

STANDARD OPERATING PROCEDURE

Hydraulic Hose Manufacturing - Crimping

Document Number: 960C-SOP-510

Original Approval Date: Aug 27, 2014

Revision Number: 3

Page 1 of 4

Latest Revision Date: Sep 11, 2025

Next Revision Date: Sep 11, 2028

Document Approval Level: 4

This document is not controlled if printed.

HYDRAULIC HOSE MANUFACTURING – CRIMPING

Tammy Siver

3	APP	Sep 11, 2025	Approved	Andre Brule	John Owens	Tammy Siver
2	APP	Apr 14, 2022	Approved	A. Brule	J. Owens	T. Siver
1	APP	Aug 27, 2014	Approved	John Owens	Gerald Kuipers	T. Siver
Rev	Status	Rev. Date	Status Description	Prepared by	Reviewed by	Approved by

STANDARD OPERATING PROCEDURE

Hydraulic Hose Manufacturing - Crimping		Document Number: 960C-SOP-510
Original Approval Date: Aug 27, 2014	Revision Number: 3	Page 2 of 4
Latest Revision Date: Sep 11, 2025	Next Revision Date: Sep 11, 2028	Document Approval Level: 4

This document is not controlled if printed.

The following is a step-by-step procedure on how to complete a specific task or meet a facility specific requirement. Standard Operating Procedures (SOPs) are written for all identified critical tasks. By virtue of the hazard or complexity associated with critical tasks it is paramount that the SOP be followed as written. SOPs contain a listing of high-level hazards associated with the task, for detailed hazard analysis reference the applicable Task Hazard Assessments. SOPs do not replace the requirements contained in the company Standards, Codes, and Processes nor does it replace the need to comply with required legislation. Section 8.0 references documentation that the worker shall understand before work commences.

1.0 PURPOSE

- To establish a Company standard to safely and effectively carry out work as it applies to the crimping process for hydraulic hose manufacturing.

2.0 SCOPE AND APPLICATION

- This document applies to all Heavy Construction and Mining operations. Ensure all site-specific requirements are met or exceeded before performing the task.

3.0 HAZARDS AND CONTROLS

- Risk of pinching or crushing injuries to fingers and hands due to moving parts or improper hand placement during operation or maintenance.
 - Keep body parts out of the pinch zones of the moving parts on the hydraulic hose press.
 - Do not hold onto parts in the pinch zones while the press is being powered,
- Failure of the press assembly. Hardened crimping dies can fracture under pressure, and die springs may break without warning during operation, potentially ejecting high-velocity fragments or sharp debris that could cause injury.
 - Wear eye protection, cut-resistant gloves, and coveralls. When possible, stand to the side of the machine.
 - Operators must inspect dies and springs for signs of damage, fatigue, or wear before each use.
 - Always use dies that are specified and approved to prevent improper fit or stress points.
- Risk of strain or overexertion to the upper limbs, shoulders, or back due to repetitive motion or improper handling.
 - Support and move heavy hose by establishing good body positions and utilizing proper lifting mechanics.
 - Adjust work surfaces and equipment height to promote neutral body postures and minimize awkward movements.
 - Use lifting aids to reduce manual handling and repetitive strain.

STANDARD OPERATING PROCEDURE

Hydraulic Hose Manufacturing - Crimping		Document Number: 960C-SOP-510
Original Approval Date: Aug 27, 2014	Revision Number: 3	Page 3 of 4
Latest Revision Date: Sep 11, 2025	Next Revision Date: Sep 11, 2028	Document Approval Level: 4

This document is not controlled if printed.

4.0 CHECKLIST

- ☐ Attend all preparatory meetings (i.e.: daily PSI; job scope; review of JSA's and SOP's for the job).
- ☐ Complete FLRA cards before starting the work.
- ☐ Ensure all personnel involved in the task are aware of the hazards and the controls to be used, as identified in the SOP's, JSA's, and FLRA's.
- ☐ Conduct a pre-job inspection of all equipment to be worked on and tools to be used.
- ☐ **Standard of Training required for working on this job: On-the-job training.**

5.0 DEFINITIONS

5.1 Company

Means North American Construction Group Ltd. (NACG) and all directly or indirectly owned subsidiary companies, including joint ventures.

5.2 Company Personnel

Includes the Company's employees, officers, directors, agents, associates, consultants/contractors, temporary employees, and third-party processors.

5.3 HSE

Refers to the Health, Safety & Environment department.

6.0 PROCEDURE

- 1) Complete a hazard assessment (i.e. FLRA) for the task. Notify supervision if unsure of task or if hazards are outside of the worker's control.
- 2) Inspect tooling and work area prior to task. Remove from service and notify supervision of any damaged or defective tooling. Do not use unsafe tooling.
- 3) Retrieve the machine setting as per the Production Instruction Tag.
- 4) Change the crimping die according to the Production Instruction Tag.
- 5) Place Fitting A into the hose crimping machine, making sure that the fitting is positioned so that the proper length of the fitting will be crimped by the crimping dies as per the production instructions. Make sure to hold onto the hose assembly well back from the crimping dies so that there is no chance of your hand entering the pinch zones of the moving parts on the hydraulic hose press. Push the die closing button or foot pedal until the machine stops crimping. If at any time you wish to stop crimping, simply stop pushing the die closing button or depressing the foot pedal.
- 6) Open the dies and remove the hose from the machine. Measure fitting A with digital calipers or use a no-go gauge. Confirm that the measurement is within the tolerance of the finished crimp diameter. Visually inspect the fitting for uniformity and crimp length. Verify that the hose insertion depth is correct by visually confirming that the permanent paint marker line that was placed on the hose is still in contact with the end of the coupling.
- 7) Repeat steps 5 and 6 for fitting B.

STANDARD OPERATING PROCEDURE

Hydraulic Hose Manufacturing - Crimping

Document Number: 960C-SOP-510

Original Approval Date: Aug 27, 2014

Revision Number: 3

Page 4 of 4

Latest Revision Date: Sep 11, 2025

Next Revision Date: Sep 11, 2028

Document Approval Level: 4

This document is not controlled if printed.

7.0 NOTES

If this task is to be done by a method different than described in this SOP, the work must **STOP** and the alternate method must be **DOCUMENTED** with an adequate hazard assessment tool such as a JSA. The document must be **APPROVED** by a supervisor before such procedures are implemented.

8.0 REFERENCES

- Refer to the Manufacturer's Operation Manual or OEM Parts Manual for operation and setup details.
- Alberta Occupational Health and Safety Act, Regulation and Code
- 950C-C-025 Hand Tools Code
- 950C-C-050 PPE General Code
- 960C-SOP-504 Hand Tools; Use of
- 960C-SOP-505 Hand Tools Powered Use
- 960C-SOP-112 Air Line Control and Dangers

9.0 APPENDICES

- No appendices.