HYDRAULIC HOSE MANUFACTURING – CUTTING (MANULI HOSE ASSEMBLIES)

2	APP	May 10, 2022	Approved	A. Brule	J. Owens	T. Siver
1	App	Aug 27, 2014	Approved	John Owens	Gerald Kuipers	
Rev	**Status**	**Rev. Date**	**Status Description**	**Prepared by**	**Reviewed by**	**Approved by**

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 manufacturing of hydraulic hoses, so it is done in a manner that minimizes risk to people, equipment, production, and the environment.

2.0 SCOPE AND APPLICATION

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

3.0 HAZARDS AND CONTROLS

- Flying exploding debris, smoke, and moving parts.
    - Ensure use of machine guards, eye protection, gloves, and coveralls.
    - Keep hands out of the machine.
    - Ensure exhaust fan is on.
    - Ensure that the hose is properly bent and cutting speed is slower than the cutting rate of the saw blade. Failure to properly bend the hose will create extreme heat due to friction. This will result in excessive smoke and may cause the saw blade to warp and fracture.
- Straining the upper limbs, shoulders, or back
    - Support and move heavy hose by; establishing good body positions and utilize proper lifting mechanics.

4.0 CHECKLIST

- ☐ Attend all preparatory meetings (IE: daily PSI; job scope; review of JSA's 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 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

North American Construction Group (NACG) divisions, departments, or subsidiaries.

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

(a) Prior to cutting, visually inspect the end of the hose to ensure it has been cut squarely, the wires are not corroded, and the rubber has not deteriorated. Inspect the hose cover for damage and the hose for kinks, before manufacturing the assemblies. If a portion of the hose coil should fail the visual inspection, then cut the piece of hose that is damaged from the coil by following the remainder of this procedure and then discard the piece and start over at step one.

(b) Adjust set stop to the desired cutting length and lock in place.

(c) Place coil of hose on dispensing turn table or pull hose from reel rack.

(d) Pull the hose to the set stop and clamp the hose.

(e) Pull the hose so that there is no slake in the hose between the set stop and the saw blade. Visually inspect that the hose is flat and centered in the channel.

(f) Adjust bending pins so as to properly allow for the hose to bend away from the cutting blade during cutting. Note! If hose is not properly bent, it will bind against the saw blade during cutting and cause massive heat due to friction that will do damage to the machine and hose being cut and may cause blade to overheat and fracture.

(g) Adjust air pressure for the size of hose being cut.

(h) Make sure safety cover is fully down

(i) Turn exhaust fan on.

(j) Start saw by pushing start button. **Note! that the Main power switch on the machine needs to be turned to the on position in order for the start push button to work.**

(k) Keep hands outside of the safety cover area, step on the air foot pedal to activate the air pull lever to pull hose squarely into the saw blade. **Note! do not attempt to cut hose faster than the blade can cut, by pulling the hose to fast into the blade. Excessive speed will cause damage to the blade and hose. Make sure hose is square to the blade during cutting. Adjust air speed as necessary**

(l) After you have finished cutting hose turn saw off by pushing stop button. Turn exhaust fan off and Remove hose from cutting bench.

(m) Inspect hose to make sure the hose is cut squarely.

(i) An Uneven hose end can cause uneven compression of the ferrule, resulting in a "CRACKED FERRULE".

(ii) An Uneven hose end can result in the hose tube not fully engaging with all the micro groves on the hose assembly which can cause shortened service life.

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 or Management of Change process.

8.0 REFERENCES

- Manufacturer's Operation Manual
- Alberta Occupational Health and Safety Act, Regulation and Code 2009 Part 3 Section 12
- OEM Parts Manufacturer's (i.e., Manuli) repair and service manuals
- 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.