

Hydraulic Hose Crimper

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 for the task parts. 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. Procurement and Design of Hydraulic Hose Crimper and Associated Hydraulic Equipment	<ul style="list-style-type: none"> • Selection of hydraulic hose crimper, pumps and portable hydraulic equipment that do not comply with relevant Australian Standards (e.g. AS 4024 series, AS 1349, AS 2671, AS/NZS 1200, AS 4041) • Inadequate design safety for guarding, emergency stops, pressure relief and isolation on crimper, hydraulic pumps and metal hydraulic presses • Hydraulic hose crimper and fluid systems not compatible with site hydraulic fluids, pressures, temperatures or hose specifications, leading to system failure • Lack of consideration for safe hydraulic hose assembly, pressure testing and fluid system testing in equipment specification • No documented requirement for OE safety features (interlocks, two-hand controls, guarding) on metal hydraulic presses and motor/pump testers • Procurement of non-genuine or incompatible hydraulic seals, fluid assemblies and fittings increasing risk of seal failure or fluid injection • Failure to specify suitable test benches or hydraulic motor and pump testers for safe performance testing of hydraulic systems and components • Use of equipment without appropriate pressure ratings for handling pressurised fluids, including portable hydraulic tools and test rigs 	High	<ul style="list-style-type: none"> • Establish a formal procurement procedure that mandates verification of compliance of hydraulic hose crimpers, hydraulic pumps, portable hydraulic tools, metal hydraulic presses, and test equipment with relevant Australian Standards and WHS Act 2011 duties • Require engineering review and sign-off for new or significantly modified hydraulic fluid systems, including design pressure, maximum allowable working pressure, relief valves and emergency isolation points • Include in purchase specifications the need for guarding of pinch points, high-pressure components and rotating parts, plus provision of emergency stop devices in line with AS 4024 • Standardise on approved brands and models for hydraulic hose crimpers, hose assemblies, seals and fittings to ensure compatibility with existing hydraulic fluid systems and pressure ratings • Mandate that all hydraulic hose, fittings and seals used with the crimper comply with manufacturer specifications and pressure ratings, including de-rating factors for temperature and fluid type • Specify that any hydraulic motor and pump testers, and metal hydraulic presses, be supplied with integrated pressure controls, accurate gauges, over-pressure protection and documented test procedures • Ensure procurement contracts require full technical documentation (operator manuals, maintenance manuals, test certificates, pressure ratings, seal compatibility data) to support safe system management • Require supplier pre-qualification, including evidence of conformity assessment, prior performance, and ability to support ongoing maintenance, calibration and training for hydraulic equipment 	Medium
2. WHS Governance, Policies and Procedures for Hydraulic Fluid Systems	<ul style="list-style-type: none"> • Absence of a documented WHS management system for hydraulic hose crimping and hydraulic fluid assemblies, contrary to WHS Act 2011 primary duty of care and due diligence obligations • Lack of clear procedures for safe adjustment of hydraulic pumps, 	High	<ul style="list-style-type: none"> • Develop and implement a hydraulic systems WHS policy that clearly outlines responsibilities for managing risks associated with hydraulic hose crimpers, fluid systems, portable hydraulic equipment and metal hydraulic presses • Create formal, documented procedures for hydraulic hose assembly, hydraulic hose pressure testing, fluid system testing and adjusting hydraulic pump settings, aligned with manufacturer instructions and relevant Australian Standards 	Medium

