Combe Mill Society - Risk Assessment

Activity: Metalworking Area

Risk Assessment undertaken by: DRG

Assessment Date	18 January 2023
Next review date:	1 March 2024
Date of last review:	Not applicable. New Assessment
Assessment Ref:	RA 13_v1_Metalworking Area

Certification: The contents of and the conclusions drawn in this Assessment are the responsibility of the HTA and have been certified by the DRS as meeting the requirements of the Combe Mill Society for display on the web site.

Abbreviations used in this risk assessment

Where an action or reference applies to a specific person that person is referred to by his or her initials. Persons featuring in this assessment are:

- DRG Derek Goddard

Where an action devolves on a post holder the following abbreviations are used:

Abbreviation	Post
Approved Person	Person approved by the HTA to undertake a specified task or tasks.
HTA	Head of the Metalworking Technical Area or a Proficient Person approved to take the HTA's place.

*Residual Risk (RR) =H x P

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Hazard (1)	Who might be harmed (2)	Consequence of Hazard (H) and associated uncontrolled Risk. (3)	Risk from matrix* (4) H	P	Risk	Control Measures adopted or required to make the Residual Risk Rating acceptable (5)	Resi-dual Risk RR*
1.General (continued on next page)	Members, Volunteers, Public	The Metalworking Area is laid out in the form of a small engineering workshop. It contains a variety of machine and hand tools together with a demonstration line shaft. Its purpose is to demonstrate the working of the machinery and to give visitors a feel of the skills necessary to safely work the machines. It is estimated that an unsupervised visitor would likely (P=4) face major hazards (H=4).	4	4	16	Part of Combe Mill's educational role is to allow visitors to sample the nature of the skills necessary for metal working. A skilled operator working on these machines typically faces a risk (RR) of 4 (H=2, P=2). See subsequent sections. To allow visitors and trainees to reach this level the Mill has introduced the following stringent supervisory arrangements: **Visitors** must be supervised on a one to one basis. The supervision is hands on and is provided by an approved person, authorised by the HTA. The supervisor must not undertake any other tasks when the visitor is at the machine. (continued on next page)	4

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1.General (continued)			4	4	16	(continued from previous page) Trainees are supervised by an approved person. The level of supervision varies dependent on the skill of the trainee. But, as a minimum. The supervisor must be present in the Metalworking Area whenever the trainee is at the machine.	4
2.Slips, trips and falls	Members, Volunteers, Public	Injuries requiring first aid	2	2	4	Floor to be kept swept. No trailing cables. Un-even floorboards to be levelled.	2
3.Object falls from benches	Members, Volunteers, Public	Injuries requiring first aid	2	2	4	All those working in the area are required to wear stout shoes or boots. The wearing of sandals and similar light shoes is not permitted. Regular workers are encouraged to buy and wear protective footwear with steel toe protection. Whilst reducing the probability of the level of harm the reduction does not justify a reduction in the RR.	4

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4.Contact with pulleys and drive belts	Members, Volunteers, Public	Injuries requiring first aid	2	3	6	All are out of reach or fitted with guards. Operators are not allowed to leave the line shaft or machines running unattended. Reduces the probability to 2 and hence the RR to 4. The risk is formally Tolerable and acceptable. There are no further minor measures available.	4
5. Contact with striking-gear guard door edge	Members, Volunteers	Injuries requiring first aid. Minor head injury.	2	3	6	Replacement guard around belt and lathe striking gear, to be made for 2023 season Reduces the probability to 2 and RR to 4. The risk is formally Tolerable and acceptable. There are no further minor measures available.	4

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(1)	(2)	(3)	H	P	Risk	(5)	RR*
6. Grinders. Powered and hand operated	Members, Volunteers	Improper use of powered grinders can lead to major injuries (H=4) with a probability assessed as Likely (P=4). The associated risk is 16 and unacceptable	4	4	16	Use restricted to approved persons and trainees under supervision by an approved person. Grinders must be operated in accordance with the manufacturer's instructions and any regulations on display. Eye protection must always to be used. Damaged grind stones (including fragments) are removed from service and retained in a place of safety until such time as the HTA determines that they are not required for any investigation. They are then disposed of in a safe manner. Damaged stones are never re used. The use of eye protection reduces the severity of the likely level of Harm to H=3 and, together with the other restraints, the probability to P=2. The RR is 6 and is formally Tolerable and acceptable. There are no further minor measures available.	6

