We Rig It Right!

THE PROFESSIONAL RIGGER

Volume 17 Number 2 August 2002

TECHNICAL WORKSHOP

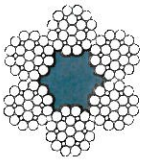
Crane & Rigging Quiz

Sometimes we can sharpen our skill and knowledge level with a series of questions which cause us to draw from our experiences with cranes and rigging. Try you hand at the following questions and see how you score. Choose the BEST answer for each question below. (Check your answers on page 3, column 3.)

1. Before a rigger can select the length and capacity of slings needed to lift a load, what two things must he know about the load?

_____ A. Height, manufacturer
_____ B. Weight, center of gravity
_____ C. Color, designated pick points

2. A fiber core wire rope has _____ breaking strength than a wire rope with an independent wire rope core.



6 x 25 Fiber Core

_____ A. The same
_____ B. More
_____ C. Less

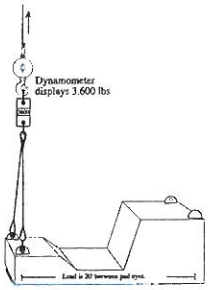
3. Which of the following does not affect the capacity of a wire rope sling?

_____ A. D/d ratio
_____ B. Sling angle
_____ C. Thimbles in the sling's eyes

4. Which grade of chain is the only acceptable type for use in chain slings?

_____ A. Transport G-7
_____ B. High test G-4
_____ C. Alloy G-8
_____ D. Proof coil G-3

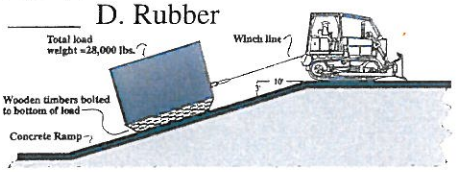
5. Using a crane scale and test lift method, we discover the load's north end weighs 21,000# and the south end weighs 7,000#. If the load is 16' in length (north-to-south) the center-of-gravity is approximately _____ feet from the north end.



_____ A. 2
_____ B. 12
_____ C. 8
_____ D. 4

6. If a load is to be winched across a flat concrete floor, it should be placed on a skid which has _____ on its underneath side to provide the least friction.

_____ A. Aluminum
_____ B. Wood
_____ C. Steel
_____ D. Rubber



7. The load chain of an electric hoist _____ be wrapped around a load for lifting purposes.

_____ A. Should not
_____ B. Can
_____ C. Shall not

8. What is the maximum line pull for a 5 ton snatch block?

_____ A. 2.5 ton
_____ B. 10 ton
_____ C. 5 ton

9. Which angle from horizontal will produce the greatest tension in a sling leg; a 60° angle, a 45° angle or a 30° angle?

_____ A. 60°
_____ B. 45°
_____ C. 30°

10. Which weight in pounds closest correlates to a cubic foot of steel?

_____ A. 165
_____ B. 480
_____ C. 615

11. Which of the following is not a removal criteria for a synthetic web sling?

_____ A. Worn or broken stitching
_____ B. Illegible or missing tag
_____ C. Severe pliability

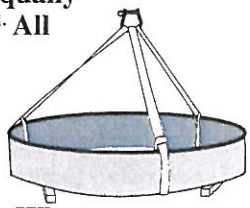
12. What is the hand signal to raise the boom of a mobile crane?

_____ A. Thumb up, clenched fist
_____ B. Index finger up
_____ C. Two hands, thumbs pointing towards each other, clenched fists

13. A load rigged with the crane hook 4' south of the center of gravity will initially swing _____ upon lift off.

_____ A. Approximately 4' north
_____ B. Approximately 4' south
_____ C. Approximately 8' south

14. There are three conditions that must be present for a 3-leg sling bridle to have equally tensioned legs. [1.] All slings must be equidistant in length. [2.] All slings must be equidistant from each other. What is the 3rd condition that must be present?



_____ A. All slings must be from the same manufacturer.
_____ B. All sling connection points must be equidistant to the load's center of gravity.
_____ C. All sling connection points must be on the top surface of the load.

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Edward Kraemer & Sons

ITI Instructor Jim Keener conducted a 2-day Journeyman Rigger Program for 24 structural iron workers at their Hazelwood, MO site. The classroom and hands-on workshops were designed to increase each rigger's understanding of rigging gear selection, proper rigging procedures and load control using any vertical or horizontal rigging system.

