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

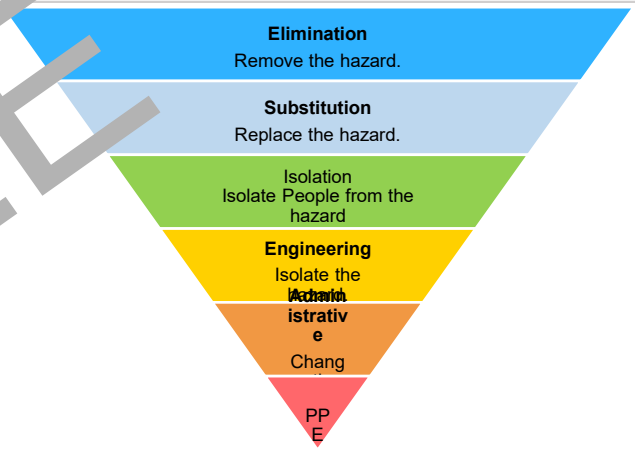
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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. WHS Governance, Roles and Consultation	• Lack of clear WHS governance for assembly activities using fasteners and interlocking components • Unclear roles, responsibilities and accountability for assembly supervisors and leading hands • Insufficient consultation with workers and HSRs on assembly risks and control effectiveness • Inadequate worker participation in reviewing assembly procedures and reporting issues • Failure to integrate assembly safety into broader WHS management system under WHS Act 2011	4A	• Establish and document a WHS governance structure that explicitly covers assembly and fastening operations, aligned with WHS Act 2011 and WHS Regulations • Define and communicate formal WHS roles, responsibilities and delegations for officers, PCBUs, managers, supervisors and workers involved in assembly activities • Implement a structured consultation process (e.g. WHS committees, toolbox talks, pre-start meetings) specifically addressing assembly and fastener-related risks • Ensure elected Health and Safety Representatives (HSRs) are trained and actively involved in risk assessments, incident investigations and procedure reviews for assembly tasks • Integrate assembly safety objectives and KPIs into business plans, supervisor performance reviews and contractor management processes • Establish a documented process for workers to raise WHS issues (including anonymous options) and ensure timely feedback and close-out of assembly-related concerns	3H
2. Assembly Design, Engineering and Change Management	• Assembly processes not considered during product or plant design, leading to awkward or unsafe fastening tasks • Use of fasteners (bolts, screws, rivets, clips) that are difficult to access, torque correctly or verify, increasing risk of failure in service • Inadequate design review of interlocking features resulting in pinch points, crush hazards or impact injuries • Uncontrolled design changes to components, fasteners or jigs without WHS risk review • Lack of standardisation of fastener types, materials and tightening methods across similar products • Insufficient engineering assessment of loads and tolerances for critical fastened joints	4A	• Embed Safety in Design processes that specifically require consideration of assembly ergonomics, access to fasteners, interlocking methods and verification requirements • Standardise fastener types, grades, coatings and torque specifications across products where practicable and document these in controlled engineering standards • Require multi-disciplinary design reviews (engineering, production, maintenance, WHS, workers) for new and modified assemblies with fastened and interlocking components • Implement a formal Management of Change (MOC) process for any design changes to components, fasteners, torque specs, tools or jigs, including documented WHS risk assessment • Design jigs, fixtures and component interfaces to positively locate parts and minimise manual force, misalignment and risk of finger entrapment during interlocking • Specify critical joints and safety-critical fasteners in engineering drawings, with defined installation methods, verification steps and inspection frequencies • Ensure engineering calculations and test evidence are kept on file for load-bearing and safety-critical fastened connections	2M
3. Procurement of Components, Fasteners, Tools and Equipment	• Procurement of substandard or non-compliant fasteners (incorrect grade, material or certification) • Inconsistent supply quality of components leading to fit-up issues, forcing and rework	3H	• Develop procurement standards for fasteners and assembly components including minimum grades, certifications (e.g. test certificates), and traceability requirements • Prequalify and periodically audit key suppliers for quality management systems and compliance with technical and WHS requirements	2M

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	• Selection of assembly tools (hand, pneumatic, battery) that are unsuitable for torque range or access, increasing strain and error • Lack of specification for ergonomic and low-vibration tools for repetitive fastening tasks • Use of counterfeit or untraceable critical fasteners due to weak supplier controls • Inadequate consideration of guarding, torque control and reaction arms when procuring powered tools		• Specify and procure torque-controlled tools, reaction arms, and appropriate accessories for repetitive fastening activities, rather than relying on generic hand tools • Include ergonomic, noise, vibration and weight crit[redacted] in procurement specifications for powered fastening tools and assembly fixtures • Ensure critical fasteners and components [redacted] uniquely id[redacted]tified and sourced only from approved, verified suppliers with batch traceability • Require suppliers of jigs, fixtures and tools to p[redacted]de safety inf[redacted]mation, guarding provisions and maintenance instructions relev[redacted]nt to WHS obligat[redacted]s • Integrate procurement with en[redacted]eering and produc[redacted]s that any proposed product or fastener substitutions are fo[redacted]k ass[redacted]ed prior to use	
4. Facility Layout, Workstation Design and Material Handling	• Poor assembly line layout causing congestion, unsafe material flow and collision risks with trolleys or forklifts • Workstations that require excessive reaching, twisting or overhead work during fastening and interlocking • Inadequate supports, stands or fixtur[redacted] to securely hold components while fasteners are applied • Cluttered workbench[redacted]s or racking leading to trip haza[redacted]s, dropped components and d[redacted]maged fas[redacted] • Inappropriate storag[redacted]f heavy or awkward components requiring man[redacted]l lifting into position for assembly • Insufficient segregation between pedestrians and mobile plant in assembly areas	4A	[redacted]	2M
5. Plant and Equipment Safety Management	• Inadequate guarding or interlocks on powered tools, presses or fixtures used to clamp and fasten components • Failure of torque tools due to poor maintenance or calibration, leading to under- or over-tightening of fasteners • Uncontrolled energy sources (electrical, pneumatic, hydraulic) associated with assembly equipment	4A	[redacted]	2M

