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FALL PROTECTION REQUIREMENTS FOR PERSONNEL OPERATING AERIAL MAN LIFTS HAS LONG BEEN A POINT OF CONFUSION FOR OPERATORS AND LIFT MANAGERS.

Houston, Texas. July 14, 2015 – Juler Group Incorporated identifies the need for clarification of Aerial Man Lift Fall Protection requirements. Health and Safety (HSE) professionals and operations personnel have traditionally provided operators fall arrest systems in aerial man lift operations when fall prevention systems are required by the federal standard.

Aerial man lifts, telescoping or articulating, elevate humans up to 180 feet in the air. Heights over four feet and up to these extreme heights require fall protection and increased safety precautions and training. One topic of discussion that continually arises is the fall protection requirement for personnel elevated in a man lift. The question that surfaces during training or during a review of site safety inspection results is:

Is a harness with six-foot lanyard fall arrest system required for man lift activities?

There is a substantial amount of confusion of the regulatory requirement since fall protection, more specifically a fall arrest system, is required when working at elevations greater than four to six feet, and when fall prevention does not restrict the employee from reaching a fall hazard. This general fall protection requirement is not applicable to aerial man lift operations.

The Occupational Safety and Health Administration (OSHA) have promulgated Federal standards 29 CFR 1910.67 "Vehicle-mounted elevating and rotating work platforms" for general industry, and 1926.453 "Aerial Lifts" for construction industry.

> The general industry standard 1910.67(c)(2)(v) states, “A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.”
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> The construction industry standard 1926.453(b)(2)(v) states, “A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift. Note to paragraph (b)(2)(v): As of January 1, 1998, subpart M of this part 1926.502(d)) provides that body belts are not acceptable as part of a personal fall arrest system. The use of a body belt in a tethering system or in a restraint system is acceptable and is regulated under 1926.502(e).”

In an aerial man lift the guardrail system and toe board around the operator compartment accomplish the fall protection regulatory requirement. Yet, the standard requires the use of a fall restraint system essentially supplementing the manufacturer mandated fall prevention system. The two fall prevention systems theoretically work together to prohibit a fall from actually occurring.

OSHA requires the following:

1. Man lift guardrail and toe board in good safe condition,
2. A body belt with lanyard, for each occupant, attached at the manufacturer approved tie-off point,
3. Operator and occupant shall have both feet firmly planted on the work platform floor at all times,
4. Operator and occupant prohibited at all times from climbing the guardrails,
5. Operator and occupant prohibited at all times from using stepladder or other means to add elevation off of the compartment floor, and
6. Operator and occupant prohibited at all times from extending body parts outside of guardrail.

Choosing a fall protection system?

At a minimum, occupants of the man lift operator compartment shall have a fall restraint system consisting of a body belt and lanyard. In the market place, standard restraint lanyards range from 20-84", and body belts come with one or two anchor points. The HSE professional must determine the correct fall prevention system that is fully compliant while enabling safe productive work to be performed.

Consider a Genie S-65 man lift with a standard operator compartment with twenty-four square feet (96"x36") of working area and a distance of approximately 2.5 feet from the anchor point to the far guardrail. It is essential that the restraint lanyard be of sufficient length to allow a worker to perform work, as shown in figure 1.0, yet prohibit them from being catapulted out during a bounce or sudden shifting of the lifting control.

Fig. 1.0

The elevation manager must answer the following questions:

1. Is the short restraint lanyard long enough to move about the entire work area?
2. Does the chosen length of restraint lanyard prohibit bodily ejection over the guardrail?
3. Does the operator drive the man lift over varied and bumpy terrain?
4. Is the operator so skilled that sudden and rapid control shifting is impossible?
5. Is a full body harness, in lieu of a body belt, with short restraint lanyard feasible for your operation?
6. Is bodily ejection out of the compartment impossible during all operations?

The HSE professional must answer these questions and provide the correct fall protection system for aerial man lift operations.

Work Practice

Many manufacturers recommend man lift operator and occupant wear a full-body harness equipped with a short lanyard attached to the approved anchor point. Some manufacturers recommend either a body belt with a short restraint lanyard, or an adjustable restraint lanyard, or a body belt in conjunction with a full body harness. However, this system prevents freedom of movement for the worker. Manufacturers and OSHA agree that fall arrest systems with a full body harness and six foot decelerating lanyard do not meet either the letter, or spirit, of the regulation. The objective is to keep the occupants inside the compartment at all times avoiding accidental ejection over the top guardrail. In this event, a fall arrest system would stop your fall but a greater hazard may be created: the man lift tipping over. Keep it short and keep it safe!

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