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 correctly 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 detaching due to the improper matching of the ball and coupler or the pintle hook and lunette ring, increasing the risk of the trailer becoming disconnected, leading to potential loss of control, accidents, or injury.
    - Verify that the sizes match correctly. (For example, a 1 7/8” ball and a 2” coupler may fit together, but they are not a proper match and could lead to a coupling failure).
    - Always use a safety chain. The safety chain must be properly crisscrossed under the coupling to prevent accidental separation and ensure safe operation.
- Losing control because of towing improperly.
    - Manage speed, cornering, grades, and braking carefully to stay within the safe operational limits of both the towing vehicle and the trailer.
- Losing control or damaging the vehicle due to the vehicle’s incapability of pulling the desired loads.
    - Verify the Gross Trailer Weight (GTW), which includes the weight of the trailer and its load, and ensure it does not exceed the vehicle's towing capacity.
    - Check that the mirrors are correctly adjusted and provide clear visibility around the trailer and load to maintain safe maneuvering and awareness.
- Miscommunication between spotter and operator causing injury or vehicle damage.
    - Adhere to 962C-SOP-008 Signaling Equipment procedures for safe and effective communication during towing operations.

- Review and confirm hand signals with the spotter to ensure clear and mutual understanding.
- Immediately stop if you lose sight of your spotter to prevent accidents or collisions.
- Never allow any worker to be in the line of fire when backing up to the hitch or positioning the trailer, as it poses a serious safety risk.

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 Towing

The act of pulling one vehicle or piece of equipment behind another using a hitch or similar attachment. This process involves transferring the force from the towing vehicle to move the towed vehicle or load, often under the guidance or protection of the towing vehicle.

5.5 GTW

Gross Trailer Weight (GTW) refers to the total weight of a fully loaded trailer, including the trailer itself, cargo, fluids, safety gear, wheel chocks, and any other items or accessories.

6.0 PROCEDURE

1. Complete a hazard assessment (e.g., FLRA) for the task. If you are unsure about any aspect of the task or if there are hazards beyond your control, notify your supervisor.
2. There are two types of trailer hook-up systems:

- **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.
- **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.

6.1 Hooking Up a Trailer

1. Ensure the hitch ball and trailer coupler are the same size (1 7/8", 2", or 2 5/16") and that all hitch components are rated for the trailer's weight.
2. Verify the trailer's wiring harness is compatible with the vehicle's socket.
3. Confirm the hitch is correctly attached to the vehicle with a hitch pin and secured with a hairpin lock.
4. Ensure the trailer coupler locking device is unlocked, or for a pintle/lunette system, confirm the pintle clamp is up and unlocked.
5. With a spotter's assistance, back up the towing vehicle to the trailer tongue. The spotter ensures proper height for the hookup and adjusts as needed. The spotter will remain out of the vehicle's path until the vehicle is in park/neutral and the brake is set.
6. If you use a ball mount, lower the trailer tongue with a jack until it seats on the hitch ball. Ensure the ball clamp is below the ball. Lock the coupler with a pin and confirm it's secure by lifting the trailer tongue.
7. If using a pintle hook, back the towing vehicle directly into the lunette ring. Lower the trailer tongue with a jack to seat the lunette ring in the pintle hook. Lock the pintle clamp using a pin.
8. Retract or remove the jack entirely.
9. Attach the safety chains, crisscrossed beneath the hitch. Adjust the chain length as needed to prevent dragging.
10. Check that the safety chain locks are secure.
11. Attach the trailer's breakaway cable to the towing vehicle, leaving slack. Ensure it is fully seated in the trailer's breakaway device.
12. Plug in the trailer lights and ensure they're working properly.
13. Perform a walk-around to ensure the trailer is undamaged, the tires are properly inflated, and the trailer is in good condition.
14. Remove any wheel chocks.

15. Confirm that all pins and connections are secure before towing.

16. Adjust the towing vehicle's mirrors to provide optimal visibility.

17. Conduct an emergency trailer brake check by pulling the breakaway cable and disconnecting the trailer's electrical cable. If the trailer wheels don't lock, service the trailer before towing.

18. Adjust the towing vehicle's trailer brake according to the trailer's weight before driving any distance.

6.2 Towing a Trailer

1. Ensure the towing vehicle is appropriately licensed for towing and the trailer is licensed for on-road use, if required.

2. Confirm that all cargo is securely fastened to prevent shifting during transit.

3. Check that the trailer tows straight at low speeds and test the trailer brakes for proper function.

4. Travel below the posted speed limits and maintain a larger following distance to allow for safe braking and stopping.

5. Allow extra space when judging clearances and while negotiating corners or turns due to the added length of the trailer.

6. Know the height of the trailer to ensure sufficient clearance from overhead structures and power lines.

7. When driving uphill and the engine is struggling or downhill and acceleration occurs, shift to a lower gear to prevent engine strain and brake overheating.

8. When backing up, use a spotter or conduct a thorough circle check to ensure the area is clear and safe.

6.3 Disconnecting a Trailer

1. Once the trailer is in place, shift the vehicle to park and chock the wheels for stability.

2. Undo the trailer lights, breakaway cable, and safety chains. Unlock and release the trailer coupler lock or pintle hook clamp.

3. Secure the jack to the trailer tongue using the appropriate pins and position blocking under the jack for additional stability.

4. Use the jack to lift the trailer tongue until it clears the hitch. Ensure no one is between the vehicle and the trailer before moving the vehicle.

5. Pull the towing vehicle away carefully.
6. Reinstall all pins into their proper places to avoid losing 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

Appendix A Examples of Tow Hitches

Pintle Tow Hook

Pintle Tow Hook and Lunette ring

Ball Mount Hitch