Gearbox Faults Diagnosis. Risk Assessment

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:

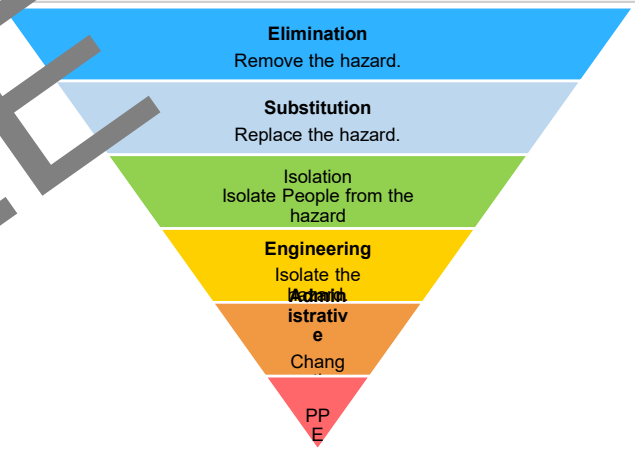
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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 place 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. Preparation	Incorrect tools selection, Missing personal protective equipment (PPE)	3H	- Conduct a toolbox meeting outlining the day's tasks. - Verify correct tool selection for the task. - Inspect all PPE and ensure it is worn befo starting wor - Brief workers on the potential hazards prese - Check the operational state of diagnostic equip nt. - Make sure all team members e trained and und tan e procedure. - Keep a first aid kit ble in work area. - Set up clea zard signa around e wor rea. - Desig ate a s ty offic o oversee t operation. - Barr the wo ace to keep unauthorized personnel out.	2M
2. Disconnect Power	Electric shock, Accidental tup	4A	- Follow ockou tagou ocedures to disconnect power. e ap opriat ockout devices on the power supply. Verif er is disconnected using a multimeter. nsure all drives are in a fully disengaged state. - Place a warning tag on the power switch. - Train personnel on lockout/tagout procedures. - Document disconnection procedures in a checklist. - Have another worker verify the disconnection for safety. - Mark all live circuits and cables clearly. - Wear rubber insulated gloves while working.	2M
3. Inspect External Features	Contact with hot surfaces, Exposure to oil leaks	3H	- Allow the gearbox to cool down before starting inspection. - Use insulated tools to avoid burns. - Wear oil-resistant gloves to check for leaks. - Place oil-absorbent materials around the gearbox. - Check seals and gaskets for wear and damage. - Clean any oil spills immediately with appropriate materials. - Display hazard signs if any areas are extremely hot. - Use a torchlight to inspect hard-to-see areas.	1L

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			- Ensure adequate ventilation in the work area. - Ensure external features are not under tension or load.	
4. Remove Gearbox Covers	Hand injuries, Dropping heavy covers	3H	[redacted]	2M
5. Examine Gears and Components	Pinching fingers, T[redacted]l dropping	3H	[redacted]	1L
6. Assess Gearbox Alignment	Misalignment, Inaccurate measurements	3H	[redacted]	2M

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			[redacted]	
7. Measure Gear Wear	Sharp metal edges, Incorrect tool use	3H	[redacted]	1L
8. Lubrication Assessment	Slips due to spills, [redacted] vap[redacted]s	3H	[redacted]	1L
9. Check for Excessive Vibration	Machine instability, Component fatigue	3H	[redacted]	2M

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10. Evaluate Bearing Condition	Dust and debris exposure, Bearings overheating	3H		1L
11. Gear Tooth Inspection	Cuts from sharp edges, Eye injuries from metal particles	3H		1L
12. Identify Gearbox Noises	Hearing damage, Misdiagnosis of faults	3H		2M

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			[redacted]	
13. Evaluate Seal Integrity	Leakages of fluids, Seals bursting under pressure	3H	[redacted]	1L
14. Test Electrical Components	Electric shocks, Circuit shorts	4A	[redacted]	2M
15. Record Findings	Data inaccuracy, Inadequate detail logging	2M	[redacted]	1L

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			[redacted]	
16. Reassemble Components	Misalignment causing faults, Unsecured parts falling	3H	[redacted]	2M
17. Conduct Test Runs	Sudden machinery failure, Person caught in moving parts	4A	[redacted]	2M
18. Evaluate Testing Outcomes	Misinterpretation of data, Hardware overloading	3H	[redacted]	1L

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			[redacted]	
19. Finalise Documentation	Documentation errors, Loss of critical data	2M	[redacted]	1L
20. Review and Debrief	Knowledge gaps among team, Failure to address identified issues	3H	[redacted]	2M

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 2017
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