

STANDARD OPERATING PROCEDURE

USING JERSEY BARRIER LIFTING TOOL

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USING JERSEY BARRIER LIFTING TOOL

Tammy Siver

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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 do it replace the need to comply with the 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 using a jersey barrier lifting tool.

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

- Inadequate or defective rigging; inadequate lifting equipment.
 - Inspect rigging prior to use and verify it is in good working condition.
 - Match rigging size to the weight being lifted. Verify the rigging size is adequate for the combined weights of the lifting device and jersey barrier or load.
 - If using an excavator, inspect lifting eye to verify it is free from cracks or damage. Confirm the lifting capacity is adequate. Follow 962C-SOP-027 Lifting with Excavators. Use competent personnel to operate the excavator.
 - If using a crane, inspect before use and confirm the lifting capacity is adequate. Follow 960C-SOP-404 Mobile Crane Operation.
 - Inspect the lifting tool (barrier lift) prior to use. Follow inspection criteria in Appendix A.
 - Do not rig unprotected nylon slings or wire rope directly through the lift bail.
- Pinch points when assembling rigging.
 - Use gloves when assembling and attaching rigging.
 - Do not place body parts in pinch points.
- Unsecure load – jersey barrier or load slipping from lifting tool.
 - Ensure the surface of the load being lifted, as well as the lifting tool pads, are clean and free of debris, foreign material or contamination that could compromise the grip of the lifting tool.
 - Position lifting tool at or near the center of the jersey barrier or load.
 - Ensure no personnel are in area while the lifting tool is being moved. Use tag lines to control movement and assist in centering on the jersey barrier or load.
 - Perform a test lift (raise a few inches off ground) to confirm securement of the load in the lifting tool prior to lifting and moving the barrier to the designated location.

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- Unstable load or uncontrolled movement of the load.
 - Use tag lines to control movement of the lifting tool or the load being lifted.
 - Do not handle loads that are not centered in the lifting tool.
 - Personnel are not permitted under suspended load.
 - Use controlled movements to lift the load. Do not jerk or jar the load. Do not shock load.
- Crush points when attaching the lifting tool to the load.
 - Personnel must be clear from the area before lifting the load.
 - Do not use body parts to move the lifting tool into position.
- Suspended load.
 - No personnel are permitted under a suspended load.
- Improper use of the lifting tool.
 - Do not drag loads. Only use the tool to lift loads.
 - Do not use the lifting tool to pick multiple items in a single pick.
- Overhead hazards when lifting.
 - Inspect work area before lifting and confirm there are no overhead hazards.
 - Use spotters, designate a primary spotter.
- Load contacting personnel, equipment or material in work area.
 - Control the work area; only authorized personnel are permitted in the area.
 - Use spotters, designate a primary spotter.
 - Inspect the work area prior to the lift and confirm the location of materials and equipment in the area.
 - Use tag lines.
- Working within close proximity to lifting equipment (within swing radius of excavator).
 - Follow 962C-SOP-041 Approaching Equipment.
 - Use spotters, designate a primary spotter.
- Poor or inadequate communication.
 - Establish a communication plan prior to the task and ensure everyone understands the signals. Follow 962C-SOP-008 Signaling Equipment.

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- Uncontrolled work area.
 - Use flagging, barriers or an alternative effective method to identify the work area and control its access.
 - Only authorized personnel are permitted in the work area.

4.0 CHECKLIST

- ☐ Attend all preparatory meetings (IE: daily PSI; job scope; review of JSAs 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.
- ☐ **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 Barrier Lift

Engineered lifting tool designed for hands free (Jersey) barrier placement.

6.0 PROCEDURE

- 1) Complete a 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) Inspect all equipment, tooling and rigging prior to task. Remove from service and notify supervision of any damaged or defective equipment, tooling or rigging.
- 3) Attach the barrier lift (lifting tool) using the shackles and sling. If using an excavator, ensure that the bucket is grounded and the operator is out of the cab while the rigging is being attached.
- 4) Lift the barrier lift and place tension on the rigging. This will open the clamp.
- 5) Center the barrier lift on the barrier (the load to be lifted).
- 6) Slowly lower the barrier lift onto load until there is slack in the rigging. This will close the clamp.

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- 7) Once the clamp is secure on the barrier, slowly raise the load (do not jerk) and move it to the designated location. Use taglines to control movement and ensure personnel are not under the suspended load.
- 8) Place the barrier at the designated location (do not slam the load). Continue to lower the lifting equipment until there is slack in the rigging. This will release the clamp.



