

STANDARD OPERATING PROCEDURE

Securing Raised Truck Boxes

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SECURING RAISED TRUCK BOXES


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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 securing raised truck boxes.

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

- Body parts caught in pinch points and line of fire while box is being raised.
 - Do not place body parts under equipment suspended by hydraulics, ensure area is cleared of all personnel while box is being raised and lowered.
- Box falling contacting personnel and equipment working in area.
 - Do not rely on unit hydraulics for support.
 - Secure the raised box (via box pins or slings/cables) prior to commencing work.
 - Inspect all cables, pins, shackles and slings.
 - Confirm proper tools for the job.
 - Ensure all cables, slings and shackles are adequately rated for the task.
 - Komatsu haul trucks – always shut the truck off prior to lowering the box and securing the slings. If the truck is running the hydraulics will be used and uncontrollable tension will be placed on the slings and shackles.
- Uncontrolled movement of equipment.
 - Follow 950C-C-028 Hazardous Energy Isolation Code and 960C-SOP-111 Live Work – Working on Equipment while it is Running.
 - Ensure the unit is properly immobilized while being worked on. Use wheel chocks.
 - Ensure a communication plan and FLRA is completed prior to the equipment operator and maintenance personnel raising and securing the box.
 - Ensure the park brake has been set and the operator is out of the cab when the box pins or cables are being applied.
 - Ensure equipment operator and primary signal person maintain visual contact.

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- Material falling from the raised box contacting personnel, equipment or property.
 - Ensure box has been scratched or cleaned of material prior to raising it. This includes canopy, dump body, side boards and the side guard on the outside of each box. If box cannot be cleaned of material, notify supervision and ensure there is no property, vehicles or people behind the truck box when it is being raised.
 - Use red flagging to cordon off a minimum 4-5 metre area around the raised truck box; attach tags to each side of the red flagging. Distance is dependent on size of haul truck. Ultra-class haul trucks require flagging to extend 5 meters from box end. The red flagging must extend from both sides of the unit (rear tires) to the barrier or the 4-5 metre buffer zone.
 - Where possible, install physical barriers in addition to red flagging behind raised truck boxes that contain material. Physical barriers include but are not limited to berms, jersey barriers and batter boards.
 - If work must be conducted behind a raised truck box that contains material, an additional JSA hazard assessment must be completed with supervision and the worker(s). Physical barriers in addition to red flagging should be in place for the duration of the task or another appropriate control to prevent falling material from striking the worker. If the worker(s) cannot be protected from falling material, the task cannot proceed.
 - If there is potential for frozen material to fall from a raised box when a truck is in a shop, the box should remain down for 24 hours or sufficient time to allow the material to thaw. After the material has thawed, move the truck outside and dump the material prior to raising the box indoors.
 - Use jersey barriers, batter boards or other physical barriers capable of stopping material if there is potential for material to fall from a raised truck box in the shop. Place the barriers in front of the overhead bay door and extend flagging from both rear tires to the overhead door.
 - Do not position vehicles behind raised truck boxes.
- Musculoskeletal injury from lifting pins, shackles, and slings/cables as well as from twisting and bending.
 - Stretch prior to task, set up equipment so that there is minimal twisting and bending required.
 - Where possible use more than one person to lift the heavy equipment.
- Personal injury and tool/equipment damage when lowering truck boxes.
 - Prior to lowering a truck box complete a walk around of the area and ensure no tools or personnel are left under the truck.
 - Confirm box pins have been removed.
 - Ensure the operator of the truck sounds the horn once prior to starting the unit.

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- **Haul trucks equipped with Tailgates:** tailgates suspended in the raised position and falling; tailgate hardware breaking and contacting personnel.
 - Tailgate must be disconnected before securing raised truck box.
 - Personnel are not permitted under the haul truck if the task requires the tailgate in the raised position (i.e. steaming truck box). Tailgates are not designed to be suspended for extended periods of time.

4.0 CHECKLIST

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

5.4 Total Isolation

Tasks are performed with the equipment engine shut off and energy sources isolated (locked out).

5.5 Partial Isolation

Tasks are performed with identified energy sources isolated, with the exception of the required systems for the specific task to be performed (i.e. the engine is running and the propel system is isolated).

