

Tech Tips - a periodic newsletter

FROM THE HOOK DOWN

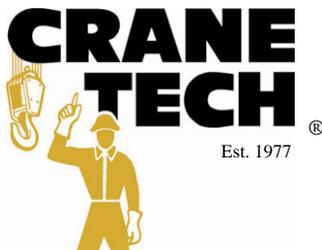
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Safety Through Education

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Every load lifted by a crane has some type of rigging between the crane hook and load. Whether you use wire rope slings, synthetic slings, chain slings, spreader bars, shackles, specialty clamps, or all of these and more, lifting safety depends on the use of proper rigging components and methods.

To say that safe lifting depends on 'proper rigging' leaves out a whole host of critical and interdependent subjects. Some of these subjects include knowledge and understanding of various and available rigging components, how to ensure rigging gear is not defective, understanding working load limits, and actual application of the rigging.

If your company has documented training that includes technical and practical instruction with written examinations and performance testing, you deserve to be commended. Time and again field workers rely solely on what has worked in the past and hand-me-down knowledge. Workers are often unaware of the dangers that incorrect lifting methods can create, or the consequences of using gear incorrectly. Right or wrong, many riggers are left to use what they were taught by co-workers and the results can be seen daily in the number of rigging accidents, damaged loads, and injured workers.

"Rigging" requires planning and execution on many levels, they include:

- **Owner** – must ensure that all employees associated with rigging operations are properly trained and are designated to perform their duties based on having sufficient knowledge to work safely.
- **Management** – must see that all rigging operations are performed in a safe manner and that proper rigging gear is available. Management must empower rigging workers to stop any lift they feel is not safe.
- **Supervisors** – must assure that proper rigging is on the site and to assign rigging personnel with the necessary knowledge and skills for each lift.
- **Riggers** – must have the correct rigging, must inspect rigging before each lift, must attach rigging components according to proper practices, and they must preserve rigging gear using proper storing methods. Riggers must not allow any load to be moved until safety is assured.

Tech Tip Continued:

Following are a few basic rigging questions. See how well you or your staff can answer these questions.

1. When installing a shackle pin into a screw pin shackle you first tighten the pin and then?
 - a) Leave the pin tight.
 - b) Back the pin off one-quarter turn.
 - c) Back the pin off one-half turn
 - d) Back the pin off one-full turn
2. What sling material shall not be used when acid conditions are present?
 - a) Polypropylene.
 - b) Nylon.
 - c) Chain.
 - d) Galvanized products.
3. What is the minimum D/d ratio for a wire rope sling when used in a basket hitch?
 - a) 5:1
 - b) 20:1
 - c) 30:1
 - d) 80:1
4. When a two-leg bridle sling forms a 30° horizontal angle, how is sling stress affected?
 - a) The stress is equal to the load weight divided by the number of sling legs.
 - b) The stress is 1.2 times more than using two vertical sling legs.
 - c) The stress is 1.5 times more than using two vertical sling legs.
 - d) The stress is 2.0 times more than using two vertical sling legs.
5. Which of the following load configurations apply to a bridle sling rating chart?
 - a) Any load whose center of gravity is closer to one sling leg than the other.
 - b) Any load whose center of gravity is located in the center of the load.
 - c) Any load whose center of gravity is located above the sling hitch points.
 - d) Any load with two or more slings attached.

Be proactive about training. Never assume that the old way is the right way. Undocumented training is as good as no training at all, so put a good record system in place. Make the term "Safety Pays" more than a company slogan by making sure anyone can stop any job, without reprisal, until safety is assured.

Watch for more rigging information from Crane Tech, and let us know of any topics you would like addressed.

1-a, 2-b, 3-b, 4-d, 5-b