated screw drivers instead of impact driver.
Entrapment Could hair, clothing, ties, jewellery or other materials become entangled with moving parts of plant or materials in motion?	<ol> <li>All necessary guards and safety devices are in place protecting workers from all moving parts including the rotating chuck and drill bit.</li> </ol>			Portable drill and impact driver do not have guards. Students inducted in safely using equipment to protect them from moving
Striking				parts.
could anyone be struck by moving objects such as the work piece being ejected, or by the unexpected or uncontrolled movement of the plant or work piece?	<ol> <li>Staff and student training is provided to minimise exposure to these hazards and risks.</li> </ol>			Staff induction is carried out prior to visit using example project and SOP. Recorded on SharePoint.
<ul> <li>Crushing and Pinching</li> </ul>				Student induction is
Could anyone be crushed or pinched due to falling, uncontrolled or unexpected movement of plant or its load				provided and recorded prior to work commencing. Recorded on SharePoint.
tipping or rolling over, or contact with moving parts during testing, inspection or maintenance?	<ol> <li>Safe operating procedures (SOPs) are available and clearly displayed.</li> </ol>			Printed and laminated SOPS are displayed prior to and during use.
Cutting, Stabbing and Puncturing Can anyone be cut, stabbed or punctured by coming into contact with moving plant or parts, or objects such as ejected work pieces or waste?	<ol> <li>Warning "Danger" tags (or similar) are affixed to all portable power drills under repair or maintenance preventing workers from using the equipment.</li> </ol>			Students will only be using equipment organised in the work area. Any defective equipment will not be supplied or available to students.

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Hazards/Risks		Hierarchy of Recommended Control Measures	Yes	No	Details of how this will be implemented (and any additional controls)
	6.	"Safe Working Zones" are clearly defined in all workspaces where portable power drills are to be used.			Safe working area is established outdoors; extent of which is shown to students.
	7.	Operators are required to remove all jewellery, tuck in loose clothing and tie back long hair.			Hair ties provided to students, spare clothing provided if students have damaged or loose clothing.
	8.	All approved personal protective equipment (PPE) is used where required.			PPE checked and supplied per SOP, students inducted in correct use.
Slips, Trips, Falls and Abrasions: Can anyone using the plant or in the vicinity of the plant, slip, trip or fall due to the working environment or other factors? e.g. Poor housekeeping, dust on floors, slippery or uneven work surfaces, power cables across work areas causing injuries and abrasions?	1.	Slip resistant flooring is encouraged in workspaces. Regular checks are made for unsafe wear and damage. Inspections are made for any power leads, etc.			Working area is checked prior to students arriving to ensure clean and free of slipping or tripping hazards. Student workspaces are widely spaced to avoid crowding of students. This will look like designated equipment, materials and working areas adequately spaced from each other and other facilities.
	2.	all waste materials around all workspaces where electric hand drilling activities are to be performed.			Broom and bin provided for waste materials. Pre- cut projects are used so little waste is generated.
	3.	Staff training is provided to minimise exposure to these hazards.			Included in staff induction.
Environmental:	1.	Portable power drills are regularly inspected and maintained to help minimise the risk of exposures to these hazards.			Equipment is checked by registered teacher or leader prior to each use.
Is it likely that the normal operation of this plant will produce excessive noise	2.	All portable power tool maintenance is documented.			Maintenance is recorded in EMR.
<ul> <li>Dust, Fumes and Vapours</li> <li>Is it likely there will be airborne dust particles, toxic fumes or volatile vapours produced and</li> </ul>	3.	Exposure to noisy ITD workshop environments is monitored and evaluated regularly for all workers.			Noise levels monitored for drill and impact driver use. Work is conducted outdoors to disperse noise.
<ul> <li>therefore be present in the workspace?</li> <li>Vibration</li> </ul>	4.	Staff and student training is provided to minimise exposure to these hazards.			Staff and student training is completed prior to use and is documented.



