Joinery and Shaping Machinery Operation

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

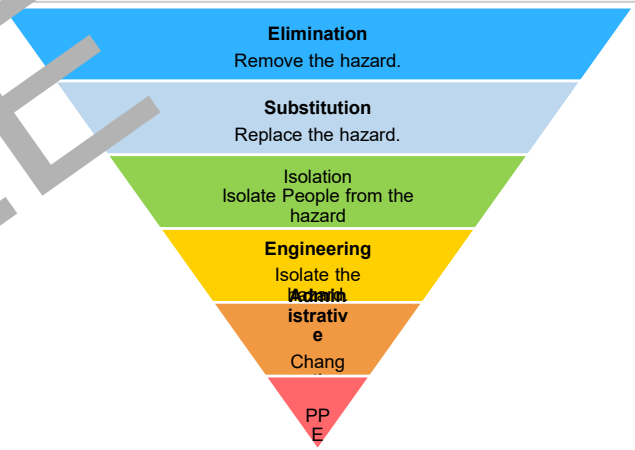
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX

LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures Monitor and keep records.

Consequence Scale:

Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. Substitute
3. Isolate
4. Engineering
5. Administrative
6. PPE

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work *(2023) and ISO 45001:2018 clauses 6–8.*

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Governance, WHS Duties and Legal Compliance	• Lack of clear allocation of WHS duties under WHS Act 2011 for PCBUs, officers, workers and contractors involved with joinery and shaping machinery • Inadequate understanding of regulatory requirements for plant and woodworking machinery (WHS Regulations, Codes of Practice, AS/NZS standards) • Absence of a documented WHS management system covering all joinery and shaping plant (e.g. spindle moulders, thicknessers, routers, lathes, borers, morticers, planers, postformers, edge banders) • Inadequate consultation with workers and Health and Safety Representatives (HSRs) on machinery risks and changes to processes • No formal process to ensure officers exercise due diligence (e.g. not receiving WHS reports or audits on machinery safety perform[illegible]) • Poor integration of contractor management for specialist maintenance, blade changes and commis[illegible] new machinery	4A	• Implement a documented WHS management [illegible] aligned with WHS Act 2011, WHS Regulations and relevant Safe Work Australia Codes of Practice [illegible] managing ri[illegible] of plant in the workplace • Define and document WHS r[illegible]s, responsibilities [illegible] a[illegible]ountabilities for PCBUs, officers, managers, supervisors, workers and contra[illegible]rs in relation to joi[illegible]y and shaping machinery • Establish a W[illegible]legal re[illegible]ter co[illegible]ing machi[illegible]y-related legislation, Australian Standards (e.g. AS 4024 series [illegible] safety of ma[illegible]inery, [illegible]NZS [illegible]91, AS/NZS 4386 etc.) and applicable guidance material, and review thi[illegible]gister an[illegible]ally • Impl[illegible]t form[illegible] consultation arrangements, including HSRs and toolbox talks, specifically addres[illegible]g woodw[illegible]ing machinery hazards and proposed process / equipment changes • Requi[illegible] offi[illegible]rs to re[illegible]ive regular WHS performance reports (including plant risk assessments, incident trends, a[illegible]dit fi[illegible]ings and corrective actions) and maintain due diligence training records • In[illegible]de [illegible]achine[illegible]y safety obligations and performance criteria within contractor selection, induction and contrac[illegible]nditions, particularly for specialist maintenance and commissioning work • [illegible]onduct scheduled internal and external WHS audits focused on plant and woodworking machinery co[illegible]ols, and track close-out of findings through a corrective action register	3H
2. Plant Procurement, Design and Guarding Standards	• Purchase of joinery and shaping machinery (e.g. spindle m[illegible]ulde[illegible], tenoners, planers, thicknessers, edge banders, routers, vertical/multi borers, morticers, power feeders, postformers) without adequate guarding or safety features • Reliance on older machinery with non-compliant or missing guards, inadequate braking systems, exposed blades and rotating parts • Failure to obtain or verify manufacturer documentation, risk assessments and conformity with relevant Australian Standards and CE/ISO requirements	4A	• Establish a formal plant procurement policy requiring pre-purchase WHS reviews against WHS Regulations, AS 4024 and relevant woodworking machinery standards, including consultation with competent persons • Specify mandatory safety features in purchase specifications such as fixed and interlocked guards, braking systems, adjustable guards, two-hand controls where applicable, clearly marked e-stops and lockable isolation points • Require manufacturers/suppliers to provide plant design registration (where required), conformity statements, detailed operating manuals and maintenance schedules for each machine type (jointers, planers, lathes, routers, shapers, tenoners, borers, morticers, edge banders, postformers etc.) • Undertake commissioning risk assessments for all new or significantly modified machinery to verify guarding, interlocks, stopping times and emergency stops before first use • Engage competent engineers or plant safety specialists to design and approve any retrofitted guarding or safety upgrades to legacy equipment	2M