BWXT-Pantex

Amarillo, TX was the site for a 3-day Overhead Crane Inspector Program. 6 Individuals attended the program where they performed hands-on inspections on their pendant controlled hoists.

Western Energy

A total of 9 individuals attended a 4-day Mobile Crane Inspector Program at their Colstrip site in Montana. Participants agreed one of the highlights of the program was the review of Federal OSHA and ASME standards. During the hands-on portion participants performed an inspection on their 18 ton Grove crane.

J. Ray McDermott

ITI was asked to present a 3-day Master Rigger Program to 16 participants in Amelia, LA. The classroom portion of the program included load turning and load control workshops. During the hands-on segment participants were able to determine the CG by weighing each end of a load.

Fluor Daniel Hanford, Inc.

ITI Instructor Devon Beasley presented a 3-day Fork Lift & Aerial Lift Inspector Program for 8 individuals at their Richland, WA facility.

Participants were instructed on the inspection criteria as outlined in OSHA & ASME Standards. Written testing and hands-on inspections of Fork Lifts and Aerial Lifts completed the training.

Bechtel-Idaho

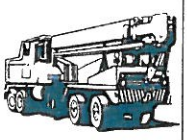
Over a three week period ITI Instructor Devon Beasley conducted refresher training at Bechtel's Scoville and Idaho Falls, ID sites. A total of 50 individuals were re-certified in a variety of subjects including:

- Forklift Inspection
- Mobile Crane Inspection
- Rigging Gear Inspection
- Mobile Crane Operation
- Overhead Crane Inspection

Each course consisted of both classroom and hands-on training. An indepth review of topics included determining frequency of inspections and items required for inspection. Removal criteria as outlined by OSHA & ASME Standards were also thoroughly reviewed. Written tests were administered at the conclusion of the classroom training. Additional requirements for succcessful completion of the courses included performing hands-on inspections.

Prairie Island Nuclear Plant

A 5-day Mobile Crane Operator Program was conducted for 16 individuals in Red Wing, MN. Participants unanimously agreed that the strength of this program was in the technical and practical knowledge of ITI instructor, Devon Beasley.



Bureau of Reclamation

Grand Coulee, WA was the site of a 3-day Overhead Crane Inspector Program. The course was presented to 6 individuals and included an in-depth look at the inspection criteria as outlined in OSHA & ASME Standards. Additional requirements for successful completion of the course included taking a written test and performing a hands-on inspection of an overhead crane.

Florida Power

12 individuals attended a 4-day Mobile Crane Operator Program in Crystal River, FL. The training consisted of both classroom and hands-on workshops with subjects such as crane terminology, load chart interpretation for various models of cranes, and crane set up. During the hands-on portion, the employees practiced setting up and operating their 22 ton hydraulic Linkbelt crane.

Carolina Power

A 2-day Lineman Rigging Program was conducted for 22 individuals in Asheville, NC. The classroom instruction included load weight estimation, determining center of gravity and rigging gear capacities. Hands-on stations included using a pole and cross-arm structure for dead-ending and cross-arm loading exercises. The use of ITI's Lineman Rigger's Reference Card as a field tool assisted participants in determining the tension in span lines and guys and tension. Dynamometers were connected to various attachment points to help reinforce the line tension calculations crew members had made while securing guys and anchors.

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ASME B30.26 Rigging Hardware

The subcommittee developing the new Rigging Hardware standard for ASME has resubmitted a new first draft for Chapter 1 "Shackles", to the Main Committee for consideration. The newly drafted Chapter 2 which will soon be voted on by the Main Committee, covers adjustable hardware such as turnbuckles, eye bolts, eye nuts, and swivel hoist rings. The upcoming Chapter 3 will address compression hardware such as wire rope clips and wedge sockets. Eventually, future chapters will include swivels, links and rings and snatch blocks. The process for standards writing is deliberate and takes time for reviews and voting at many levels. The initial chapters must pass a rigorous evaluation before being released for general public use. For information concerning standards related to crane and rigging activities.

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E-Mail - 24 hours: infocentral@asme.org

ACRP

The 2002 Association of Crane and Rigging Professionals National Assembly & Workshop was held May 29 - June 1 in San Diego, CA. Highlights of the 3-day event were trips to the National Steel & Shipbuilding Co. and the U.S. Navy Shipyard. ACRP members were allowed to view large lifts that are part of the shipbuilding process. The general assembly and committee meeting followed additional workshops by David Sleightholm of Bridon America and Dave Ritchie of St. Paul Fire & Marine Insurance.