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	• Unsafe modification or bypassing of guards, interlocks or safety features to speed up assembly • Insufficient system for pre-use inspection, tagging and removal from service of defective assembly tools • Lack of standard operating procedures for setting up, operating and isolating assembly plant		[redacted]	
6. Ergonomics and Manual Tasks in Fastening and Interlocking	• Repetitive or forceful hand and arm movements when tightening fasteners or snapping interlocking components together • Sustained awkward postures (overhead, kneeling, reaching) to access fasteners in poorly designed locations • Excessive grip and pinch forces needed to align or clip components into interlocking features • Inadequate systems to manage job rotation and task variation across high-repetition assembly ro • Poorly designed t ls increasing vibration, trigger fo e and ov physical load • Lack of early reporting culture for musculoskeletal discomfort from assembly staff	4A	[redacted]	2M
7. Training, Competency and Supervision	• Workers performing assembly and fastening tasks without verified competency in correct methods and torque requirements • Insufficient understanding of critical joints and consequences of incorrect fastening or incomplete interlocking • On-the-job training that is informal, inconsistent and not documented	4A	[redacted]	2M

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	• Supervisors lacking skills to identify unsafe assembly practices and intervene effectively • Inadequate training for labour hire and contractor personnel engaged in assembly • Lack of refresher training when procedures, tools or products change		[redacted]	
8. Procedures, Work Instructions and Standardisation	• Absence of clear, standardised assembly procedures for fastening and interlocking tasks • Reliance on informal knowledge and individual techniques, causing variation in fastener quality and safety outcomes • Work instructions that are overly complex, outdated or not accessible at the point of use • Failure to clearly identify the correct sequence of fastening, torque stages and interlocking steps for complex assemblies • Inadequate control of document versions leading to use of superseded instructions • Poor integration of quality requirements within focused procedures	3H	[redacted]	2M
9. Quality Assurance, Inspection and Verification of Fastened Joints	• Systemic failure to detect incorrectly torqued or partially engaged fasteners and interlocks before products leave the site • Inadequate inspection frequency or sampling strategy for safety-critical joints • Lack of traceability when defects are found, preventing root cause analysis and targeted corrective actions • Over-reliance on visual checks for fasteners where torque or tension is the critical parameter	4A	[redacted]	2M

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
	• Time pressures and production targets discouraging thorough verification of assemblies		[redacted]	
10. Hazardous Substances, Noise and Vibration in Assembly Areas	• Exposure to lubricants, thread-locking compounds or cleaning agents used on fasteners without adequate controls • Excessive noise from powered tools, impact wrenches and presses in assembly lines • Hand–arm vibration from prolonged use of percussive or high-vibration fastening tools • Inadequate safety data sheet (SDS) management for chemicals used in assembly processes • Lack of health monitoring where vibration or chemical exposure may be significant	3H	[redacted]	2M
11. Contractor, Labour Hire and Visitor Management in Assembly Areas	• Contractors or labour hire workers performing assembly tasks without adequate induction or understanding of site-specific procedures • Inconsistent supervision and performance expectations for external personnel compared with direct employees • Visitors entering assembly areas without awareness of fastening, interlocking and plant movement hazards	3H	[redacted]	2M

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	• Poor integration of contractor WHS systems with the PCBU's assembly safety requirements • Subcontracted rework or modification of assemblies off-site without appropriate oversight		[redacted]	
12. Work Scheduling, Fatigue and Production Pressure	• Extended shifts, overtime or high work rates leading to fatigue and reduced attention to correct fastening and interlocking • Production targets and incentive schemes that encourage short-cutting of verification or safe handling practices • Inadequate staffing levels in assembly areas causing rushed work and increased error rates • Poor communication of changes to schedule or priorities, resulting in confusion and mistakes • Insufficient rest breaks or task variati[redacted] for high-repetition fastening roles	3H	[redacted]	2M
13. Emergency Preparedness and Incident Management in Assembly Operations	• Delayed respons[redacted]o injuries f[redacted] pinch, crush or lac[redacted] during assembly and fastening tasks • Lack of clear emergency proced[redacted]s relevant to assembly line[redacted] plant isolation and evacuation • Under-reporting of assembly-related near misses, tool failures and product defects that have WHS implications • Ineffective investigation of incidents, leading to recurrence of systemic assembly hazards • Inadequate first aid coverage and equipment in assembly areas	3H	[redacted]	2M

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14. Housekeeping, Access, Storage and Security of Fasteners and Components	• Poor housekeeping around assembly stations leading to slips, trips and falls or dropped components • Unlabelled or mixed fasteners resulting in incorrect grade or length being installed in critical locations • Inadequate storage systems for components and fasteners causing damage, contamination or loss of traceability • Unauthorised access to assembly areas or stores, increasing risk of interference or theft of critical components • Blocked access to emergency equipment, isolators or walkways due to stored materials	3H	[redacted]	1L
15. Continuous Improvement, Audit and Compliance Monitoring	• Failure to identify emerging risks in assembly processes as product mix, volumes or technology change • Non-compliance with established procedures for fastening, interlocking and verification go[illegible] undetected • Lack of systematic review of WHS performance indicators specific to assembly activities • Inadequate internal auditing of WHS and quality systems impacting assembly safety • Insufficient review of legal and standards changes relevant to assembly and plant safety	3H	[redacted]	1L

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