

Working Inside Engine Compartments. Risk Assessment

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	4A ACUTE	DO NOT PROCEED	Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE			Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE			Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE			Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH			Administrative Change	
						1L LOW	Monitor and keep records.	PPE	
Risk Rating & Required Action:								Notes on Hierarchy of Controls:	
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.						Remember to apply controls in the preferred order shown by the coloured pyramid:	
3H		Review and approve additional controls before task starts. Senior supervisor sign-off needed.						1. Eliminate	
2M		Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.						2. Substitute	
1L		Proceed, following standard operating procedures. Monitor and keep records.						3. Isolate	
Consequence Scale:								4. Engineering	
Consequence		People (injury/illness)		Project / Assets		Compliance / Reputation		5. Administrative	
Catastrophic		Fatality or permanent total disability		project shutdown		Significant regulator intervention; criminal prosecution		6. PPE	
Major		Serious injury/illness (hospital > 5 days)		critical delay		Improvement notice; major media coverage		Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
Moderate		Medical-treatment injury; lost-time > 1 day		moderate delay		Minor breach; adverse client comment		aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.	
Minor		First-aid only, no lost time		negligible delay		Isolated non-conformance			
Insignificant		No injury		no schedule impact		Deviation caught and corrected on site			

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	slips on fluids, sharp edges	3H	<ul style="list-style-type: none"> - Ensure all tools and equipment are in good condition and readily available - Conduct a site-specific risk assessment before starting work - Wear appropriate PPE including gloves and non-slip footwear - Ensure good housekeeping to remove any trip hazards - Understand and apply a lockout/tagout procedure where applicable - Ensure adequate lighting for visibility - Check for sharp edges and cover or remove where possible - Ensure that workers are trained in safe work procedures - Limit access to only those involved in the activity - Keep all fluids in spill-safe containers 	2M
2. Access Engine Compartment	falls from height, awkward posture	3H	<ul style="list-style-type: none"> - Use ladders/steps that are stable and compliant with safety standards - Maintain three points of contact when accessing elevated areas - Position yourself in a manner that avoids overreaching or straining - Plan the access route and ensure it is clear of obstacles - Conduct a pre-access check to ensure the workspace is stable - Utilise lifting aids to reduce manual handling risks - Use a support harness if working at height is necessary for a prolonged period - Ensure team members monitor each other for safe practices - Perform stretching exercises to prepare for the task - Brief workers on the importance of maintaining ergonomic positions 	1L
3. Perform Inspection	exposure to chemicals, electrical shock	4A	<ul style="list-style-type: none"> - Use hazard-rated gloves and eye protection to prevent chemical exposure - Label all chemicals clearly and keep them in appropriate containers - Ensure electrical equipment is inspected and tagged as safe to use - Implement a lockout/tagout procedure to de-energise equipment - Use ground-fault circuit interrupters (GFCIs) when using power tools - Provide emergency eyewash stations in close proximity - Use fume extraction systems to reduce the inhalation of harmful vapours - Train staff on how to handle chemicals safely 	2M

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			<ul style="list-style-type: none"> - Ensure that first aid equipment is readily available - Install appropriate signage to warn of chemical hazards 	
4. Remove Components	manual handling, tool misuse	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L
5. Install New Components	crushing injuries, pinch points	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Test Installed Components	unexpected energy release, moving machinery parts	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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7. Cleaning Work Area	chemical spills, slipping	3H		1L
8. Exit Engine Compartment	slip/trip/fall, contact with hot components	2M		1L
9. Review and Document	incomplete records, improper risk review	2M		1L

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			<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	
10. Conduct Debrief	poor communication, stress	3H	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	1L
11. Training and Induction	lack of awareness, inadequate training	3H	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	1L

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12. Tools and Equipment Maintenance	equipment failure, improper use	3H	<ul style="list-style-type: none"> 1. All tools and equipment must be inspected before use. 2. Only trained personnel are allowed to use specialized equipment. 3. Equipment must be maintained according to manufacturer's instructions. 4. Safety guards must be in place and functioning at all times. 5. Proper lifting techniques must be used when handling heavy equipment. 6. All work areas must be kept clean and free of clutter. 7. Emergency stop buttons must be clearly marked and accessible. 8. Regular safety training must be provided for all personnel. 9. Defective equipment must be tagged and removed from service immediately. 10. All personnel must wear appropriate PPE when operating equipment. 	1L
13. Hazardous Substance Management	chemical exposure, inhalation risks	4A	<ul style="list-style-type: none"> 1. All hazardous substances must be properly labeled and stored. 2. Safety Data Sheets (SDS) must be readily available for all chemicals. 3. Personnel must be trained in proper handling and disposal procedures. 4. Adequate ventilation must be maintained in work areas. 5. Appropriate PPE (goggles, gloves, respirators) must be worn at all times. 6. Spill kits must be available and used immediately in case of leaks. 7. No eating, drinking, or smoking is allowed in work areas. 8. Regular air quality monitoring must be conducted. 9. Emergency eyewash and shower stations must be accessible. 10. Proper waste disposal procedures must be followed. 	2M
14. Emergency Response Procedures	poor response to incidents, communication failures	4A	<ul style="list-style-type: none"> 1. Clear emergency evacuation routes must be established and marked. 2. All personnel must know the location of fire exits and assembly points. 3. Regular emergency drills must be conducted. 4. A designated emergency coordinator must be assigned for each shift. 5. Effective communication systems (radios, intercoms) must be used. 6. First aid kits and AEDs must be available and accessible. 7. Emergency contact numbers must be posted in prominent locations. 8. Personnel must remain calm and follow instructions during emergencies. 9. Post-incident reviews must be conducted to improve response. 10. All personnel must be trained in basic first aid and CPR. 	2M

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15. Health Monitoring	unrecognised health issues, long-term exposure effects	3H		1L
16. Decontamination	spread of contaminants, skin irritation	3H		2M
17. Confined Space Entry	oxygen deficiency, restricted movement	4A		2M

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18. Welding and Hot Work	burns, fire risk	4A		2M
19. Noise Management	hearing damage, communication disruption	3H		1L
20. Follow-Up Actions	non-compliance, oversights in implementation	2M		1L

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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 IF 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 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-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) Regulations 2011

Legislation NT: <https://www.worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

Codes of Practice NT: <https://www.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>

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

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://www.worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>

Codes of Practice for TAS: <https://www.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.