

Manual Section 7	Issue Date 11/14/07	Revision Date 01/01/24	Policy Number LLCP-056
	Air Tugger Operations		

Purpose

All personnel involved in or working around air-tugging operations will be trained on the hazards involved in work operations. All equipment involved in any such operation will be inspected by a competent person, and this inspection will be documented.

Scope

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as “Company”.

General Precautions

All proper Personal Protective Equipment (PPE) will be donned accordingly. This includes: safety glasses, steel-toed foot wear, hard hats, and, if working outside handrails or over water, proper Personal Flotation Devices (PFDs). The tugger operator should not wear loose fitting clothing or have sleeves be buttoned. Shirtfronts and tails should be snugly tucked in.

Before welding the tugger to the deck, a necessary hot work permit should be obtained, with all necessary fire watch and safe work activities accordingly. The supervisor should be notified to verify that the tugger is spotted in a location that will allow safe access and smooth spooling. The gas-free conditions of spaces below and adjacent to the intended weld should be verified before welding begins.

Only skilled welders should be allowed to weld air tugger sub-frames to the structures.

Manufacturer-provided tugger bases are built of cast steel. Cast steel should not be welded. Mild steel angle iron or channel stock should be used to form a base that can be welded to the deck and to which the tugger can be bolted.

If a steel base cannot be built, clips or hold downs made of mild steel can be substituted.

Whenever possible, a safety chain shall be applied in such a manner as to prevent the tugger from moving in the event the welds holding the tugger to the deck should break.

Operations should observe how the tugger operates, observing each of its functions under the load. Worn brakes or gears make smooth operation and control of the tugger awkward. If the tugger is not operating smoothly, it should not be used. When the tugger is being used to lift personnel, an air control valve should be placed in the air supply line to improve operating characteristics.

The tugger operator should note how the wire spools onto the drum and how the foundation appears under load. If the wire does not spool as intended, the tugger should be relocated, or additional fairlead blocks should be installed.

Before connecting supply air hose to the tugger, the employee should grip the end of the hose near the fitting, holding the end of the hose away from his/her body and other employees in the area, pressurize the line to blow out any moisture or debris that has accumulated in the hose or the supply piping. As a rule of thumb, the air supply should be at least 90psi through a 1½” hose.

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Before commencing the job or whenever job conditions change, signalmen should discuss and explain operations with tugger operators, other persons relaying signals, and any other persons working in the area.

When the operation is halted or finished, set the brake and secure the air supply to the tugger.

Potential Hazards

- The tugger operator or the person working in the vicinity becoming fouled in wire rope and pulled into the winch's drum.
- Topside personnel or diver struck by an object being raised or lowered.
- Wire rope breaks and drops load.
- Tugger breaks free from its tie-down and is dragged across the deck resulting in the load dropping out of control.
- Wire rope spools incorrectly and overrides drum, possibly entangling and fouling brake mechanism and/or jamming the tugger so it can't turn forward or in reverse.
- Oil in exhaust accumulates on deck.

Actions to Avoid Injuries

- Persons operating tuggers should not attempt to work on the load side of the unit. All persons should stand clear of the load and its path to the tugger.
- Operators should not attempt to spool, level wind, fair lead, or otherwise handle the wire rope. Tugger operators must use their hands and arms only to operate the directional control and the brake.
- Whenever a problem develops with the load of the wire, the tugger operator should get another person to perform any rigging adjustments.
- Operators should not tie-off the control lever.
- Tuggers should not be left unattended while under the load.
- Good communication between divers and topside personnel are essential for safe operations. Persons involved in the operation must stay alert to the changes taking place in order to keep themselves and others out of the way of the load.
- Signalmen should get help from other persons to relay signals whenever the load is not visible. For subsea operations, divers should keep topside personnel aware of the status of the load and their position relative to the load.
- Signalmen should exercise extreme care and maintain communications with the tugger operators and any persons working near the load. Whenever the signalmen is in doubt, they should interrupt the operation and ask for the status of the load and of persons in the area.
- The signalman should coordinate necessary adjustments for speeds and actions to control the load.
- Tuggers should be test operated prior to beginning any operation.

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- Operators should test the unit to ensure that the directional control lever returns to neutral when released.
- Before commencing operations, tugger operators should observe the brake control when a test weight is lifted and adjust the brake as necessary for ease of operation.
- Operator should apply or remove power in a smooth deliberate manner to avoid jerking the load. Similarly, ease the slack out of the slings or load wire when beginning to hoist.
- Tugger operators should concentrate their attention on the signalman. Persons in the area should not distract tugger operators.
- Signalmen should be located at sites that allow operators a clear view of their signals.
- Cables should be run out slowly and examined visually. Twists, kinks, broken wires, flat spots or indications of wear should be brought to the attention of the Superintendent or Safety Officer, and be replaced as necessary.
- Before commencing any winching operations, tuggers should be firmly secured to the deck.
- Tugger sub-frames should be welded down.
- Tugger operators should periodically observe how the wire is spooling onto the drum but remain clear of the drum while it is turning.
- Whenever there is sufficient wire wound onto the drum to make an override possible, operators should pay particular attention to the wires as it is hauled in.
- If applicable, operators should stop and spool out wire if it begins to ride over.
- If necessary, additional fairlead blocks should be installed so the wire will wind evenly across the entire drum.
- Tugger operators should install a piece of jet hose or fire hose onto the exhaust and direct the oil / water mixture onto a secondary containment.
- All personnel should stay clear of the drum while it is turning.

All employees involved in air tugger operations will be trained on such activities to recognize the hazards and safe working procedures while involved in air tugger operations.