MOUNT-DISMOUNT SINGLE PIECE WHEEL-TIRE FOR MEDIUM TRUCK TO SMALL OTR (LOOSE)

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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 mounting or dismounting of tires on single piece wheels for medium sized trucks and small off-the-road (OTR) vehicles when the tires are loose.

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

- Uncontrolled movement of equipment.
    - Isolate all forms of hazardous energy and use wheel chocks.
    - Inspect equipment prior to use.
    - Do not stand in the line of fire between equipment.
- Tool failure.
    - Inspect all tools prior to removal/installation.
    - Only use impact sockets with impact wrenches.
    - Fit test sockets on wheel nuts by hand prior to removal to ensure proper socket size.
    - Clean all studs and nuts with a wire brush prior to removal.
    - Keep work area clear of unnecessary tools and equipment.
    - Stay out of line of fire when using a Tire Bead Axe or bead breaker.
- Tire rupture during installation and removal of tires and wheel components.
    - Ensure tire-wheel assemblies are fully deflated prior to mount-dismount.
    - Do not stand in the line of fire or trajectory zone when inflating tire.
    - Use appropriate restraining devices (i.e., tire cages) when inflating tires.
    - Check work area for overhead hazards such as power lines. Follow 950C-C-042 Overhead Hazards – Limits of Approach Code.

- Contact with foreign objects when deflating tires.
    - Do not stand in the line of fire, always stand to one side to avoid contact with dirt and debris.
- Pinch points during installation and removal of wheel components.
    - Use tooling to keep hands and fingers away from pinch points.
- Heavy and awkward lifting of wheel-tire assemblies,
    - Follow 962C-SOP-008 Manual Lifting; do not lift more than 50 lb. without assistance (second person, picker, etc.).
- Uncontrolled work area.
    - Communicate with co-workers involved in the removal-installation process.
    - Keep work area clear of unnecessary personnel, erect barriers as required.

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

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

6.1 Dismounting Single Piece Tire-Wheel Assemblies (Loose)

(a) Isolate hazardous energy on unit and install wheel chocks.

(b) Lift the axle using an approved jack with sufficient lifting capacity. Ensure jack is positioned under manufacturer approved lifting points, refer to manufacturer service manuals.

(c) Remove valve core or core housing and deflate tire completely. Do not stand in front of the valve stem.

(d) Remove wheel assembly and place on the floor or ground, with the side furthest from the drop centre up.

(e) Break the bead with a tire bead axe or bead breaker. The tire bead axe must be used with accuracy.

(f) Once the bead is broken, lubricate it with a non-oil-based lubricant.

(g) Turn the wheel assembly over and repeat steps 3 and 4 to break the other bead.

(h) Dismount all tubeless, single piece truck tires from the side of the wheel closest to the drop centre.

(i) Insert two tubeless truck tire bars under the bead approximately 6 to 12 inches apart. Use a pry bar to lift the bead up and over the lip of the wheel. If the assembly contains a tube, take care not to pinch the tube with the tire bars.

(j) Secure the first pry bar from moving (or use and additional person) and insert the second bar approximately 6 inches away from the previous location. Pry the bead over the lip of the wheel. Repeat this process until the bead is removed.

(k) Stand the wheel assembly up and push against the tire with one hand while holding the wheel assembly with the other. This will allow the wheel assembly to separate from the tire. If the tire contains a tube, remove it at this point.

(l) Insert one tire bar between the front bead and the lip of the wheel and pry forward on the tire bar. Do not stand in the line of fire.

(m) Insert the second tire bar beside the first and pry upward allowing the weight of the wheel assembly to help separate the tire from the wheel. Shake the tire bars, if necessary, until the wheel falls free of the tire. Keep feet clear of the wheel to prevent it from falling onto your foot.

(n) Clean and inspect wheel for defects and replace if necessary.

6.2 Mounting Single Piece Tire-Wheel Assemblies (Loose)

(a) Lubricate both beads with a non-oil-based lubricant.

(b) Place the wheel on the floor or ground with the drop centre facing upward.

(c) Place the tire with the appropriate bead on the wheel and push it onto the wheel using your knee or foot.

(d) Use a tubeless tire bar to install the first bead by inserting it over the lip of the wheel and moving it around the lip until the bead is mounted.

(e) If the assembly requires a tube, install it at this point.

(f) Stand on one side of the tire to hold a portion of the second bead down over the lip of the wheel. If the assembly contains a tube, take care not to pinch it with the bar.

(g) Repeat step (d), moving in small increments around the lip of the wheel until the second bead is mounted.

(h) Place the tire in a safety cage or use other safe means of restraint and inflate the tire to the appropriate cold operating pressure.

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

- Tire manipulator manufacturer's operation manual
- Alberta Occupational Health and Safety Act, Regulation and Code – Part 12, Section 193, Tire Servicing
- Alberta Occupational Health and Safety Act, Regulation and Code – Part 14, Sections 208 & 209, Lifting and Handling Loads
- Alberta Occupational Health and Safety Act, Regulation and Code – Part 19, Powered Mobile Equipment
- Equipment Manufacturers' Service Manuals – Disassembly and Assembly of Wheels
- 960C-SOP-501 Rad Gun Use
- 960C-SOP-504 Hand Tools; Use of
- 950C-C-028 Hazardous Energy Isolation Code
- TIA (Tire Industry Association) Earth Mover Tire Service Training Program

9.0 APPENDICES

- No appendices.