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	• Inadequate consideration of dust extraction, noise control and e-stop locations at design and layout phase • Retrofitting of homemade or non-engineered guards that compromise safe operation or maintenance access • No systematic review of bobbin turning, profiling, moulding and shaping attachments/jigs for mechanical integrity and guarding		• Incorporate dust extraction connection points, acoustic controls and accessible e-stop placement into workshop and machine layout design • Implement a plant change management procedure requiring WHS review and approval before adding new cutter blocks, router tables, bobbin sanding/turning fixtures, power feeders or other attachments	
3. Hazard Identification, Risk Assessment and Change Management	• No systematic process to identify hazards related to all joinery and shaping activities (e.g. morticing, tenon cutting, dadoing/grooving, rabbet cuts, profiling, edging, postforming, pyrography) • Risk assessments not completed, outdated, or not covering foreseeable abnormal conditions such as jams, kickback, tool breakage, or frequent set up changes • Failure to review risks when plant is modified, relocated or new tooling / jigs are introduced (e.g. different router bits, planer blades, tenon cutters, dowel jigs) • Lack of worker input in risk assessment leading to incomplete understanding of practical hazards and near misses • No formal review following incidents, near misses or regulatory updates leading to recurring issues		• Implement a documented risk management procedure consistent with WHS Regulations, requiring identification, assessment and control of risks for all key machinery categories and processes • Maintain a library of plant and task-based risk assessments covering jointers, thicknessers, planers, shapers, spindle moulders, routers (hand and table), lathes, morticers, borers, edge banders, postformers, tenoners and associated operations (dadoes, grooves, rabbets, profiling and dowel jigs) • Require formal risk assessment (with worker participation) prior to commissioning new machinery, introducing new cutter heads, router bits, or significantly changing methods of work • Embed a management of change (MOC) process for any physical or procedural change involving plant, ensuring WHS review, approval and communication before implementation • Set review cycles (e.g. every 1–2 years, or after incidents/near misses) for plant risk assessments and ensure findings are integrated into procedures, training and maintenance plans • Use structured tools such as checklists, Job Safety Analyses and workshops with operators to systematically identify abnormal and upset conditions (e.g. material defects, knots, warped timber, jammed workpieces) in risk reviews	2M
4. Workshop Layout, Traffic Management and Workpiece Handling	• Congested workshop layout causing operators to work in close proximity to moving parts, kickback zones and ejection paths • Poor segregation of pedestrian walkways from forklift/plant traffic and material infeed/outfeed paths for long or heavy timber • Inadequate infeed/outfeed support for long boards during planing, thicknessing, routing and shaping,	3H	[redacted]	2M

