

The Professional Rigger

Volume 5 Number 3

Circulation 4,850 NOV 1990

TECHNICAL NEWS

LOAD WT. ESTIMATION

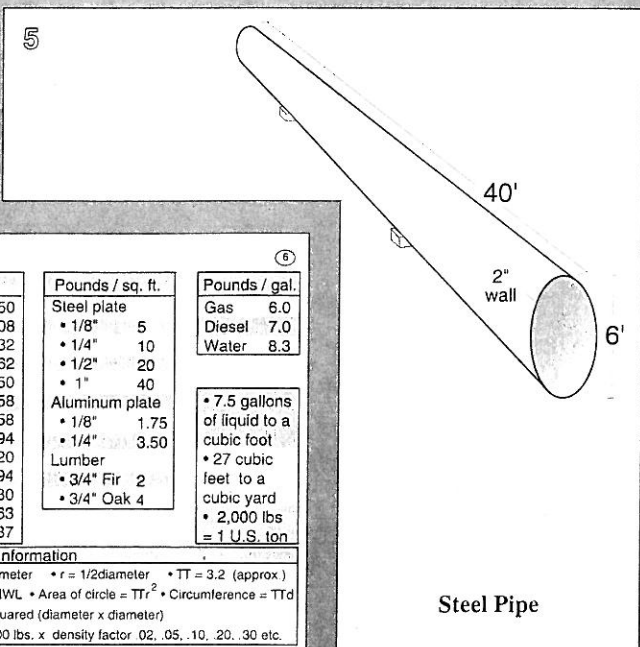
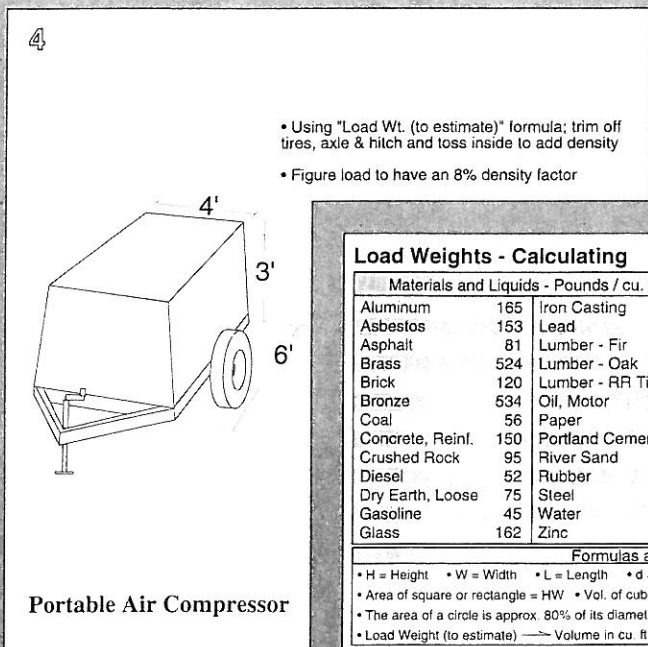
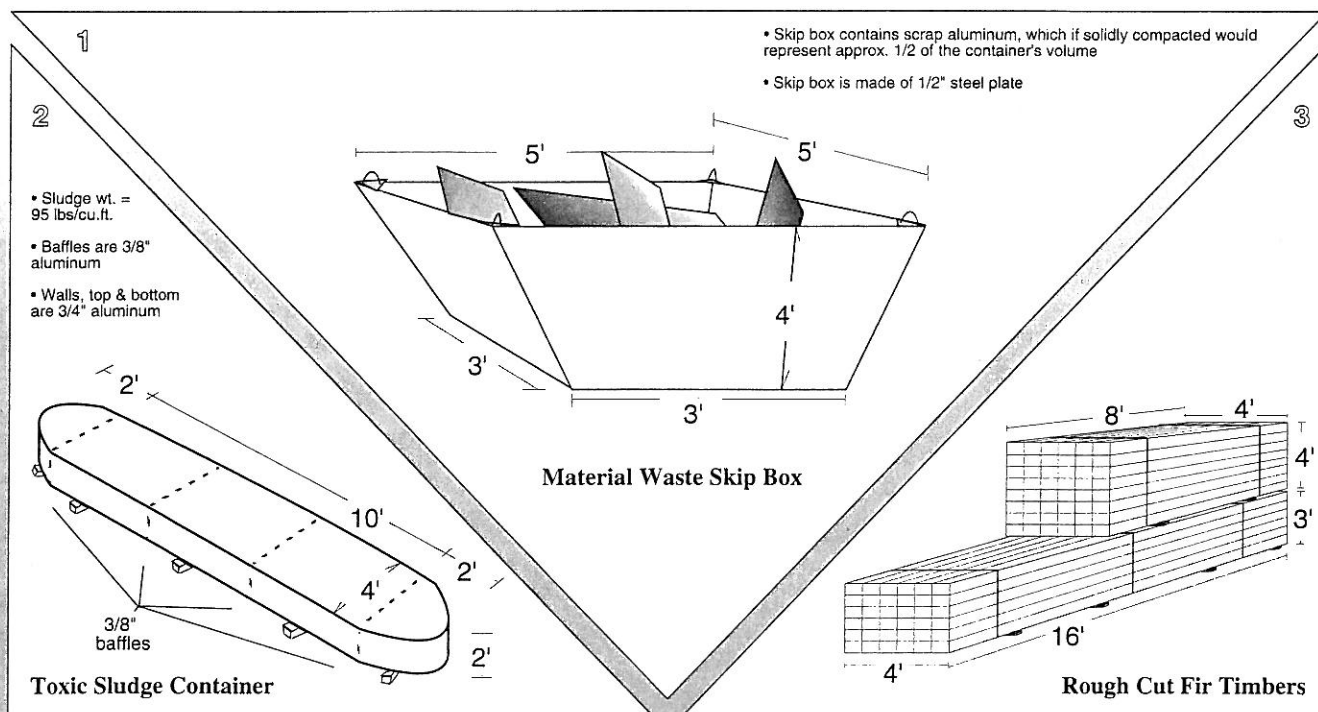
Estimating a load's approx. weight is always an important part of any

