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Fact Sheet No. 5: Crane Components That Can Improve Safety, Reliability, and Maintenance

This is the fifth in a series of Fact Sheets developed by the Crane, Hoist and Monorail Alliance concerning applications and operation of overhead material handling equipment. Depending on the individual application, the following crane components could improve the crane operation in terms of safety, reliability and maintenance. Please refer to OSHA Standard 29 CFR 1910.179, ANSI B30 specifications, and state and local codes for requirements.

1) Horns

- Audible warning devices – recommended for congested areas where the standard strobe light may not be visible to all personnel. This can provide an additional warning to employees while moving loads. These are required by OSHA (29 CFR 1910.179) for cranes equipped with radio controls or cab controlled cranes.

2) Warning lights

- Visible lights warn personnel of moving loads.. These are required by OSHA (29 CFR 1910.179) for cab controlled cranes.

3) Crane lights

- Provides floor lighting underneath overhead cranes for greater visibility. They are typically found on large cranes that block out ceiling lights.

4) Collision avoidance

- Protects the cranes by not allowing the cranes collide with one another, with the end-stops or other obstructions.
- Provides means of keeping cranes separate to avoid overloading the runway.

5) Walkways

- Provides maintenance personnel with a place to work on the components.
- Provides access to components if a lift is not available.
- Designed with kick plates to avoid items from falling over the edge onto personnel working below.

6) Slow down & stop limits

- Prevents the crane from running into end-stops at full speed.
- Useful to help make operators aware of where they are on the runway, approaching a stopping point or an obstacle.

7) Overloads with read-outs

- Informs the operator of the actual load being lifted.
- Provides a base point for maintenance to start trouble shooting.

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8) Variable speed for smooth acceleration and deceleration

- Reduces mechanical wear on components.
- Removes impact loads on all drive trains.
- May extend the life of the equipment.
- Prevents load from swinging excessively from a hard start or jerky stop.

9) Brake slip detections

Informs maintenance personnel when brake adjustment is needed.

10) Radio control

- Allows operator to stand away from the load. (This is especially important if the operator could be pinched or trapped between the load and an obstacle.)

11) Working period monitoring

- Monitors the remaining time between recommended maintenance overhaul of the hoist.
- Provides a predictable preventative maintenance schedule which could reduce downtime.
- Can improve the safe use of the equipment by indicating when the useful life of the equipment has been reached and an overhaul is due.

Through the OSHA and Crane, Hoist and Monorail Alliance, the Alliance participants developed this Fact Sheet for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. 4/2012