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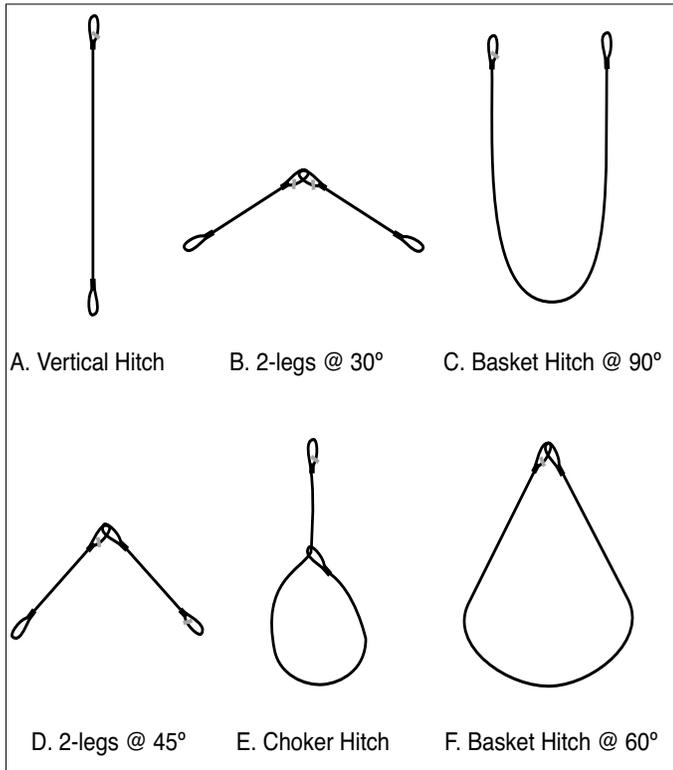
TECHNICAL WORKSHOP

Hitch Types

It is critically important to use the correct hitch that can best stabilize, support and safely lift a load. Each lift must be analyzed to determine which hitch is the best choice. Each sling has a rated capacity or working load limit. This is also true of each type of hitch. You never want to exceed the rated capacity of a sling based on the hitch type and sling angle.

It's important to recognize that if you don't calculate the sling capacity correctly, there can be serious consequences ranging from a dropped load to a failure causing injury or death. The following workshop will test your skill at approximating hitch capacities.

What are the hitch rated capacities shown below, if the sling type is 1-1/2" EIPS IWRC wire rope, eye & eye, mechanical spliced?



A. Vertical Hitch B. 2-legs @ 30° C. Basket Hitch @ 90°

D. 2-legs @ 45° E. Choker Hitch F. Basket Hitch @ 60°

Journeyman Rigger's Reference Card

Journeyman Rigger's Reference Card									
Sling Capacities		MECHANICAL SPLICE IN POUNDS					DESIGN FACTOR 5:1		
Size in inches	VERTICAL	CHOKER	2 - Legs or Basket 90°	90°	45°	30°	60°	3 - Legs Only if 1/3 each leg	Size in mm
	1.00	.75	2.00	1.73	1.41	1.00	2.60		
1/4	1,300	960	2,600	2,200	1,820	1,300	3,300	6.4	
5/16	2,000	1,480	4,000	3,400	2,800	2,000	5,100	8.0	
3/8	2,800	2,200	5,600	5,000	4,000	2,800	7,400	9.6	
7/16	3,800	2,800	7,600	6,800	5,400	3,800	10,000	11.0	
1/2	5,000	3,800	10,000	8,800	7,200	5,000	13,200	13.0	
9/16	6,400	4,800	12,800	11,000	9,000	6,400	16,500	14.0	
5/8	7,800	5,800	15,600	13,600	11,000	7,800	20,000	16.0	
3/4	11,200	8,200	22,400	19,400	15,800	11,200	29,100	19.0	
7/8	15,200	11,200	30,400	26,000	22,000	15,200	39,000	22.0	
1	19,600	14,400	39,200	34,000	28,000	19,600	51,000	25.4	
1-1/8	24,000	18,000	48,000	42,000	34,000	24,000	62,000	28.5	
1-1/4	30,000	22,500	60,000	52,000	42,000	30,000	76,000	32.0	
			MULTIPLIER →	1.00	.75	.60	← MULTIPLIER		

Formula to find sling length Total distance between pick points x Multiplier = Sling Length

Hint: Assume A-F are 1-1/2" wire rope slings. Use the percent indicators at the top of each column on the JRRC-P1 to discover the rated capacities of the above slings.

A = 42,000 # WLL D = _____ # WLL

B = _____ # WLL E = _____ # WLL

C = _____ # WLL F = _____ # WLL

Hint: Select from these multipliers
75%, 200%, 100%, 141%, 173%.

ITI Showcase Webinar Series



Hosted by Mike Parnell
ITI President/CEO

FREE!

