# REMOVAL AND INSTALLATION OF DAYTON WHEEL ASSEMBLIES FOR MEDIUM TRUCKS

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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 removal and installation of Dayton wheel assemblies for medium trucks.

## 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.
- Tool failure.
    - Inspect all tools prior to task and ensure they have been calibrated as required.
    - 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.
- 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.
- 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.

- Heavy and awkward lifting of wheel-tire assemblies,
    - Follow 962C-SOP-008 Manual Lifting; do not lift more than 50lb 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 Removal

(a) Using a standard bore core tool, deflate the tire/wheel assembly by removing the valve core from the valve. Deflate the inner and outer assemblies for dual applications.

(b) Ensure all the air has been removed from the tire/wheel assemblies by inserting a piece of wire into the valve stem.

(c) Select the appropriate ¾ or 1" drive impact socket for the job and test its fit on the wheel nuts by hand.

(d) Clean all studs and nuts with a wire brush or steam hose to allow for easy removal of nuts.

(e) Loosen all wheel nuts from wheel clamps but do not remove completely.

(f) Tap all wheel clamps with a ball peen hammer until loose.

(g) Place the wheel nuts in a safe out of the way location.

(h) Grasp the outer tire/wheel assembly with two hands and remove. Use a tire bar if necessary.

(i) Remove the spacer band (dual wheel assembly)

(j) Inspect the spacer band, clamps, studs and nuts for damage or distortion and replace or repair if necessary.

(k) Remove the inner wheel assembly. If the inside assembly will not move by hand, use a bead axe to tap on the wheel until it breaks free.

(l) Inspect the hub for cracks, wear or other damage.

(m) For a front or single wheel application follow steps 1-8 and ignore reference to outer wheel assembly.

**6.2 Installation**

(a) Clean and remove dirt and debris from all tire/wheel assemblies, vehicle hub assemblies, mounting surfaces, studs, wheel clamps and spacer bands prior to installation.

(b) Install inside tire/wheel assembly onto hub. Use a tire bar if necessary.

(c) Ensure the valve stem is lined up in the centre of any two spokes on the hub.

(d) Push the tire/wheel assembly onto the hub and hold it at the bottom with your foot.

(e) Install spacer band.

(f) Install outer wheel using tire bar if necessary. Ensure valve stem is directly opposite the stem on the inside wheel.

(g) Install all wheel clamps.

(h) Install all lug nuts by hand.

(i) Using a “star” pattern, gently tighten all wheel nuts.

(j) Place an object, such as a bead axe approximately one inch from the side wall of the tire and spin the wheel several times throughout the tightening process to ensure the wheel assemblies are straight. Change your tightening sequence appropriately to align. Do not over tighten.

(k) For a single wheel application follow steps 1-4 ignoring references to inside wheel. Then follow steps 7-9.

(l) Use a standard bore inflator with an in-line gauge to inflate the tire/wheel assembly to manufacturers recommended cold tire inflation pressure.

(m) Torque the wheel assembly (see SOP 960C-SOP-824 – Torqueing of Tire-Wheel Assemblies).

## 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

- 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
- Tire Industry Association Earth Mover Tire Service Training Program
- Vehicle/Equipment Manufacturer Service Manuals
- Jack Manufacturer's Operation Manual
- 962C-SOP-008 Manual Lifting
- 960C-SOP-501 Rad Gun Use
- 960C-SOP-504 Hand Tools; Use of
- 960C-SOP-824 Torqueing of Tire-Wheel Assemblies
- 950C-C-028 Hazardous Energy Isolation Code

## 9.0 APPENDICES

- No appendices.