

Impact Wrenches and High Torque Fastening Tools

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

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS 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	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. 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, Policies and Legal Compliance	<ul style="list-style-type: none"> Absence of a documented WHS policy specific to powered impact wrenches and high torque fastening tools Incomplete alignment of internal procedures with WHS Act 2011, WHS Regulations and relevant Australian Standards (e.g. AS/NZS 60745, AS/NZS 3760, AS 1319) Lack of clearly defined responsibilities and accountabilities for managing risks associated with impact tools and percussion tools Failure to consider consultation duties with workers and PCBUs sharing the workplace No systematic review of risk assessments when work methods, tooling or legislation change 	4A	<ul style="list-style-type: none"> Develop and endorse a WHS policy that specifically references powered hand tools, including hammer drills, impact wrenches and percussion tools and clearly states the organisation's risk management expectations Establish a documented WHS risk management procedure aligned with WHS Act 2011 and WHS Regulations, requiring identification, assessment, control and review of risks from high torque fastening activities Assign and document roles, responsibilities and delegations for PCBUs, officers, supervisors and workers regarding tool use, maintenance and oversight of impact tools Consult with workers, HSE and contractors when developing and reviewing tool-related procedures, ensuring documented records of consultation are maintained Schedule periodic compliance audits against applicable Australian Standards and manufacturer instructions for all relevant powered tools Implement a formal review cycle (for example annually or after incidents, near misses or process changes) for the risk assessment and associated procedures 	3H
2. Tool Selection, Procurement and Suitability for Task	<ul style="list-style-type: none"> Procurement of impact wrenches, hammer drills and percussion tools that are not fit for purpose or incompatible with fixing brackets and fasteners used Use of tools with incorrect power rating or torque capacity increasing risk of over-torquing, fastener failure, kickback Lack of standardisation in brands and models leading to inconsistent safety features and maintenance complexity Purchase of tools without vibration and noise reduction features, increasing long-term health risks Acquisition of non-compliant or counterfeit accessories (sockets, bits, anchors, brackets) with inadequate load ratings 	4A	<ul style="list-style-type: none"> Develop and implement a formal tool procurement standard specifying minimum safety, performance and compliance requirements for impact wrenches, hammer drills and percussion tools Standardise preferred models and brands across the organisation to ensure consistent safety features, training content and spare parts availability Require documented engineering verification that selected tools and accessories are suitable for the specific bracket systems, fasteners, substrates and torque ranges to be used Mandate that all tools and accessories comply with relevant Australian Standards and manufacturer requirements, including certification or test reports from reputable suppliers Include vibration-dampening, low-noise and ergonomic features as mandatory selection criteria, particularly for high-usage roles Implement a pre-purchase risk review for new or significantly changed tooling, involving WHS, engineering and end-user representatives 	2M
3. Engineering Design of Bracket Systems and Fastenings	<ul style="list-style-type: none"> Inadequate engineering design of brackets, fixings and anchors for loads, substrate type and dynamic forces (including vibration and impact) Use of drilled holes and anchor layouts that do not comply with engineered 	4A	<ul style="list-style-type: none"> Require all bracket and fastening systems subject to impact-tool installation to be designed or verified by a competent engineer with clear design documentation and limitations Develop standard installation drawings and engineering specifications showing approved anchor types, hole sizes, depths, edge distances, spacing and torque values 	2M

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	<ul style="list-style-type: none"> specifications when using hammer drills and percussion tools Lack of clear specification for torque settings, installation sequence and re-torque requirements Systemic over-reliance on field judgement rather than engineered design for bracket fixing methods Incompatible combination of tools, anchors and materials leading to cracking, spalling or structural weakening of concrete, masonry or steel 		<ul style="list-style-type: none"> Incorporate clearly stated torque ranges and installation procedures in engineering documentation, compatible with available impact wrenches and torque tools Implement a design change management system so any variation to brackets, anchors or substrates triggers formal engineering review and update of procedures Require engineering sign-off for use of percussion or hammer drilling methods in sensitive or fatigue-critical structures, including any requirement for non-destructive testing Ensure bracket and fixing specifications are integrated into procurement, work instructions and quality assurance processes 	
4. Worker Competency, Licensing and Training Systems	<ul style="list-style-type: none"> Workers using high torque impact wrenches and hammer drills without formal competency assessment Inadequate training on system-level hazards such as kickback, vibration exposure, noise, silica dust, and stored energy in fasteners Lack of refresher training leading to skill fade and normalisation of unsafe practices Supervisors not trained to verify correct torque, anchoring methods and bracket installation quality Contractors engaged without verification of competency or understanding of site-specific work procedures 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
5. Safe Work Procedures, Permits and Work Method Integration	<ul style="list-style-type: none"> Lack of documented safe work procedures addressing system risks for bracket fixing using hammer drills and impact wrenches Inconsistent integration between risk assessments, SWMS and site rules leading to gaps in controls Work on structurally critical elements or overhead installations without formal permit or verification process 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> Failure to address interaction between bracket installation tasks and other concurrent work (e.g. overhead lifting, live services) Procedures not updated when new tools, materials or fixing systems are introduced 		[REDACTED]	
6. Tool Inspection, Maintenance and Testing Regime	<ul style="list-style-type: none"> Lack of scheduled inspections and preventative maintenance for impact wrenches, hammer drills and percussion tools Failure to detect damaged housings, worn chucks, frayed cords, faulty triggers or torque control failures Use of tools with expired electrical test and tag in hostile environments No system for calibration or verification of torque output, leading to systemic over- or under-torquing Inadequate management of manufacturer safety bulletins, recalls or software/firmware updates on battery systems 	4A	[REDACTED]	2M
7. Accessory, Bit and Fastener Control (Socks, Anchors, Brackets)	<ul style="list-style-type: none"> Use of incorrect or worn sockets, drill bits and percussion accessories incompatible with the tool or fastener type Lack of control over quality and traceability of anchors, bolts and brackets leading to systemic fixing failures Use of non-impact-rated sockets or extensions on high torque tools, increasing risk of shattering or ejection Insufficient management of wear and replacement criteria for drilling and impact accessories Mixing of anchor types or grades contrary to engineering specification, particularly in dynamic or overhead applications 	4A	[REDACTED]	2M