rigger's checklist and must be done before choosing the rigging system.

Have some fun and calculate the approx. weight of the items shown on this page. (Round to the nearest 100#, answers pag. 2 col 3). To help

you in your calculations we have reprinted Section 6 of WRR's new Rigger's Reference Card, which details weights of various materials and quick estimation formulas.

Drawings are not to scale.



Load Weights - Calculating

Materials and Liquids - Pounds / cu. ft.	
Aluminum	165
Asbestos	153
Asphalt	81
Brass	524
Brick	120
Bronze	534
Coal	56
Concrete, Reinf.	150
Crushed Rock	95
Diesel	52
Dry Earth, Loose	75
Gasoline	45
Glass	162
Iron Casting	450
Lead	708
Lumber - Fir	32
Lumber - Oak	62
Lumber - RR Ties	50
Oil, Motor	58
Paper	58
Portland Cement	94
River Sand	120
Rubber	94
Steel	480
Water	63
Zinc	437

Pounds / sq. ft.	
Steel plate	
• 1/8"	5
• 1/4"	10
• 1/2"	20
• 1"	40
Aluminum plate	
• 1/8"	1.75
• 1/4"	3.50
Lumber	
• 3/4" Fir	2
• 3/4" Oak	4

Pounds / gal.	
Gas	6.0
Diesel	7.0
Water	8.3

• 7.5 gallons of liquid to a cubic foot
• 27 cubic feet to a cubic yard
• 2,000 lbs = 1 U.S. ton

Formulas and Information

• H = Height • W = Width • L = Length • d = diameter • r = 1/2 diameter • TT = 3.2 (approx)
• Area of square or rectangle = HW • Vol. of cube = HWL • Area of circle = $TT r^2$ • Circumference = TTd
• The area of a circle is approx. 80% of its diameter squared (diameter x diameter)
• Load Weight (to estimate) → Volume in cu. ft. x 500 lbs. x density factor .02, .05, .10, .20, .30 etc.