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7. Bench drills. Powered and hand operated	Members, Volunteers, Public	Injuries requiring first aid	2	2	4	Approved persons, trainees (under supervision by an approved person) and members of the public under strict HTA guidance are allowed to operate the drills. RR confirmed as 4. The risk is formally Tolerable and acceptable. There are no further minor measures available.	4
8. Misuse of hand tools	Members, Volunteers, Public	Injuries requiring first aid	2	2	4	Only persons approved as competent by the HTA are allowed to use hand tools unsupervised in the Metal working area. Persons under training must be supervised at all times by an approved person Members of the public are allowed to try out hand tools under strict HTA guidance. RR confirmed as 4. The risk is formally Tolerable and acceptable. There are no further minor measures available.	4

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(1)	(2)	(3)	H	P	Risk	(5)	RR*
9. Inadvertent starting of machines on running line shaft	Members, Volunteers, Public	Injuries requiring first aid	2	2	4	The line shaft is a local exhibit and is not connected to the main line shaft. Its motor is isolated with a pad lockable rotary mains isolating switch. The key is hidden. Only approved persons are allowed to operate the system unsupervised. RR confirmed as 4. The risk is formally Tolerable and acceptable. There are no further minor measures available.	4

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10.Flying swarf, entanglement, splashes from coolant, hot metal contact	Volunteers, Public	Injuries requiring professional help Long hair and/or loose clothing and/or jewellery can lead to significant injuries Risk is moderate (RR=9)	3	3	9	To minimise the risk of the creation of the Hazard in the first place all machinery is only operated by approved persons or by persons working under supervision. (see individual entries above) All long hair must be tied back or covered with an appropriate cap. All loose clothing or jewellery must be covered so that it cannot obtrude. Suitable eye protection must be worn. With these measures in place the RR is 4 (H=2 and P=2). The risk is formally Tolerable and acceptable. There are no further minor measures available.	4

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Risk Rating Matrix

		Probability of Occurrence (P)				
		Very Unlikely	Unlikely	Possible	Likely	Very likely
Consequence of Incident expressed as the resulting **"Severity of Harm" (H)**	Negligible	Trivial (1)	Trivial (2)	Trivial(3)	Tolerable(4)	Tolerable(5)
	Minor	Trivial(2)	Tolerable(4)	Tolerable(6)	Moderate(8)	Moderate(10)
	Moderate	Tolerable(3)	Tolerable(6)	Moderate(9)	Moderate(12)	Substantial(15)
	Major	Tolerable(4)	Moderate(8)	Moderate(12)	Substantial(16)	Very serious(20)
	Extreme	Moderate(5)	Moderate(10)	Substantial(15)	Very serious(20)	Very serious(25)

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Guidance on Interpretation

Parameter Level	HSE Descriptor	Meaning
Severity of Harm (H)		
1	Negligible	Postulated event not expected to lead to noticeable harm.
2	Minor	Level of harm that could lead to an injury that needs first aid treatment at the Mill
3	Moderate	Level of harm that could lead to an injury that requires professional help
4	Major	Serious medical injuries: for example broken limbs, a period of unconsciousness, admission to a hospital or the need to report the incident to a Regulatory Body.
5	Extreme	Harm that could lead to death or life changing permanent injuries
Probability of Occurrence (P)		
1	Very Unlikely	Not more than once in 10 years
2	Unlikely	Not more than once a year
3	Possible	Over 1 but not more than twice a year
4	Likely	Over 2 but not more than 4 in a year
5	Very likely	Almost certain to appear: the occurrence often overlooked as being a 'normal everyday occurrence'.

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Further Typical Measures that may be required to make the Residual Risk Acceptable

Risk R	Trivial	Tolerable	Moderate	Substantial	Very serious
Comment	Residual Risk (RR= 1 to 3) The risk is effectively non-existent and is acceptable as it stands.	RR = 4 to 6 The risk is adequately controlled but consider any justifiable minor additional measures	RR = 5-12 Additional controls should be considered where possible. The risk may or may not be adequately controlled.	RR=15-16 The risk is not adequately controlled: set out steps that must be taken before execution of operation can be approved	RR=20-25 The risk is not adequately controlled: the operation is unacceptable and an alternative means for achieving the objective must be sought.

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