5.6 Live Work

Powered mobile equipment is fully functional (work performed without hazardous energy sources isolated). A Live Work Checklist must be completed prior to the task to identify the hazards and additional controls required. The checklist is to be reviewed and signed by all personnel involved in the work.



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6.0 PROCEDURE

6.1 INSTALLING BOX PINS – MECHANICAL HAUL TRUCKS

- 1) Conduct a hazard assessment (i.e. FLRA) prior to beginning task. Review the FLRA with all parties involved (equipment operator and maintenance personnel) to ensure a safe work plan has been communicated. Assign primary signal person. Follow up with supervision if unsure or if hazards are outside of worker's control.
- 2) Ensure haul truck box has been scratched or cleaned prior to task.
- 3) Park the truck on level, solid ground. Operator will set park brakes and exit the cab. Operator will NOT re-enter the cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 4) Maintenance personnel will lock out propel and chock wheels. Confirm effectiveness of lockout.
- 5) Red flag the area around the rear of the truck to prevent any person or vehicle from entering when the box is raised. Extend the flagging to a minimum of 4-5 metres behind the truck box. Use barricades and/or red flagging when working outdoors.
- 6) Confirm there are two box pins located in the resting position beneath the hauler box. Visually inspect the pins to ensure they are in working order.
- 7) If truck is equipped with tailgate, disconnect tailgate chains so that the tailgate is resting on the truck box when the box is being raised.
- 8) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
- 9) Direct operator from a safe location to raise the box to the fully raised position.
- 10) Operator will exit cab. Operator will NOT re-enter cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 11) Maintenance personnel will install the box pins by ensuring they are completely through the box and box pin hanger. The box pin will be locked by the spring pin through the hole in the tube.
- 12) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
Operator will shut down haul truck and exit the cab. Maintenance personnel will lock out the haul truck in accordance with 950C-C-028 Hazardous Energy Isolation Code.

6.2 INSTALLING TRUCK BODY RETAINING CABLES – MECHANICAL HAUL TRUCKS

- 1) Conduct a hazard assessment (i.e. FLRA) prior to beginning task. Review the FLRA with all parties involved (equipment operator and maintenance personnel) to ensure a safe work plan has been communicated. Assign primary signal person. Follow up with supervision if unsure or if hazards are outside of worker's control.
- 2) Ensure haul truck box has been scratched or cleaned prior to task.
- 3) Park the truck on level, solid ground. Operator will set park brakes and exit the cab. Operator will NOT re-enter the cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.

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- 4) Maintenance personnel will lockout propel and chock wheels. Confirm effectiveness of lockout.
- 5) Red flag the area around the rear of the truck to prevent any person or vehicle from entering when the box is raised. Extend the flagging to a minimum of 4-5 metres behind the truck box. Use barricades and/or red flagging when working outdoors.
- 6) If truck is equipped with tailgate, disconnect tailgate chains so that the tailgate is resting on the truck box when the box is being raised.
- 7) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
- 8) Direct operator from a safe location to raise the box to the fully raised position.
- 9) Operator will exit cab. Operator will NOT re-enter cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 10) Remove cable end from the stored location.
- 11) Position cable end in rear tow point.
- 12) Install pin through the tow point and the cable end.
- 13) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
- 14) Operator will move the hoist control to the FLOAT position and lower the truck body until the cable is tight; once tight operator will move the hoist control to the HOLD position.
- 15) Operator will shut down haul truck and exit the cab. Maintenance personnel will lock out the haul truck in accordance with 950C-C-028 Hazardous Energy Isolation Code.

6.3 REMOVING BOX PINS & TRUCK BODY RETAINING CABLES – MECHANICAL HAUL TRUCKS

- 1) Conduct a hazard assessment (i.e. FLRA) prior to beginning task. Review the FLRA with all parties involved (equipment operator and maintenance personnel) to ensure a safe work plan has been communicated. Assign primary signal person. Follow up with supervision if unsure or if hazards are outside of worker's control.
- 2) Perform a walk around prior to lowering the box and remove and tools or obstructions. Ensure personnel are clear from hazardous area.
- 3) Remove lockout and apply to propel.
- 4) Primary signal person will direct operator to enter cab and slowly raise the box to the fully raised position to ensure the pins or cables are free from strain.
- 5) Operator will exit cab. Operator will NOT re-enter cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 6) Maintenance personnel will remove the box pins or cables. Cables will be stored on their attachment brackets before the box is lowered.
- 7) Maintenance personnel will clear the area. The primary signal person will signal operator to enter cab and lower the box until it reaches the fully lowered position.
- 8) Operator will shut down haul truck, confirm park brake is set and exit the cab.