1. Attach barrier lift using shackles and sling

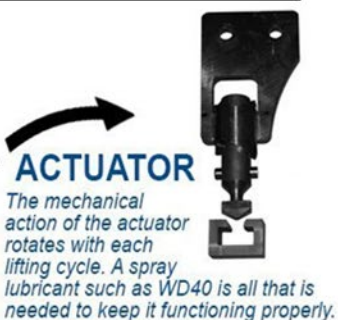
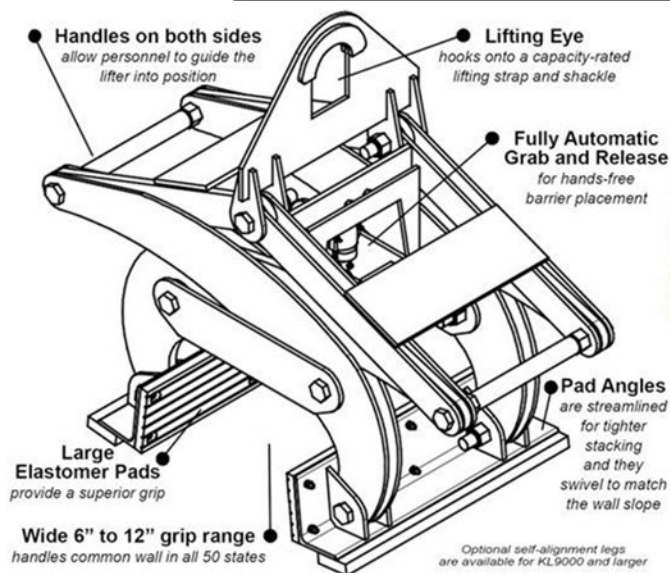
2. Center lift on the barrier

3. Lower lifting tool until there is slack in the sling, slow to minimize impact

4. Raise barrier and place, use a smooth motion, do not jerk.

5. Release by lowering the lifting tool until there is slack in the sling

Lubricate Actuator before use and after use before storing, using lubricant such as WD40



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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 – Part 6 Cranes, Hoists and Lifting Devices
- 950C-C-008 Cranes Hoists and Rigging Code
- 960C-SOP-404 Mobile Crane Operation
- 962C-SOP-027 Lifting with Excavators
- 962C-SOP-008 Signaling Equipment
- 962C-SOP-042 Approaching Equipment
- Kenco KL9000 Barrier Lift Operators Manual

9.0 APPENDICES

- Appendix A – Inspection Criteria for Kenco Kenlift Barrier Lift

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Appendix A Inspection Criteria for Kenco Kenlift Barrier Lift



170 State Route 271
Ligonier, PA 15658
1-800-653-6069

Section VII. Inspection Criteria

THE KENLIFT® UNIT AND ALL OF ITS ASSOCIATED COMPONENTS SHALL BE REMOVED FROM SERVICE AND TAGGED APPROPRIATELY UNTIL RECERTIFICATION BY A QUALIFIED INDIVIDUAL IN ANY OF THE FOLLOWING CONDITIONS:

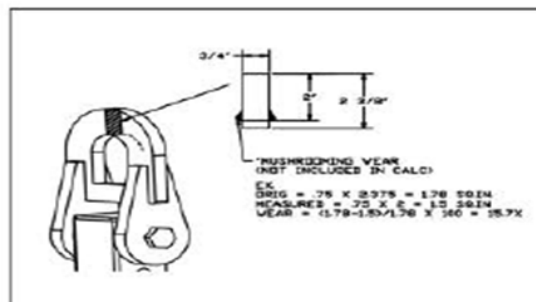
A. General

1. Cracking in any component or member.
2. Cracking in any weld.
3. Visible distortion in any member.
4. Visible distortion in any Bolt/Pin/Shaft.

B. Specific

1. Lift Bail

- a. The lift bail shall be replaced if a 20% loss in cross-sectional area from the original member(s) can be demonstrated. Note: cross section of welds, "mushroomed" wear faces, and burrs are not accounted for as cross-sectional area. (See ill.)



2. Holes

- a. Any members through which bolted or pinned connections pass shall be replaced if a 10% loss in cross-sectional area from the original member(s) can be demonstrated. Note: cross section of welds, "mushroomed" wear faces, and burrs are not accounted for as cross-sectional area.

3. Pins/Bolts

- a. Any visible deformation of a pin, shaft or bolt shall require replacement of that part.

4. Pads – Replace if:

- a. For units utilizing urethane gripping pads, if surface of any given mounting bolt is not at least 3/32" below the surface of the pad,.
- b. Any de-lamination of the pad from the backing plate.
- c. Any scarring, chunking, or missing pad material constituting a total combined loss of surface area greater than 3 sq. in. per pad.
- d. Any single scar, chunk, or missing pad face that is greater than 1 sq. in per pad.