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	leading to loss of control or musculoskeletal strain • Insufficient space around machinery for safe set-up, blade changes and maintenance access • No standardised methods for stacking and storing raw timber, work-in-progress and offcuts, leading to trip hazards and unstable loads • Inadequate control of noise exposure zones and dust-laden areas, increasing risk of hearing loss and respiratory issues		[redacted]	
5. Machine Guarding, Interlocks and Emergency Stop Systems	• Defeated, removed or poorly maintained guards on rotating cutters, saws, cutter blocks, sanding bobbins and boring heads • Inadequate or non-functional interlocks on doors, access panels, chip guards and enclosures • Emergency stop (e-stop) devices not provided in accessible l…s or not tested regularly • Slow stopping ti…s on spind… moulders, planers, …ers, eq… banders and lathes increasing sever… of contact incidents • No standard for regular …ion and certification of safety devices, guarding and e-stops • Lack of control over adjustments and removal of guards during set-up, tooling changes and maintenance	4A	[redacted]	2M
6. Isolation, Lockout-Tagout and Maintenance Management	• Uncontrolled energisation or movement during maintenance, cleaning, jam clearing or blade changes on planers, thicknessers, routers, shapers, tenoners, borers, morticers and lathes • Lack of documented lockout-tagout (LOTO) procedures for electrical,	4A	[redacted]	2M

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	pneumatic, hydraulic and mechanical energy sources • Use of untrained or unauthorised personnel to perform maintenance, adjustments or blade changes • Poor scheduling and tracking of preventive maintenance leading to worn components, misalignment, vibration, tool failure and ejection of cutters • Inadequate inspection of critical components such as cutter blocks, locking collars, arbors, bearings and tool-holding systems • Reactive repairs undertaken under production pressure without proper isolation or verification testing		[redacted]	
7. Operator Competency, Licensing and Supervision	• Inadequate skills and knowledge of operators using high-risk woodworking machinery such as spindle moulders, shapers, tenoners, lathes and comple router systems • Absence of formal competency-based training and assessment ecific plant types and oper ons (e.g. routing edges, dadoing, gr ving, rabbet cuts, bobbin turning, mo ding, mor boring and planing) • No verification of prior experience recognition of competency for ne ires, apprentices and contract • Insufficient supervision, especially during high-risk tasks, set-ups, tool changes and non-routine operations • Inconsistent application of safe operating procedures between day, afternoon and night shifts or across different work areas • Language, literacy or numeracy barriers preventing full understanding of machinery safety instructions	4A	[redacted]	2M
8. Safe Operating Procedures, Work	• Lack of documented SOPs for critical machinery operations such as planing raw timber, routing and drilling for	3H		2M

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Instructions and Permits	mechanisms, hinge boring, multi-boring, morticing, shaping and lathe turning • Inconsistent set-up practices (e.g. fence setting, depth of cut, feed rate, use of power feeders) leading to kickback and loss of control • Non-routine or complex tasks (e.g. unusual profiles, intricate pyrography, one-off jigs) undertaken without additional planning or control • Workers improvising work methods, clamping and support systems due to unclear instructions • Failure to define limits of operation, prohibited practices and escalation points for unsafe conditions		[redacted]	
9. Tooling, Cutter Management and Blade Changing Systems	• Use of damaged, incompatible or unbalanced cutters, router bits, planer blades and tenon cutters leading to breakage and ejection • Uncontrolled planer blade changing operations without proper fixtures, torque controls or verification checks • Inadequate storage, labelling and maintenance of tooling, increasing risk of incorrect selection or installation • Lack of traceability for tooling life, sharpening cycles and history of repairs • No system to verify that cutter blocks, arbors and chucks are compatible with machine speeds and manufacturer requirements • Use of non-genuine or modified tooling that has not been assessed for risk	4A	[redacted]	2M
10. Wood Dust, Fume, Fire and Explosion Control	• Inadequate dust extraction and housekeeping leading to accumulation of combustible wood dust on surfaces, machines and in ducting • Inhalation exposure to fine wood dust, including hardwood, MDF and treated	4A	[redacted]	2M