Hazards/Risks		Hierarchy of Recommended Control Measures	Yes	No	Details of how this will be implemented (and any additional controls)
Is the normal operation of this plant likely to create severe or excess vibration that could be transferable to the operator?	5.	All ducted dust and fume extraction systems are connected and operational, fully maintained and cleaned as required.			Not applicable as this equipment is not used.
Lighting Is there insufficient lighting to operate this plant in a safe manner? Is there a possible strobe lighting effect caused by faulty fluorescent tubes in the workspace?	6.	Good lighting is provided to all workspaces and this is maintained on a regular basis. Fluorescent tubes are checked and replaced as required.			Work will be conducted outdoors. In the rare instance it is conducted indoors lighting will be arranged by opening shed doors and use of artificial lighting.
the workspace?		All approved personal protective equipment (PPE) is used where required.			Safety goggles and hearing protection are supplied to all students. Students are inducted in proper use of these. Other PPE supplied, e.g. alternative shoes and clothing, if necessary.
<b>Electrical:</b> Can the operator be injured by	1.	Visual checks are made of all portable power tools, their electrical switches, plugs and power leads, etc.			Equipment is checked prior to each use.
electrical shock due to working near or contacting with damaged or poorly maintained live electrical	2.	Electrical safety inspections, testing and tagging, etc. are completed regularly as per guidelines for all portable power tools.	$\boxtimes$		Charging equipment is checked and tagged.
conductors such as power outlets, extension leads, safety switches, starters and	3.	Portable power tools are to be used only where there is a RCD safety trip switch connected?			Students will only use battery operated drills.
isolators or casual water on the floor near plant and machinery?	4.	Warning "Danger" tags (or similar) are affixed to all portable power tools under repair or maintenance preventing workers from using them.			Students will only be using equipment organised in the work area. Any defective equipment will not be supplied or available to students.
	5.	Electrical maintenance on all portable power tools is documented.			Maintenance is recorded in EMR.
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Exposure:	1.	Portable power drills are regularly inspected and maintained to help minimise the risk of exposures to these hazards.			Equipment is checked prior to each use.
Is the plant likely to generate heat by friction? Could the	2.	All portable power tools maintenance is documented.			Maintenance is recorded in EMR.



Hazards/Risks	Hierarchy of Recommended Control Measures	Yes	No	Details of how this will be implemented (and any additional controls)
plant operator accidentally come into contact with moving materials or machinery components resulting in friction burns to the skin, particularly hands?	<ol> <li>Any potentially hazardous waste materials or toxic dusts and vapours resulting from this drilling process are monitored and managed.</li> </ol>			Outside workspaces are used to minimise exposure to vapours and dust. Nonhazardous materials are used when possible
Substances Is it likely that the plant operator or others nearby in the workspace could be exposed to hazardous or toxic chemicals such as oils,	<ol> <li>Staff and student training is provided to minimise exposure to these hazards.</li> </ol>			Staff and student training is completed prior to use and is documented.
hydraulic fluids, greases, coolants, volatile vapours, fumes or airborne dust particulates?	<ol> <li>"Safe Working Zones" are clearly defined in all workspaces where power drills are to be used.</li> </ol>			Safe working area is established outdoors; extent of which is shown to students.
	<ol> <li>All approved personal protective equipment (PPE) is used where required.</li> </ol>			Safety goggles and hearing protection are supplied to all students. Students are inducted in proper use of these. Other PPE supplied, e.g. alternative shoes and clothing, if necessary.
Ergonomics and Manual Handling:	<ol> <li>Where possible, practical work benches are planned and adjusted to a comfortable work height thus minimising any unsafe or excessively strenuous manual tasks.</li> </ol>			Portable saw horses and beaches are set up at suitable heights.
Can the plant be safely operated, in a suitable location, providing clear and unobstructed access?	<ol> <li>Sufficient workspace is provided in all practical classrooms to help ensure unobstructed, safe operation.</li> </ol>			Student workspaces are widely spaced to avoid crowding of students.
often necessitate teachers and students performing manual tasks involving heavy lifting and lowering, pushing,	3. Floors are regularly cleaned and free of excessive wood dust, waste materials and other extraneous objects.			Clean workspace is established prior to students arriving.
lifting and lowering, pushing, pulling or carrying, etc. Such tasks then contribute to a range of musculoskeletal sprains and strains for workers.	<ol> <li>Staff training is provided with regard to manual handling techniques and procedures to minimise exposure to these hazards.</li> </ol>			Completed and recorded as part of mandatory training.
Explosion and Fire: As a consequence of using this particular item of plant	<ol> <li>Fire extinguishers of the correct type are readily available in all workspaces and positioned near exit doorways.</li> </ol>			Safe working area is established outdoors; extent of which is shown to students.
and equipment, could anyone be injured by the release of stored energy triggered by volatile, explosive substances	2. Staff training is provided regarding procedures for the correct and appropriate use of fire safety equipment.			Completed and recorded as part of mandatory training.
vapours or liquids?	3. Exits from buildings and other work areas are defined and access to them kept clear of obstructions.			Workspace is established, materials and equipment set out and checked prior to student arrival.
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Hazards/Risks	Hierarchy of Recommended Control Measures	Yes	No	Details of how this will be implemented (and any additional controls)
	<ol> <li>Safety signage is posted clearly denoting the location of all fire safety items and emergency exits.</li> </ol>			Completed and checked per centre WHS practices.

