

STANDARD OPERATING PROCEDURE

Hook-up, Towing & Disconnect of Trailers

Document Number: 960C-SOP-011

Original Approval Date: Dec 02, 2009

Revision Number: 2

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Latest Revision Date: Mar 12, 2022

Next Revision Date: Mar 12, 2025

Document Approval Level: 4

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HOOK-UP, TOWING & DISCONNECT OF TRAILERS

						
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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 ensuring trailers are properly attached and paired to a towing vehicle so they may be towed safely.

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

- The coupling coming apart because of inappropriate matching of the ball and coupler or pintle hook and lunette ring.
 - Check the sizes to ensure they match (i.e., a 1 7/8" ball with a 2" coupler will fit but they are not a match).
 - Ensure a safety chain is used. The safety chain must be crisscrossed under the coupling.
- Losing control because of towing improperly.
 - Control speed, cornering, grades and braking to stay within the safe limits of the towing vehicle and trailer.
- Losing control or damaging the vehicle due to the vehicle's incapability of pulling the desired loads.
 - Confirm the GTW (weight of the trailer with the load) and the towing capacity of the vehicle.
 - Ensure mirrors are positioned and capable of seeing around the trailer and load.
- Miscommunication between spotter and operator causing injury or vehicle damage.
 - Follow 962C-SOP-008 Signaling Equipment.
 - Review hand signals with the spotter.
 - Stop if you lose sight of your spotter.
 - No worker shall be in the line of fire while backing to the hitch or when positioning the trailer.

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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.

5.4 Towing

Refers to act of pulling along, behind and under guidance or protection from another vehicle or piece of equipment.

5.5 GTW

Refers to the Gross Trailer Weight and is the total weight of a loaded trailer including the fluids, safety gear, cargo, wheel chocks and everything else.

6.0 PROCEDURE

There are two types of trailer hook-up systems:

- 1) **The ball-mount hitch and coupler system** – the ball-mount hitch is attached to the towing vehicle; the coupler is a part of the trailer tongue.
- 2) **The pintle-hook hitch and lunette ring system** – the pintle-hook hitch is attached to the towing vehicle; the lunette ring is part of the trailer tongue.

A combination pintle-hook/ball-mount hitch can be used to tow either coupler or lunette ring equipped trailers.

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6.1 Hooking-up a Trailer

- 1) Ensure that the hitch ball and trailer coupler are of the same size (1 7/8, 2 or 2 5/16 inch) and that all the parts of the hitch assembly are rated for the trailer's weight.
- 2) Ensure the trailer's wiring harness is compatible with the vehicle's socket.
- 3) Make sure the hitch is properly attached to the vehicle with a hitch pin and lock hitch pin with a hairpin.
- 4) Ensure the trailer coupler locking device is unlocked, OR, if hooking up a pintle/lunette system, ensure the hitch's pintle clamp is in the up and unlocked position.
- 5) With the aid of a spotter, back up the towing vehicle to the trailer tongue. The spotter will ensure the trailer tongue is at the appropriate height to make the hook-up. Adjust as necessary. The spotter must not stand between the vehicle and trailer until the vehicle is in park/neutral and has the brake set.
- 6) If using a **ball-mount**, with tongue coupler directly above the ball, use a jack to lower trailer tongue until it is seated on the hitch ball, covering it completely. Check under the coupler to ensure the ball clamp is below the ball and not riding on top of it. Latch the coupler to the hitch ball using the pin to lock the latch. Make sure it's locked in place by lifting the trailer tongue (if not too heavy).
- 7) If using a **pintle-hook**, back towing vehicle directly into lunette ring of trailer tongue. Use jack to lower trailer tongue until lunette ring is properly seated in pintle-hook. Close and lock pintle clamp around lunette ring using pin.
- 8) Remove the jack or retract it all the way up.
- 9) Hook up safety chains. One on either side, crisscrossed beneath hitch. Adjust length of the chains if necessary (EG: If they are too tight or will drag on the ground).
- 10) Inspect the chain safety locks.
- 11) Attach trailer brake's breakaway cable to an appropriate place on towing vehicle (either an eye hook or looped around bumper). Ensure to leave a reasonable amount of slack. Ensure it is fully seated in breakaway device on trailer tongue.
- 12) Plug in trailer lights and check they are operating properly.
- 13) Do a walk-around to ensure trailer is not damaged; tires are properly inflated; and is otherwise in good condition.
- 14) Remove wheel chocks.
- 15) Double check that all pins and connections are installed properly before pulling.
- 16) Adjust the vehicle's mirrors to get the best view and ensure the mirrors produce an adequate viewing field.
- 17) Conduct an emergency trailer brake check before towing. Pull breakaway cable out. Disconnect trailer's electrical cable from towing vehicle. Pull trailer. If trailer wheels DO NOT lock, service the trailer before towing.
- 18) Adjust towing vehicle's trailer brake to the trailer's weight before towing any distance.

6.2 Towing a Trailer

- 1) Ensure the vehicle is licensed for towing and the trailer is licensed for on road if necessary.
- 2) Ensure all cargo is secured properly.
- 3) At a slow speed, determine that the trailer tows true and test the brakes.
- 4) Travel at speeds under the posted limits and allow greater following distances.
- 5) Allow for the extra length when judging clearances and negotiating corners or turns.
- 6) Know the height of the trailer to ensure adequate clearance for overhead structures and power lines.

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- 7) Choose lower gears when ascending uphill's that are causing the engine to labor or downhills that are causing acceleration. Avoid overheating the engine or overheating the brakes.
- 8) When backing up, use a spotter or perform a circle check.

6.3 Disconnecting a Trailer

- 1) Ensure a clear and level area is to be used for unhooking trailer.
- 2) If backing the trailer up, use a spotter.
- 3) When trailer is in place, place the vehicle in park and chock the wheels.
- 4) Undo the trailer lights, breakaway cable, and safety chains.
- 5) Unlock and release either the trailer coupler lock or pintle hook clamp.
- 6) Attach a jack to the trailer tongue using appropriate pins.
- 7) Place blocking under the jack.
- 8) Lift trailer tongue with the jack until it clears the hitch.
- 9) No one is to remain between the vehicle and trailer when the vehicle is to move.
- 10) Pull the towing vehicle away.
- 11) Put all pins back in their holes so as not to lose them.

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

- ISO 5422:1982 – Road Vehicles – Anchorages for Towing Ropes, Cables or Bars
- Alberta Occupational Health and Safety Act, Regulation and Code – {Part 2, Hazard Assessment, Elimination and Control}
- 950C-C-010 Driver Safety Code
- 950C-C-056 Towing Code
- 962C-SOP-004 Transport, Setup and Operation of Portable Light Plants
- 962C-SOP-008 Signaling Equipment

9.0 APPENDICES

- Appendix A – Examples of Tow Hitches

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Appendix A Examples of Tow Hitches

Pintle Tow Hook



Pintle Tow Hook and Lunette ring



Ball Mount Hitch