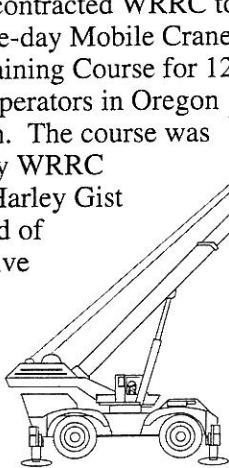
CLIENT NEWS

WILLIAMS OPER. CORP.

Williams Operating Corp. in Marathon, Ontario CAN was the site for a 3-day Certified Inspector Program. Mr. Bill Parnell, WOC's Manager of Maintenance contracted WRRC to conduct the training for 15 employees. The program was presented to the participants to develop and increase their skills and knowledge in wire rope and rigging gear maintenance and inspection. The five sections covered during the three-day program include wire rope, wire rope slings, synthetic web slings, alloy chain slings, and rigging gear/testing. Written exams on each section were given and a series of rigging gear inspections were performed.

SMURFIT NEWSPRINT

In July, Smurfit Newsprint's Mr. Don Pickle contracted WRRC to present a five-day Mobile Crane Operator Training Course for 12 of their crane operators in Oregon City, Oregon. The course was conducted by WRRC Consultant Harley Gist and consisted of comprehensive classroom instruction, load chart workshops and hands-on operator evaluations.



BOISE CASCADE

Mr. Jerry Wennstrom, Employee Relations Coordinator, contracted WRRC to conduct two Crane Operator Programs for their overhead and mobile crane operators from St. Helens, Willamina and Independence, Oregon. WRRC presented a three-day Mobile Crane Operator Training Course the week of August 6 for five participants. Load chart workshops on the Galion 12.5 ton and P & H 18 ton rough terrain cranes, written operator exams and a series of live lifts made up the activities necessary to complete the program. Eight operators participated in the Train-the-Trainer Overhead Crane Training Course held in Willamina. All participants were given three written exams covering the course material and a hands-on operator evaluation was completed.

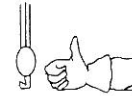
Mr. Tim Heim, Safety Coordinator, at Boise Cascade's Medford plant, asked WRRC to conduct a week long Mobile Crane Operator Training Program for 20 operators. The course presented by WRRC Consultant Bill Wall included extensive classroom instruction, load chart workshops on the Grove 14 ton and Drott 18 ton rough

terrain cranes, and hands-on operator evaluations.

CLACKAMAS CO.

Mr. Rod Raney, Bridge Maintenance Foreman, for Clackamas County DOTD in Oregon City, Oregon contracted WRRC to present a four-day Mobile Crane Operator Training Course. Eight operators participated in the program which included classroom

instruction, load chart workshops for the BE 30 ton hydraulic truck crane and Scott T-20 boom truck, and hands-on operator evaluation performing a series of live lifts.



COAST CRANE & EQPT.

In early July, Coast Crane & Equipment of Portland, Oregon sponsored a four-day Mobile Crane Operator Training program for their customers. WRRC Consultant Eric Paivio presented the course which included extensive classroom instruction on load chart workshops, written operator exams, and hands-on operator evaluations using a series of live lifts. Mr. Mike Brown, Rental Manager for Coast Crane & Equipment, coordinated the program which was represented by Coast Crane customers: J.H. Kelly; Lile International Companies; Hawkeye Construction, Inc.; Gregg Roofing; Blessing Electric, Inc.; Cape Horn Landscape & Const., Inc.; Christenson Electric, Inc.; Associated Industrial Constructors, Inc.; Able Steel Erectors, Inc; and Harder Mech. Contractors.

SOLUTION - LOAD WEIGHT WORKSHOP

The approx. weight of the loads pictured on pg. 1 are:

- 1) 1,460 steel + 5,280 alum. = 6,740 lbs
- 2) 1,966 alum. + 10,032 sludge = 11,998 lbs
- 3) 10,240 lbs
- 4) 2,880 lbs
- 5) 61,440 lbs

The Professional Rigger is a quarterly publication of Wire Rope & Rigging Consultants, Inc. It is distributed to those whose occupations require the safe and effective use of lifting and rigging equipment. For more information contact: Editor, The Professional Rigger, PO Box 728, Vancouver, WA 98666 (206) 693-6030

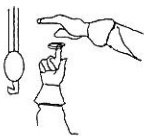
WEYERHAEUSER CO.