Other Hazards/Risks	Additional Control Measures These would relate to the specific student needs, locations and conditions in which you are conducting your activity.
Student Behaviour: Inappropriate student behaviour and use of equipment including but not limited to threatening other students with drill or throwing objects.	Established clear expectations among students regarding expected behaviour and consequences for other behaviours. Adequate supervision levels, potentially increased based on student needs, using additional staff and volunteers. Demonstration of correct technique and handling processes to minimise risk of misuse and frustration leading to disengagement. Carefully grouping and spreading students to maximise student engagement with project and minimise opportunities for alternative interactions, especially with uncooperative students.
	interactions, especially with uncooperative students.

Appro	Approval							
Submitte	ed by: Caleb McKee		Date: 08/05/2023					
X	Approved as submitted.							
	Approved with the following condition(s):							
	Not Approved for the following reason(s):							
By:	Allison Kerr-Hislop	Designation: Principal						
Signed:	Allison Kerr-Hislop	Date: 16-05-23						



Staff members involved in the use of this risk assessment and the associated plant and equipment:

•	Caleb McKee	Signature:	Caleb McKee	Date: 16/05/2023
•	Melinda Deeks	Signature:		Date: 16/05/2023
•	Allison Kerr-Hislop	Signature:	Allison Kerr-Hislop	Date: 16/05/2023
•		Signature:		Date:
•		Signature:		Date:
•		Signature:		Date:
•		Signature:		Date:
•		Signature:		Date:

<b>Monitoring and Review</b> This Plant and Equipment Risk Assessment is to be monitored and reviewed annually for a further four (4) years.							
Review 1:							
Are allocated risk levels and "Actions required" unchanged over the past 12 months?							
Are Minimum Standards and Recommended Control Measures unchanged over 12 months?							
ITD staffing details at this school have remained un	changed over the past 12 months?						
If the responses are "NO" for any question, record current details here, and list all staff changes (with signatures)							
Reviewed by:	Designation:						
Signed:	Review Date :						
Review 2:							
Are allocated risk levels and "Actions required" unchanged over the past 12 months?							
Are Minimum Standards and Recommended Control	ol Measures unchanged over 12 months?						
ITD staffing details at this school have remained un	changed over the past 12 months?						
If the responses are "NO" for any question, record current details here, and list all staff changes (with signatures)							
Reviewed by:	Designation:						
Signed:	Review Date :						
Review 3:		Yes	No				
Are allocated risk levels and "Actions required" uncl	nanged over the past 12 months?						
Are Minimum Standards and Recommended Control	ol Measures unchanged over 12 months?						
ITD staffing details at this school have remained un	changed over the past 12 months?						
If the responses are "NO" for any question, record current details here, and list all staff changes (with signatures)							

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Reviewed by:	Designation:
Signed:	Review Date :

#### **Review 4:**

- Are allocated risk levels and "Actions required" unchanged over the past 12 months?
- Are Minimum Standards and Recommended Control Measures unchanged over 12 months?
- ITD staffing details at this school have remained unchanged over the past 12 months?

If the responses are "NO" for any question, record current details here, and list all staff changes (with signatures)

Reviewed by:	Designation:
Signed:	Review Date :

Allison Kerr-Hislop





Yes

No