

STANDARD OPERATING PROCEDURE

Checking Coolant Glycol Level During Service

Document Number: 960C-SOP-202

Original Approval Date: Jan 18, 2010

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CHECKING COOLANT GLYCOL LEVEL DURING SERVICE

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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 checking coolant or glycol levels on equipment during service.

2.0 SCOPE AND APPLICATION

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

3.0 HAZARDS AND CONTROLS

- Being sprayed or splashed by hot coolant or steam.
 - Do not remove the radiator's cap unless the system is cool. Work from the reservoir bottle.
 - If the radiator cap must be removed, wear all required PPE to protect from any skin contact, including a face shield and appropriate chemical-resistant gloves such as lined rubber gloves. Keep exposed skin covered.
- Spilling the glycol chemical on clothes or the ground.
 - Ensure the nozzle is well into the filler spout.
 - Use a funnel if pouring from a bottle or dispenser
 - Ensure universal/glycol absorbent pads are readily available.
 - Inspect hoses/nozzles for defects and damage. Tagout and remove from service any damaged or defective tools and equipment. Notify supervision.
- Being struck by an unsecured radiator cap due to pressure release.
 - Ensure that the cap is properly installed, and threads are engaged. Confirm the location of the cap (venting position versus locked position).

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 SOPs; JSAs; and FLRAs.
- ☐ Conduct a pre-job inspection of all equipment to be worked on and tools to be used.

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- ☐ **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

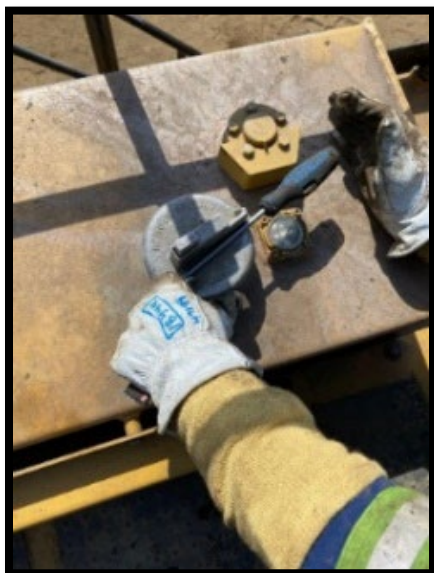
- 1) Complete hazard assessment (i.e. FLRA) for task. Notify supervision if unsure of task or if there are hazards outside of the worker's control.
- 2) Complete a pre-use inspection of all equipment and tools to be used. Tagout and remove from service any damaged or defective tools and equipment. Notify supervision.
- 3) Shutdown equipment and isolate hazardous energy (lockout, wheel chocks, implements grounded). Ensure operator is out of the cab.
- 4) Mount equipment using 4x3 contact.
- 5) Fully open doors to radiator access points. Ensure there is adequate ventilation for the vapors if checking coolant in an enclosed area.
- 6) Check sight glass, if equipped, to confirm coolant levels.
- 7) Allow radiator to cool down before removing the cap.
- 8) Using both hands, turn radiator cap a quarter (1/4) turn slowly to the left to the first click to allow for the pressure to release. Stay clear of the line of fire. A suitable shield or barricade may be used to block any unexpected release of pressure. If the pressure does not release properly at a quarter turn, retighten. Do not attempt to remove the cap until the engine has cooled down. Note: haul truck radiator caps are larger and may require the use of a hand tool (pry bar, screwdriver) to open.

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Figure 1-0 Haul Truck Coolant Reservoir



- 9) Once pressure is released and no coolant escapes, remove the cap fully.
- 10) If the coolant level is low, add coolant to the proper level.
- 11) Do not leave the nozzle unattended when transferring coolant. Place a drip pan or absorbent pads under the radiator fill point. In the event of a coolant spill, contain the spill using a spill kit. Report the spill to supervision.
- 12) Reinstall radiator caps using proper procedure for the cap (i.e. with a twist on double lock type, put on and twist to the first lock; press down with the palm and twist until the second lock). Ensure the locking mechanism is working.
- 13) Ensure cap functions properly.
- 14) Remove lockout and start the engine.
- 15) Check for leaks and confirm that the radiator cap is properly installed.
- 16) Upon verification, close all doors to the radiator access points.

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.

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8.0 REFERENCES

- 950C-C-020 Flammables and Combustibles Storage and Handling Code
- 950C-C-028 Hazardous Energy Isolation Code
- 960C-SOP-212 Field Servicing of Equipment
- 962C-SOP-042 Approaching Equipment
- 960C-SOP-200 Fueling of Diesel and Gasoline Powered Equipment
- 960C-SOP-019 Slip, Trip and Fall Hazard Prevention

9.0 APPENDICES

No appendices.