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	<p>performing hydraulic system testing and managing pressurised fluids</p> <ul style="list-style-type: none"> No defined process for authorising modifications to hydraulic systems, including changes to hose assemblies, fluid types, seals and pressure settings Inadequate procedures for safe usage of portable hydraulic equipment, including jacks, spreaders and torque tools connected to the same fluid systems Failure to integrate hydraulic system hazards into the organisation's risk register and regular WHS review processes Insufficient requirements for safe hydraulic hose pressure testing, including test area control, barriers, remote operation and verification of test equipment integrity Lack of formal procedure for isolation lockout-tagout and pressure relief before maintenance or replacement of hydraulic seals and hoses 		<ul style="list-style-type: none"> Implement a management of change (MOC) process for modifications to hydraulic circuits, pumps, valves, hoses, seals and test parameters, including engineering review and risk assessment prior to implementation Establish a written isolation and lockout-tagout procedure specific to hydraulic energy, including depressurisation steps, verification of zero pressure, and tagging of disabled equipment Include hydraulic fluid injection, hose failure, over-pressurisation and ejection of parts from metal hydraulic presses as specific hazard categories in the corporate risk register, with defined controls and review cycles Develop a standard procedure for safe usage of portable hydraulic equipment, including pre-use verification, maximum pressure ratings, compatible hoses and fittings, and prohibitions on makeshift connections Implement a documented hydraulic hose pressure testing procedure, addressing dedicated test rigs, guarding, remote depressurisation, barriers in test zones and traceable test records Schedule periodic review of hydraulic system procedures (at least annually or after an incident/change) to ensure ongoing compliance with WHS legislation and best practice 	
3. Competency, Training and Authorisation	<ul style="list-style-type: none"> Personnel operating hydraulic hose crimpers, portable hydraulic equipment and motor/pump test rigs without adequate training or competency assessment Lack of understanding of hazards of handling pressurised fluids, including fluid injection injury, hose whip and stored energy Inadequate training on safe hydraulic hose assembly techniques, crimp specification, die selection and inspection criteria No formal training on safe methods for adjusting hydraulic pumps, pressure control valves and relief valves, leading to unsafe system pressures Maintenance personnel replacing hydraulic seals or performing hydraulic 	High	<ul style="list-style-type: none"> Establish a competency-based training program for all workers involved in hydraulic hose assembly, crimping, fluid system management, pressure testing and operation of portable hydraulic tools Implement a formal authorisation system so that only trained and competent persons are permitted to adjust hydraulic pump pressures, configure test rigs, or conduct hydraulic system performance testing Provide specific training on the risks of pressurised fluids, including case studies of injection injuries, hose failures, catastrophic seal blowouts and metal hydraulic press ejection incidents Deliver practical training on correct selection of hoses, fittings, seals, crimp specifications, die sets and machine settings as specified by the hose crimper manufacturer Train maintenance staff in reading hydraulic schematics, system boundaries, isolation points, maximum working pressures and correct methods for replacing hydraulic seals and components Include refresher training at defined intervals and when procedures, equipment or fluid types change, with records maintained in the training management system Provide WHS governance and due diligence training for supervisors, engineers and managers focusing on hydraulic system risks, consultation duties and incident response expectations under the WHS Act 2011 	Medium

