HYDRAULIC HOSE MANUFACTURING – ASSEMBLY

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4	APP	Sep 11, 2025	Approved	Andre Brule	John Owens	Tammy Siver
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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 assembly 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.
    - Make sure that when clamping the hose, the hand supporting the hose is not exposed to the hose clamping area of the machine.
- Exposed frayed wires causing punctures, cuts, and lacerations.
    - Inspect the hose prior to handling and cut all loose wires with side cutters.
    - Position hands away from exposed wires and use cut-resistant gloves.
- Overuse and repetitive motion causing personal injury.
    - Support and move heavy hoses by using proper body mechanics and positioning.
    - Use the overhead crane or other lifting devices to maneuver heavy hoses into position safely.

4.0 CHECKLIST

- ☐ Attend all preparatory meetings (i.e. daily PSI; job scope; review of JSAs and SOPs 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 SOPs; JSAs; and FLRAs.
- ☐ 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) Lubricate the inside of the hose.
4) Lubricate the insert fitting and place the insert fitting into the holding jaws of the hose pusher. Make sure that the insert fitting is clamped securely.
5) Install the crimp shell onto the outside of the hose by hand and visually inspect that the hose is fully inserted into the shell.
6) Open the hose clamp and push the hose into the insert fitting. Hold onto the hose outside of the hose clamp area. Make sure hands are not in the clamping area and then close the clamp onto the hose.
7) Push double tie-down air valves one with each hand and then push air over the hydraulic foot pump with one of your feet to hydraulically push the insert fitting into the hose.
8) Once the insert fitting is fully inserted into the hose, open the hose clamp and then open the jaws on the hose pusher, release the fitting, and remove the hose assembly from the machine.
9) Mark the shell location with a paint marker.
10) Place the hose in a vice if there is no access to a hose pusher.
11) Install the ferrule (crimp shell) on the outside of the hose.
12) Mark the shell location with a paint marker.
13) Lubricate the inside of the hose and fitting.
14) Use a rubber mallet (hammer) and gently tap the fitting in place, making sure that the fitting is all the way in.

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
- 962C-SOP-009 Manual Lifting, Positioning and Carrying Heavy Objects

9.0 APPENDICES

- No appendices.