New ACRP officers which were announced during the general assembly meeting are:
President: Ron Overton
Vice President: Wayne Koepke
Treasurer: Paul Kubber
Secretary: Ritchie Castonguay

The ACRP continues to provide tremendous educational experiences for its membership which contributes to safer work practices, reduced equipment damage and lower risk to personnel. Don't miss your chance to be a part of this industry changing association. Join today!

ACRP
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Train-the-Trainer Does It Work?

Commentary by,
Mike Parnell, President, ITI

We often provide training for those who perform the tasks covered in the subject areas. Sometimes we are asked to conduct a "Train-the-Trainer" program for in-house company employees who will be responsible to teach others. Here are important questions which must be asked to determine if this is the right avenue for your people.

1. Does the designated trainer have communication and people skills to go along with developed technical knowledge?

2. Does he know how to organize and deliver material in a digestible manner?

3. Is he credible? Does he have some foundation in the technical area for which he is becoming a trainer?

4. Will fellow employees respond to the new trainer?

5. Does he sincerely want the employees to learn?

6. Will the trainer be worth the investment ($5-10K) and stay on long-term as a trainer? Can he bid out of the job at will?

7. What elements are in place to keep the trainer up-to-date with the current changes to applicable standards and regulations?

8. What advanced training has the trainer received to ensure he can deal with most questions brought up by students?

9. Do your employees respond better from outside professional trainers?

10. How does the trainer stay fresh with the subject matter if he only presents it 2 times per year?

11. Are there political issues related to employees qualifying/certifying fellow employees?

12. What's the real cost of pulling an in-house trainer away from productive work that generates revenue for the company?

In the long-run, we have found that only the most committed companies carry-off the train-the-trainer process well. Generally, it costs more due to development, ramp-up, lost productivity, inadequate presentation, general employee resistance and a high attrition rate of trainers. Typically we see that employers are better served by having qualified professional training companies deliver specific programs which address current standards using state-of-the-art presentation systems with hands-on activities at every opportunity. The pendulum seems to swing each decade to train-the-trainer efforts but unfortunately only the most well funded and dedicated companies can make it work.

Workshop Answer Key (for page 1)

1) B	6) B	11) C
2) C	7) C	12) A
3) C	8) A	13) C
4) C	9) C	14) B
5) D	10) B	

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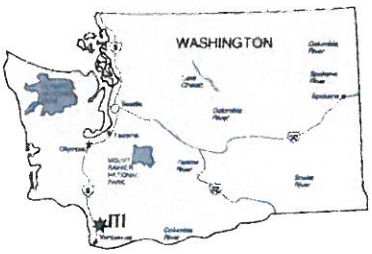
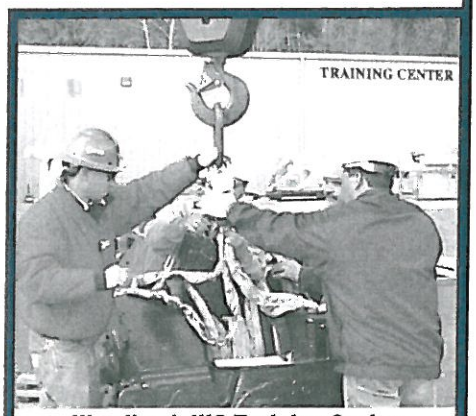
ITI Training Centers

WOODLAND, WASHINGTON

- Rigging Inspection Basics
- Rigging Gear Inspector Levels 1 & 2
- Rigging Gear Inspector Level 3
- Mobile Crane Basics
- Boom Truck Operator
- Mobile Crane Operator
- Advanced Mobile Crane Operator
- Crane & Rigging Managment
- Journeyman Rigger
- Master Rigger
- Mobile Crane Inspector





Woodland, WA Training Center

BIRMINGHAM, ALABAMA

- Journeyman Rigger
- Master Rigger
- Rigging Inspection Basics
- Rigging Gear Inspector Levels 1 & 2
- Rigging Gear Inspector Level 3
- Mobile Crane Basics
- Boom Truck Operator
- Crane & Rigging Managment

Birmingham, AL Training Center

See the enclosed "2003 Training Schedule" or contact LeAnne at 1-800-727-6355 for program details and registration.

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