On September 5-7, WRRC conducted a Comprehensive Rigging Course with hands-on instruction for Weyerhaeuser in Longview, Washington. Mr. Lauren Laakso, Pulp Training Center Manager, coordinated the training program for the employees which included eight hours of classroom activity followed by an extensive series of field rigging exercises with the participants implementing the items covered in the class segments.



CITY OF PORTLAND

Mr. Maynard Corlett, Training Director, and Mr. Roger Talley, Sewer Operations Foreman, for the City of Portland, Oregon, Bureau of Maintenance contracted WRRC to conduct three two-day Comprehensive Rigging Courses for their maintenance personnel. The course covered rigging gear inspection, safe rigging procedures and load control using vertical or horizontal rigging systems.



OREMET

Mr. Ed Goering, Safety Director, for Oremet in Albany, Oregon, contracted WRRC to present a Train-the-Trainer Overhead Crane Operator course that would cover the new Oregon OSHA standards for the training of crane operators. The two-day program for 11 OREMET operators included classroom instruction with written exams and a hands-on operator evaluation was completed lifting live loads according to an operator's checklist.

JAMES RIVER CORP.

James River Corp. in Halsey, OR was the site for two Crane Operator Programs in mid-July. Mr. Homer Turnbull, Maintenance Manager, contracted WRRC to conduct courses for both mobile and bridge crane operators. The training was a joint effort between James River and Pope & Talbot.

WRRC conducted 10 four-hour Bridge Crane and Monorail Hoist "Train-the-Trainer" programs for 45 participants of James River's Wauna Mill in Clatskanie, OR. The program was coordinated by James River's Tricia Norvell and Roger Bergman and both classroom and hands-on training was provided. Written exams and evaluation of each participant's hands-on operation of the crane were performed, as well as commands of the appropriate hand signals.



WRRC NEWS

CERTIFIED INSPECTOR PROGRAM 1991

WRRC's sixth annual CIP program will take place March 12-14, 1991 in Vancouver, WA. A registration form is enclosed in this envelope for your convenience.

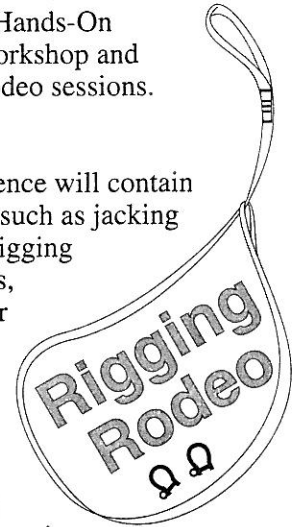
The course addresses wire rope, wire rope slings, synthetic web slings, alloy chain slings and rigging gear/testing. The instructional format is based on OSHA CFR 29 1910, ANSI B30 series, ASTM A-391, ASTM E-4 and RR-W-410D. Participants are required to pass written and hands-on field inspection tests to complete each course section.

This course is also available on-site to organizations or companies in North America. Please contact WRRC to sponsor a local program.

RC 1991

WRRC cordially invites all current and future clients to register for Rigging Conference 1991, which will be held in Charleston, SC January 15-17. Our new Mobile Learning Center, the first of its kind anywhere, will be used during the Hands-On Rigging Workshop and Rigging Rodeo sessions.

The conference will contain workshops such as jacking & rolling, rigging applications, rigging gear inspection, new material handling devices, customized rigging gear, wire rope applications, load control and hitch systems.



Please see the enclosed Conference Registration Form for more information. Register today to guarantee your attendance!

NEW COMPANY

WRRC is pleased to announce the formation of CET, Crane & Equipment Training, Inc., formerly a division of WRRC.

CET will provide training for overhead and mobile cranes, backhoes, graders, loaders, dozers, forklifts, and manbasket operations. The level of instruction and quality of classroom workshops and hands-on activities will meet the same high standards as our clients have come to expect from WRRC training courses.