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8. Ergonomics, Manual Handling and Vibration Exposure Management	<ul style="list-style-type: none"> • Prolonged exposure to hand-arm vibration from impact wrenches, hammer drills and percussion tools, contributing to musculoskeletal disorders • Awkward postures and over-reaching during overhead or hard-to-access bracket installations • Excessive tool weight or poor balance leading to fatigue and reduced grip control • No system to limit cumulative daily exposure time to high-vibration tools or rotate tasks • Lack of assessment of manual handling risks related to positioning heavy brackets while operating powered tools 	3H	[REDACTED]	2M
9. Noise, Dust and Silica Exposure Controls	<ul style="list-style-type: none"> • High noise levels from hammer drilling and percussion tools leading to hearing damage over time • Generation of respirable crystalline silica dust when drilling into concrete, masonry or fibre-cement substrates • Inadequate use/maintenance of on-tool dust extraction systems and local exhaust ventilation • Lack of atmospheric monitoring or health surveillance for workers frequently engaged in drilling and impact fastening • Poor coordination of noisy operations leading to cumulative exposure in shared work areas 	1A	[REDACTED]	2M
10. Electrical, Battery and Energy Source Management	<ul style="list-style-type: none"> • Use of corded impact and hammer drills with damaged leads, plugs or insulation leading to electric shock or fire • Inadequate control over charging, storage and handling of lithium-ion batteries for cordless tools, increasing fire or thermal runaway risk 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> • Use of non-approved chargers or mixing incompatible battery systems across brands • Poor cable management creating trip hazards and cable damage in congested work areas • Lack of isolation and lock-out systems when servicing or troubleshooting powered tools 		[REDACTED]	
11. Work Environment, Access, Egress and Overhead Work	<ul style="list-style-type: none"> • Use of impact wrenches and hammer drills on ladders or unstable platforms leading to loss of balance from torque reaction or kickback • Inadequate planning for access to elevated bracket locations, resulting in ad-hoc use of inappropriate access equipment • Poor housekeeping in drilling areas causing trip hazards from dust, offcuts, leads and fixings • Risk of falling objects (tools, brackets, fasteners) during overhead work onto persons below • Insufficient lighting and visibility when installing brackets in ceiling voids, plant rooms or confined spaces 		[REDACTED]	2M
12. Contractor, Subcontractor and Multi-PCBU Coordination	<ul style="list-style-type: none"> • Inconsistent safety standards, procedures and training levels between principal contractor and subcontractors using impact tools • Lack of clarity regarding who controls the work area, equipment provision and maintenance responsibilities • Inadequate exchange of information about bracket designs, torque requirements and site-specific hazards between PCBUs • Concurrent operations by multiple trades leading to uncontrolled interaction 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> risks (e.g. drilling near live services installed by others) • Failure to ensure that contractors' SWMS adequately cover system-level risks for impact tools and percussion tools 		[REDACTED]	
13. Incident, Near-Miss Reporting and Corrective Action Systems	<ul style="list-style-type: none"> • Under-reporting of near misses, minor injuries and quality failures related to bracket fixing and impact tool use • Lack of structured investigation processes to identify root causes and systemic weaknesses • Repeat incidents due to ineffective or incomplete corrective actions • Poor communication of lessons learned to workers and contractors across sites • Inadequate integration of incident data into management review and continuous improvement processes 	3H	[REDACTED]	1L
14. Emergency Preparedness and Structural Integrity Response	<ul style="list-style-type: none"> • Lack of preparedness for incidents involving tool-related injuries (eye, hand, vibration, hearing) during bracket installation • No planned response to possibility of mis-installed or failed anchors or brackets that may compromise structural or load-bearing integrity • Delayed emergency response due to inadequate communication systems in remote or isolated work areas • Inadequate first aid capability for injuries associated with high torque tool use and flying debris • Failure to isolate unsafe structures, equipment or areas following detection of fastening system defects 	3H	[REDACTED]	2M

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15. Monitoring, Audit and Management Review of WHS Performance	<ul style="list-style-type: none"> • Failure to detect drift from safe systems of work for impact and percussion tools over time • Inadequate verification that documented procedures, training and maintenance regimes are being followed in the field • Lack of performance indicators specific to bracket installation quality, tool condition and exposure risks (noise, dust, vibration) • Management not receiving accurate or sufficient information to make informed decisions about resourcing and risk control • No formal process to review effectiveness of WHS controls for impact wrenches and high torque fastening tools 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L

SAMPLE

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>

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>

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-codes-of-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>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-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>

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>

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

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.