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	<p>system testing without competency in reading hydraulic schematics and pressure ratings</p> <ul style="list-style-type: none"> Supervisors and managers not adequately trained in their WHS Act 2011 due diligence obligations regarding hydraulic systems 			
4. Hydraulic Fluid Systems Management and Engineering Controls	<ul style="list-style-type: none"> Poorly documented hydraulic circuits leading to incorrect connections, blocked relief paths or bypassing of safety devices Inadequate pressure control and monitoring in hydraulic systems used with the hose crimper, motor/pump testers and metal hydraulic presses Absence or incorrect setting of relief valves, accumulators and pressure-limiting devices for handling pressurised fluids Use of unsuitable hydraulic fluids (viscosity, fire risk, compatibility) causing overheating, seal degradation and system instability Uncontrolled introduction of new fluid types or additives without assessment of compatibility with existing systems and equipment Inadequate engineering controls to restrain hoses and fluid assemblies increasing the risk of whipping or projectile hazards during failure 	High	<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>	Medium
5. Equipment Installation, Guarding and Physical Layout	<ul style="list-style-type: none"> Hydraulic hose crimper and motor/pump testers installed without adequate guarding of moving parts, pinch points and high-pressure zones Poor layout resulting in operators standing in the potential line of fire from pressurised fluid releases, bursting hoses or ejected components from metal hydraulic presses Inadequate separation between hydraulic hose pressure testing areas 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<p>and general workspaces, exposing bystanders to high-risk activities</p> <ul style="list-style-type: none"> • Insufficient space around the crimper and test benches for safe access, maintenance, and emergency egress • Improper routing of hoses and power leads creating trip hazards and contributing to damage of fluid assemblies • Lack of signage and demarcation identifying high-pressure test zones and prohibited access during hydraulic system testing 		[REDACTED]	
6. Preventive Maintenance, Inspection and Testing Regime	<ul style="list-style-type: none"> • Lack of a structured preventative maintenance program for the hydraulic hose crimper, pumps, presses and associated fluid systems • Inadequate inspection of hoses, fittings, seals and fluid assemblies leading to undetected degradation or damage • Failure to calibrate pressure gauges, motor/pump testers and other measurement devices, resulting in unsafe pressure settings or inaccurate test results • Use of hydraulic equipment beyond manufacturer-recommended service intervals or design life • Uncontrolled or undocumented hydraulic hose pressure testing and system performance testing, leading to inconsistency and elevated risk • Replacement of hydraulic seals without root cause analysis of failure, allowing recurring seal blowouts or leakage 	High	[REDACTED]	Medium
7. Safe Work Environment, Housekeeping and Storage of Hydraulic Components	<ul style="list-style-type: none"> • Poor housekeeping leading to contamination of hydraulic fluid systems from dirt, moisture or foreign materials affecting seals and components • Inappropriate storage of hydraulic hoses, seals and fluid assemblies 	Medium	[REDACTED]	Low

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	<ul style="list-style-type: none"> causing mechanical damage, UV degradation or contamination Unlabelled or poorly segregated hydraulic fluids leading to cross-contamination or use of incorrect fluid types in equipment Slips, trips and falls arising from hydraulic oil leaks or poorly managed hose and cable routing around the crimper and test areas Cluttered test and assembly areas increasing the likelihood of accidental contact with pressurised lines or moving parts 		[REDACTED]	
8. Incident Management, Emergency Response and Medical Management	<ul style="list-style-type: none"> Delayed or inappropriate emergency response to hydraulic fluid injection injuries, leading to severe tissue damage or loss of limb Lack of clear procedures for responding to catastrophic hose failure, rapid fluid loss or sudden movement of hydraulic actuators on presses and test rigs Inadequate spill management for significant releases of hydraulic fluid, resulting in slip hazards and environmental contamination Failure to conduct proper incident investigation and corrective action following hydraulic system incidents or near misses Insufficient first aid resources and information specific to high-pressure fluid injuries and hydraulic oil exposure 	High	[REDACTED]	Medium
9. Contractor, Supplier and Third-Party Management	<ul style="list-style-type: none"> External technicians and contractors performing work on hydraulic systems without alignment to site WHS procedures and standards Suppliers of hoses, seals and fluid assemblies using non-approved components or undocumented substitutions 	Medium	[REDACTED]	Low

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	<ul style="list-style-type: none"> Inconsistent testing and certification practices between external service providers and internal expectations, particularly for hydraulic hose pressure testing Lack of clarity around responsibilities for risk control between the PCBU, contractors and suppliers as required under the WHS Act 2011 		[REDACTED]	
10. Monitoring, Consultation and Continuous Improvement	<ul style="list-style-type: none"> Failure to systematically monitor the effectiveness of hydraulic system controls over time Limited consultation with workers performing hose assembly, crimping and hydraulic testing, leading to unreported issues or unsafe shortcuts Lack of performance indicators related to hydraulic safety, making it difficult to identify emerging risks or trends No structured review of procedures following regulatory updates, new guidance material or changes in Australian Standard 	Medium	[REDACTED]	Low

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.