Tech Tips - *a periodic newsletter*

MOBILE CRANE LOAD CHARTS

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Simply put, the only way to know if the load you are lifting with a mobile crane is within the limitations of the crane is to relate the lift to the manufacturer's load chart and notes.

Persons who are not crane operators regularly have questions regarding lifting safety. The purpose of this Tech Tip is to help those less familiar with crane load charts better understand the questions to ask and the information that must be followed.

An experienced crane operator enters the cab of an unfamiliar crane expecting to find certain information on the load chart. Just as you may expect to find certain information when you enter an unfamiliar automobile. You locate the speedometer and fuel gauge, then locate windshield wiper, outside mirror, and seat adjustment controls. You do this because you know these controls must exist to operate safely. Similarly, certain information will always be located within a crane's load rating chart and notes. You just have to know what you're looking for.

The mobile crane industry is long past the days of a single page load chart. Load charts have become increasingly complex. There is specific information you must obtain prior to attempting to lift a load.

1. How is the crane configured? Are the outriggers fully extended and set, partially extended and set, or will the lift be made on rubber tires?

2. How much counterweight is installed on the crane?

3. What are the boom and jib/extension configurations? If the lift will be made with an extension or jib you must locate the load chart that provides ratings for these accessory devices.

4. Over what operating areas will the load be handled? Working Area charts define specific areas of the crane that relate to load ratings. Areas such as Over the Side, Over the Rear, Over the Front, and 360-degree Rotation lead you to specific load charts. Make certain you know the area where the load will be lifted from, the area the load will pass through, and the area the load will be placed. Base lifting capacities on the area with the least load rating according to the working area chart.

The combined information to this point will lead you to one or more pages within a load chart.

Tech Tip Continued:

5. Does the crane have sufficient load hoist reeving? Reeving charts indicate the type of wire rope and the number of parts of wire rope required to lift loads. A reeving chart which indicates 28,000 lbs. capacity for a two-part reeving will require more reeving prior to making a lift that exceeds 28,000 lbs.

6. To determine how much load the crane can safely handle you must also know the length of the boom (hydraulic cranes show boom lengths in a row at the top of the load chart), and the load radius of the suspended load (hydraulic cranes show radius in a column on the left side of the load chart). When boom length and/or radius is between the values printed on the load chart you must select the boom length and/or radii with the least load rating. Keep in mind that a shorter boom length may have the lesser rating. You cannot assume that taking load values from the next longer boom length is safe.

7. Equally important to the load ratings shown on the chart are the load chart notes. Load chart notes provide critical information relating to operation, set up, configuration, and restrictions.

8. Finally, you must account for all accessory weights. Items such as load blocks, extensions, jibs, and rigging must be added to the weight of the load to determine the total load imposed on the crane.

Don't hesitate to ask a crane operator for clarification. And, don't think twice about challenging what you are told. Load charts may have become more complex, but the key information provided has not changed significantly. Knowing what to look for is a good start to a safer job site. Safety is a team effort that requires both the operator and management working with the same safety objectives. Don't compromise your job site safety.

Let us know how Tech Tips are helping your safety program. Send us a message with Tech Tip Help in the subject line.

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