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	timber, increasing risk of respiratory disease and occupational asthma • Pyrography operations generating smoke and fumes in poorly ventilated areas • Ignition sources (sparks, hot work, electrical faults) in areas with combustible dust concentrations • Lack of inspection and maintenance of extraction systems, filters and ducts leading to reduced performance and hidden dust build-up • Insufficient fire detection, suppression equipment and emergency response planning for woodworking areas		[redacted]	
11. Ergonomics, Manual Handling and Fatigue Management	• Repetitive and forceful tasks associated with feeding and retrieving heavy or awkward timber from planers, thicknessers, edge banders, routers and shapers • Poor workstation design and working heights for routers, router tables, lathes and boring machines lea[illegible] awkward postures a[illegible] overreach • Extended period[illegible]f standing at machines without t[illegible] vari[illegible], increasing fatigue and error rates • Manual handling of cutter blocks, planer heads and heavy [illegible]es without mechanical aids • Inadequate scheduling of breaks or rotation on high-concentration tasks such as precision shaping or pyrography • Insufficient management of shift work and overtime resulting in fatigue-related incidents	3H	[redacted]	2M
12. PPE, Signage and Local Administrative Controls	• Reliance on personal protective equipment (PPE) as the primary control instead of higher-level engineering and administrative controls • Incorrect selection, issue or use of PPE (e.g. inappropriate respiratory protection	3H	[redacted]	2M

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	for fine wood dust, inadequate eye/face protection for high-velocity chips) • No system for ensuring hearing protection in high noise zones around planers, thicknessers, routers, shapers and edge banders • Absence of clear safety signage at machines outlining key hazards, authorisation requirements and emergency procedures • Inconsistent enforcement of PPE and local rules by supervisors and leading hands		[redacted]	
13. Monitoring, Inspections, Incident Reporting and Continuous Improvement	• Lack of systematic workplace inspections focused on plant hazards and compliance with SOPs for joinery and shaping machinery • Under-reporting of incidents, near misses, kickback events and minor injuries, resulting in missed learning opportunities • No formal analysis of incident trends, leading to repeat events [redacted] the same machines or [redacted] methods • Failure to verify [redacted] controls (e.g. guard[redacted] are effective over time • Limited worker involvement in saf[redacted] improvement initiatives, [redacted] low ownership of controls	3H	[redacted]	1L
14. Emergency Preparedness, First Aid and Rescue Arrangements	• Inadequate planning for serious injuries such as amputations, severe lacerations, eye injuries and crush injuries resulting from machinery contact or ejected components • Lack of trained first aiders on all shifts where joinery and shaping machinery is in operation • Emergency equipment (first aid kits, eye wash, fire extinguishers) not appropriate to woodworking risks or poorly maintained	3H	[redacted]	2M

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	• Workers not familiar with emergency stop, isolation and evacuation procedures in the event of plant failure, fire, dust incident or medical emergency • No specific procedures for dealing with entrapment or entanglement on lathes, feed rollers, power feeders or conveyors		[redacted]	

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory
Work Health and Safety Act 2011
Work Health and Safety Regulations 2011
Legislation QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws
Codes of Practice QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice
Legislation ACT: https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations
Codes of Practice ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice

New South Wales
Work Health and Safety Act 2011
Work Health and Safety Regulations 2025
Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislation
Codes of Practice NSW: https://www.safework.nsw.gov.au/resource-library/list-of-codes-of-practice

Northern Territory
Work Health and Safety (National Uniform Legislation) Act 2011
Work Health and Safety (National Uniform Legislation) Regulations 2011
Legislation NT: https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws
Codes of Practice NT: https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice

South Australia
Work Health and Safety Act 2012 (SA)
Work Health and Safety Regulations 2012 (SA)
Legislation for SA: https://www.safework.sa.gov.au/resources/legislation
Codes of Practice for SA: https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs

Tasmania
Work Health and Safety Act 2012
Work Health and Safety (Transitional and Consequential Provisions) Act 2012
Work Health and Safety Regulations 2012
Work Health and Safety (Transitional) Regulations 2012
Legislation for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations
Codes of Practice for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria
Occupational Health and Safety Act 2004
Occupational Health and Safety Regulations 2017
Legislation VIC: https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations
Codes of Practice VIC: https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice

Western Australia
Work Health and Safety Act 2020
Work Health and Safety Regulations 2022
Legislation Western Australia: https://www.commerce.wa.gov.au/worksafe/legislation
Codes of Practice WA: https://www.commerce.wa.gov.au/worksafe/codes-practice

Safe Work Australia Links
Law and Regulation (All States): https://www.safeworkaustralia.gov.au/law-and-regulation
Model Codes of Practice: https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work