

# STANDARD OPERATING PROCEDURE

Raising-Blocking-Lowering Dozers Using Hydraulic Attachments

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## RAISING-BLOCKING-LOWERING DOZERS USING HYDRAULIC ATTACHMENTS



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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 raising, blocking and lowering dozers using hydraulic attachments.

## 2.0 SCOPE AND APPLICATION

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

## 3.0 HAZARDS AND CONTROLS

- Raised dozer losing stability due to changing or uneven ground conditions.
  - Choose a level area for the lifting pad.
  - Position dozer on a suitable steel plate or concrete pad that can withstand the size and weight of the machine. An 8'x20'x1" T-1 steel plate is recommended.
  - If using a steel plate, ensure support stands cannot slip on the plate. Place a barrier to prevent shifting from the steel-on-steel contact or tack weld the bottom of the stands to the plate. Never weld on mechanical or hydraulic lifting devices.
- Dozer falling or shifting while being raised.
  - Develop and review a communication plan before the lift. Ensure all personnel understand the hand signals being used (if required).
  - Ensure all personnel involved have adequate communication and that communication is verified before the machine is raised.
  - Establish an exclusion zone during the activity. Ensure no person, equipment or materials are in the exclusion zone while the machine is being raised.
  - Identify a primary spotter. Primary spotter will maintain positive contact with the dozer operator. Dozer operator will stop if contact with primary spotter is lost or anyone enters exclusion zone.
  - Do not stand in the line of fire.
- Raised dozer striking, pinching, or crushing a person while placing support stands in position.
  - Dozer operator will exit the cab while stands are being placed.
  - Whenever possible, use forklifts or another mechanical device to position stands under equipment.
  - Never take a position where a person could be pinned or caught if the suspended load failed.
  - Keep all your body below the height of the stands.

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- Establish an exclusion zone to keep other people out of area.
- Dozer falling because of support stand failure.
  - Verify support stands are approved by an engineer and the stamped load limit meets or exceeds the load being placed on the stands.
  - Stands must be thoroughly inspected by a competent individual prior to use. Ensure stands are current with their annual inspection and certification.
- Uncontrolled movement of dozer once positioned on support stands.
  - Ensure support stands are placed under the manufacturer's recommended blocking points.
  - Place a non-slip barrier between the stand and the machine to prevent shifting due to the steel-on-steel contact.
  - Use controlled movement to lower dozer onto support stands.
  - Follow 950C-C-028 Hazardous Energy Isolation Code and ensure equipment is shutdown, isolated and locked out prior to working on the unit or allowing people under the machine. Follow 960C-SOP-111 Live Work Testing if machine must be running for a specific task.
- Ripper tooth breaking and striking a person or object.
  - Remove ripper tooth from the shank before the shank is pressed to the floor to lift the machine.
- Heavy and awkward lifting or moving of blocking and stands.
  - Stretch before task.
  - Use mechanical devices where possible.
  - Do not exceed personal limitations.
  - Use a multi-person lift.

## 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

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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

The procedure for raising and lowering the dozer is the same in the field and shop environments. In order to raise and support the dozer with stands an adequate base must be established first. When working outside, or in an area where there is no adequate flooring, set up a steel plate on level ground as the base.

### 6.1 Prepare Work Area in Field

- 1) Complete a hazard assessment for the task and inspect work area. Notify supervision if unsure of task or if there are hazards outside of the worker's control.
- 2) Prepare ground by making a level pad large enough for steel plates and vehicles.
- 3) Using equipment, place steel plates in area to build a working pad.
- 4) Walk dozer onto the plates and lower the attachments.

### 6.2 Raise and Block Machine

- 1) This is a LIVE WORK task. Follow 960C-SOP-111 and complete an additional hazard assessment as well as a live work checklist before starting the task. Notify supervision if unsure of task or if there are hazards outside of the worker's control.
- 2) Using barricade tape, establish an exclusion zone to prevent unauthorized personnel from entering the area. The barricade tape will remain around the dozer for the duration it is raised on stands.
- 3) Position the rear support stands on each side of the ripper.
- 4) Position the front support stands to the side of the push arms at the blade knuckle.
- 5) Identify the appropriate lifting and blocking points of the dozer based on the manufacturer's service manual. In most cases, lifting and blocking points are clearly labelled on the framework of the dozer. If unsure, follow up with supervision.
- 6) Remove the ripper tip.
- 7) Clear area of personnel. Designate primary spotter.
- 8) Primary spotter to instruct dozer operator to lower the ripper arm against the steel plate or floor. This will cause the dozer to rise. Primary spotter to instruct operator to stop when the rear of the dozer is high enough to get the stand under.
- 9) Dozer operator will exit the cab.
- 10) Place support stand(s) under each frame rail at the identified lifting and blocking points. Use a forklift or other mechanical device to move stands into position. Do not position body under the raised dozer unless it is supported by the stand. Ensure support stands have a non-slip barrier on top of the stand.

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- 11) Clear the area of personnel. Dozer operator will enter the cab.
- 12) Primary spotter to instruct the dozer operator to raise the ripper until the dozer is firmly resting on the support stands.
- 13) To prevent shifting of the stand on the steel plate, tack weld the base of the support stand to the plate.
- 14) Clear the area of personnel. Primary spotter to instruct dozer operator to lower the blade and causing the front of the machine to rise. Primary spotter to instruct the operator to stop when the front of the dozer is high enough to place the stands under the push arm and undercarriage. If more height is needed, place timbers or blocking under the blade near each end.
- 15) Dozer operator will exit the cab.
- 16) Place support stand(s) under each frame rail at the identified lifting and blocking points. Use a forklift or other mechanical device to move stands into position. Do not position body under the raised dozer unless it is supported by the stand. Ensure support stands have a non-slip barrier on top of the stand.
- 17) Clear the area of personnel. Dozer operator will enter the cab.
- 18) Primary spotter to instruct the dozer operator to raise the blade until the dozer is firmly resting on the support stands.
- 19) To prevent shifting of the stand on the steel plate, tack weld the base of the support stand to the plate.
- 20) Shutdown machine. Follow 950C-C-028 Hazardous Energy Isolation Code and isolate hazardous energy.

## 6.2.1 Blocking Dozer Blade – OPTIONAL

- 1) Prior to shutting down the machine, assemble blocking or stands on either side of the dozer's push arms.
- 2) Clear the area of personnel. Primary spotter to instruct the dozer operator to raise the blade until it is high enough to position the stands under the push arms.
- 3) Dozer operator will exit the cab.
- 4) Place support stands under the push arms. Use a forklift or other mechanical device to move stands into position. Do not position body under the raised dozer unless it is supported by the stand. Ensure support stands have a non-slip barrier on top of the stand.
- 5) Clear the area of personnel. Dozer operator will enter the cab.
- 6) Primary spotter to instruct the dozer operator to lower the blade until it push arms are firmly resting ng on the support stands.
- 7) Shutdown machine. Follow 950C-C-028 Hazardous Energy Isolation Code and isolate hazardous energy.

## 6.3 Remove Stands and Lower Machine

Reverse steps in Section 6.2.

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## 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
- 950C-C-028 Hazardous Energy Isolation Code
- 960C-SOP-111 Live Testing, Working on Equipment while its Running
- 962C-SOP-008 Signaling Equipment
- Manufacturer's (i.e.: CAT) Service Manual for weights, lift points, and blocking points

## 9.0 APPENDICES

No appendices.