THE PROFESSIONAL RIGGER®

A Quarterly Newsletter Published By:

WIRE ROPE & RIGGING CONSULTANTS, INC.

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MAINTENANCE EDUCATION PROGRAM

Two mill locations for the Weyerhaeuser Company - Springfield, OR and Cosmopolis, WA - are slated to hold a series of educational seminars. Wire Rope & Rigging Consultants, Inc. will present three Primary Rigging workshops plus one Advanced Rigger's forum for each mill site. Approximately 220 Weyerhaeuser employees will participate throughout the eight sessions to be presented.

Some of the topics to be covered include: wire rope care, use and inspection; wire rope/web/chain sling use; rigging hardware; sheaves and drums; OSHA; rigging geometry and a case study workshop. Many other areas will be addressed as they directly apply to the equipment and required lifts made for each mill site.

WARRANTY CLAIM SOLVED

A large logging company recently experienced a problem with a 1" diameter mainline. A representative of the wire rope manufacturer responded when called and looked over the mainline. He suggested the cause of the accelerated wear to be caused by some operational malfunction and left the logger to find the problem.

Not satisfied with the results, the logging company contacted WRRC. Our consultant reviewed the operation and completed an inspection of the wire rope. Upon close inspection it became evident that the cause of the accelerated wear was due to improper preforming of the wire rope in the manufacturing process. The conditions present were a "loose" or "high" strand which was receiving a much greater amount of contact, relative to the other strands, with the block sheaves and drum.

The manufacturer agreed after making a more complete review and the matter was settled.

NOTE: Over 90% of the running line problems reported are operator/operation or faulty equipment related. The remaining 10% may exhibit some type of improper manufacturing. Warranty claims are generally handled in a professional and expedient manner by the manufacturer. If you believe your case is not being properly responded to, contact WRRC.

B.P.A. - "RIG IT UP"

A Primary Rigging seminar was recently presented at the Bonneville Power Administration's Ross Complex, in Vancouver, WA. Over 50 field maintenance and lab testing personnel attended the workshop. Pamela Odam of the Bonneville Power Administration, contacted WRRC's Mike Parnell and requested a basic informational seminar on wire rope, all sling types, and rigging hardware use and inspection. The seminar was successful in answering the participants' questions concerning application and inspection procedures.

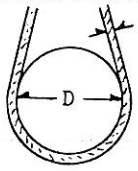
MULTI-PART BRAIDED SLINGS

The use of multi-part braided slings appears to be returning to the marketplace. In the fabrication of these slings, generally a single wire rope is braided or helically laid back against its own body to form an eye and eye sling. By design it allows the sling to have the relative bendability of the component wire rope plus a high strength value based on the sum of its parts. The number of component wire ropes in a multi-part sling could be as many as nine or as few as three.

One area in which to use multi-part braided slings is the "super heavyweight" category. A lift may require a sling capacity that cannot be achieved by a single part sling, but can be reached by braiding smaller component wire ropes together into an eye & eye sling configuration.

Example: A 4" single part, swaged E/E sling in a basket has a rated capacity of 226 tons. The same amount can be lifted by using a 7-part, 1-5/8" multi-part sling in a basket hitch.

A second and more common reason for selecting multi-part slings is their bendability. If a sling is bent around too small a diameter while making its lift, there is a reduction in lifting efficiency. A ratio has been developed to help determine minimum allowable bending diameters for slings.



D/d Ratio

D = diameter of bend
d = diameter of wire rope

Standard D/d Ratio for:
- Single part, swaged E/E is 20 x rope diameter
- Multi-part braided E/E is 20 x component rope diameter

Example: A 10" horizontal steel shaft is the lifting attachment for a pre-fabricated structure. Weight is 18 tons. (It is determined a wire rope sling is the best type of sling for this application.)

Options: A - 1-1/8" single part, swaged E/E in a basket hitch will meet the 18 ton requirement; however the 10" steel shaft is too small for 1-1/8" wire rope when applied to D/d ratio. (The standard minimum bending diameter for 1-1/8" wire rope sling is 22½".)

B - 6 parts of ½" component wire rope braided E/E in a basket hitch will also meet the 18 ton requirement: the standard minimum bending diameter for ½" wire rope is 10". (This would be an ideal choice for this application.)

Solution: Option B

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LEARNING THE ROPES

WARRANTY CLAIM

RIG IT UP!

COMING ATTRACTIONS

WIRE ROPE & RIGGING CONSULTANTS, INC.
P.O. Box 728
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WRRC'S SAFETY & INSPECTION SEMINARS WILL HELP YOU:

- Prevent unnecessary life-threatening accidents
- Reduce chance of equipment damage or loss
- Update your methods of inspection
- Improve field rigging accountability
- Establish reasonable criteria for removal of damaged or questionable rigging gear
- Educate your front-line people through our Primary or Advanced rigging workshops
- Motivate your people to an effective level of safety standards in your in-house operations

Our staff teaches state-of-the-art rigging procedures in an easy to understand and common sense manner. We can help those with little or no background in hands-on rigging and also challenge individuals with many years experience.

Our instructors have a combined professional record of over 450 seminars and 8,500+ participants. We have listened closely to those in our seminars. A vital part of our growth has been the sharing of experiences by those who have attended our schools. That's an added bonus for your people, as we discuss case studies in the workshop segments.

Use WRRC and its staff to bring your people to a higher level of rigging competency. We believe your company, your people and your industry deserve it.