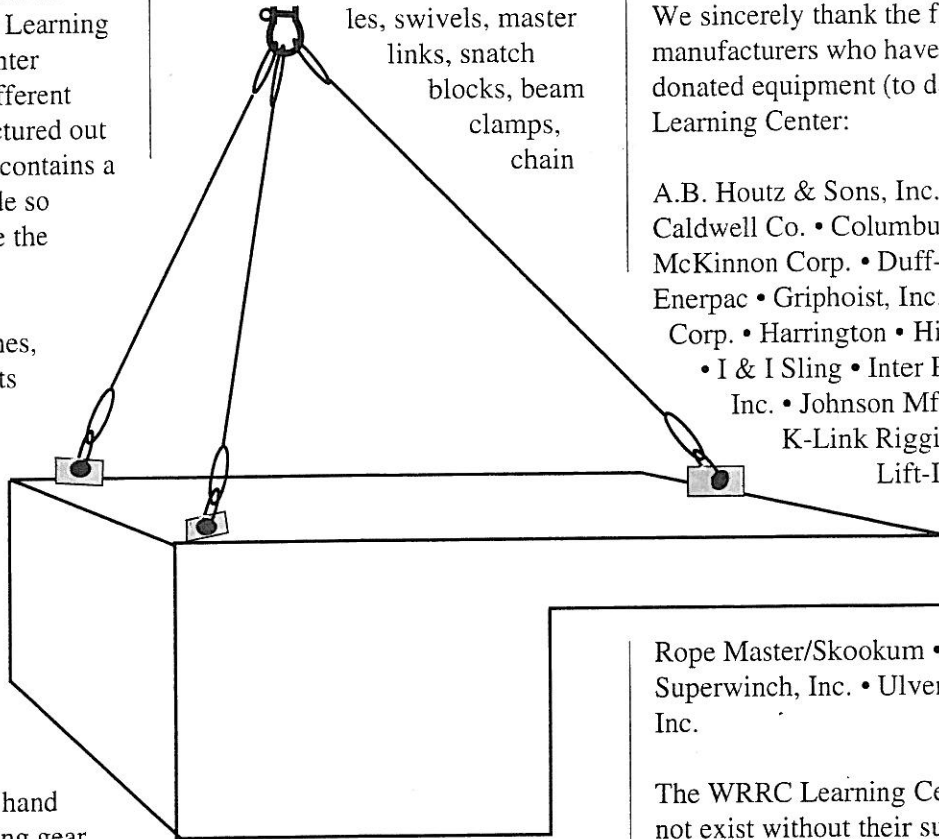


WRRC'S NEW MOBILE LEARNING CENTER

We are pleased to announce the development of a Mobile Learning Center. The Learning Center consists of 10 loads of different shapes and sizes manufactured out of aluminum. Each load contains a water-tight chamber inside so weight can be added once the Center is set up.

Four A-frame gantry cranes, complete with chain hoists and trollies serve as the primary lifting systems. Hydraulic and mechanical jacks plus air bags provide the means for jacking various loads. Horizontal load movement is provided by machinery rollers (skates) and hard wood rollers in concert with electric and hand winch systems. The rigging gear

consists of synthetic web, wire rope and alloy steel chain sling products, shackles, turnbuckles, swivels, master links, snatch blocks, beam clamps, chain



and wire rope lever hoists, hoist rings and strongbacks!

We sincerely thank the following manufacturers who have generously donated equipment (to date) to the Learning Center:

A.B. Houtz & Sons, Inc. • The Caldwell Co. • Columbus McKinnon Corp. • Duff-Norton • Enerpac • Griphoist, Inc. • Gunnebo Corp. • Harrington • Hillman, Inc. • I & I Sling • Inter Product, Inc. • Johnson Mfg. Co. • K-Link Rigging Prod. • Lift-It Mfg. Co. • Lift-All Mfg. • Paratech, Inc. • Rope Master/Skookum • Superwinch, Inc. • Ulven Forging Inc.

The WRRC Learning Center would not exist without their support!

Wire Rope & Rigging Consultants, Inc.

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