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- 9) Maintenance personnel will return the box pins to their resting position on the hauler and ensure the spring loaded pins are activated to prevent box pins from falling out during normal hauler operations.
- 10) Connect tailgate chains (if equipped).

6.4 INSTALLING ROUND SLINGS & SHACKLES

- 1) Conduct a hazard assessment (i.e. FLRA) prior to beginning task. Review the FLRA with all parties involved (equipment operator and maintenance personnel) to ensure a safe work plan has been communicated. Assign primary signal person. Follow up with supervision if unsure or if hazards are outside of worker's control.
- 2) Ensure haul truck box has been scratched or cleaned prior to task.
- 3) Park the truck on level, solid ground. Operator will set park brakes and exit the cab. Operator will NOT re-enter the cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 4) Maintenance personnel will lock out propel and chock wheels. Confirm effectiveness of lockout.
- 5) Red flag the area around the rear of the truck to prevent any person or vehicle from entering when the box is raised. Extend the flagging to a minimum of 4-5 metres behind the truck box. Use barricades and/or red flagging when working outdoors.
- 6) Inspect slings and shackles. Confirm load rating and equipment size for task.
- 7) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
- 8) Direct operator from a safe location to raise the box to the fully raised position.
- 9) Operator will exit cab. Operator will NOT re-enter cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 10) Maintenance personnel will place two 1.5 inch 30 ton shackles in holes on box.
- 11) Maintenance personnel will place two 1.5 inch 30 ton shackles in holes under rear struts.
- 12) Using a Kevlar endless round sling (minimum 55,000 lbs vertical lift WLL), connect the shackle on the box to the shackle under the rear strut. Use the appropriate sling size for the model of truck.
- 13) Maintenance personnel will clear the area and primary signal person will signal operator to enter cab.
- 14) Operator will shut the truck off so that it is in power down mode.
- 15) The primary signal person will direct the equipment operator to lower the box with the lever to float the body down (Note: do not attempt this with the power on because the hydraulics will be used and uncontrollable tension will be placed on the slings and shackles).
- 16) Once the box is secured the operator will exit the cab and Maintenance personnel will lock out the haul truck in accordance with 950C-C-028 Hazardous Energy Isolation Code.

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NOTE: Some tasks require the box to be secured in a more vertical position. In this case a longer Kevlar endless round sling double wrapped between the shackles is recommended.

6.5 REMOVING ROUND SLINGS & SHACKLES

- 1) Conduct a hazard assessment (i.e. FLRA) prior to beginning task. Review the FLRA with all parties involved (equipment operator and maintenance personnel) to ensure a safe work plan has been communicated. Assign primary signal person. Follow up with supervision if unsure or if hazards are outside of worker's control.
- 2) Perform a walk around prior to lowering the box and remove and tools or obstructions. Ensure personnel are clear from hazardous area.
- 3) Remove lockout and apply to propel.
- 4) Primary signal person will direct operator to enter cab and slowly raise the box to the fully raised position to ensure the slings are free from strain.
- 5) Operator will exit cab. Operator will NOT re-enter cab unless a signal is provided by the primary signal person and all maintenance personnel are clear from hazardous area.
- 6) Maintenance personnel will remove the slings and shackles.
- 7) Maintenance personnel will clear the area. The primary signal person will signal operator to enter cab and lower the box until it reaches the fully lowered position.
- 8) Operator will shut down haul truck, confirm park brake is set and exit the cab.

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 15, Managing the Control of Hazardous Energy
- 950C-C-028 Hazardous Energy Isolation Code
- 960C-SOP-111 Live Work – Working on Equipment While it is Running
- 960C-SOP-114 Installation of Batter Boards

9.0 APPENDICES

No appendices.