Upcoming Events

- *Effective Crane & Rigging Training Methods for Your Employees* - Friday, May 4, Noon (EST)
- *Heavy Intermodal Lift & Transport - Engineering Considerations* - Thurs, June 7, 2pm (EST)

Register Today at iti.com/showcase

ITI Opens Subsidiary in Edmonton, Alberta

Edmonton, Alberta will be Industrial Training International's (ITI) operational headquarters of its new subsidiary in Canada. The company will continue to handle sales, marketing, design, and logistic functions out of its corporate headquarters in Woodland, Washington, USA. Local management, trainers, and support staff will work in the Edmonton office and conduct business throughout Canada.

Mike Parnell, ITI President/CEO, commented, "We are excited to be taking this step in our company's growth. It's funny – the first Master Rigger Course was actually conducted in Canada over 20 years ago. We have been training in Canada for a long time, as well as countries in South America, Africa, Asia and Europe. However, this is our company's first step in operating outside of the US."

ITI, a privately-held company, has seen revenue growth of 18% over the last year and has leveraged its exceptional field and office staff to produce new programs in advanced rigging as well as multiple e-learning courses. The US company has added several positions to its team over the last year and is looking to do the same in Canada.

"We plan on hiring several trainers based in Edmonton as well as other cities in Canada. Also, we will be on the lookout for a highly-qualified person to become the Managing Director of the subsidiary who can spearhead the operation in Edmonton," Mr. Parnell remarked.



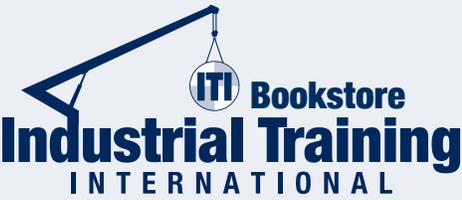
Edmonton, Alberta

ITI is a world leader in crane and rigging training and consulting and has over 25 years of experience pioneering the industry with courses that are demanded by customers hungry for increased skills and knowledge, as opposed to solely regulation-driven training.

For more information, please contact Zack Parnell, Director of Business Development, at dbd@iti.com.

For recruiting information, please contact Carol Winten, Human Resources Manager, at careers@iti.com.

Please visit iti.com/canada



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Mike's Rigging Mysteries
(4.25" x 5.5", softbound, 11 booklet boxed set)
This series of books contain over 100 informative and educational rigging workshops, and hours of fun problem-solving activities.
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Includes: an examiner guide, practical examiner script, practical exam score sheet, 15 written exams, answer key, qualification card template and qualification certificate template.
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One of the best quick reference rigger's guides on the market! Includes knots, splices, sling capacities, reeving systems and good vs. poor rigging practices.
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In A Flash Field Reference Guide
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What is Your Company's Training Strategy?

Does your company have a strategy to train its 50, 200, or 5,000-person workforce in lifting activities? ITI Training Solution Experts are here to help our world-class customers build their Corporate Crane & Rigging Training Strategy.

Our well-rounded training strategy solutions include:

ITI Training Centers

Comments like "the most incredible training facility" is often uttered when customers and students visit ITI Woodland and ITI Memphis. These two, fully-equipped crane & rigging training centers are terrific for sending one to five students to fully understand a program before blending other training solutions.

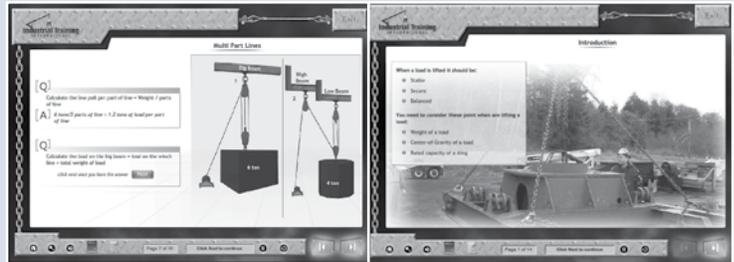


On-Site Training

ITI trainers are the most highly experienced instructors in the industry with extensive backgrounds not only in lifting and rigging activities, but also across all major and general industries. They bring our customized, hands-on programs to your facility with a 100% satisfaction-guarantee.

E-Learning

ITI's online courses will revolutionize how you blend your training experience. E-Learning can be used as course curriculum for your in-house instructors or self-paced learning for all your employees. On-Site and Training Center Hands-On Learning compliment this solution incredibly well.



★ ITI Training Solution Experts ★

ITI is a world leader in crane and rigging training and we will find the most efficient and cost-effective solution to train your workforce.

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★ **3 Case Studies** ★
on How to Build a Corporate
Crane & Rigging Training Strategy

Page 1 Workshop Answers:

A = 42,000#

C = 42,000 x 2 = 84,000#

E = 42,000 x .75 = 31,500#

B = 42,000 x 1.00 = 42,000#

D = 42,000 x 1.41 = 59,220#

F = 42,000 x 1.73 = 72,660#

Crane & Equipment Training Programs

These courses are scheduled at ITI Training Centers or customized for presentation at your facility. Course length may vary when conducted at your facility based on the number of participants, availability of equipment, customization, and qualification/certification requested. Continuing Education Units (CEUs) are awarded for all programs.

Mobile Crane Operator Nationally Accredited Certification— Meets New OSHA Rule

This program is designed to prepare participants to take the general and crane-specific written exams for National Accreditation. The 3-day test prep is followed on days 4 and 5 by the Written and Practical Exams.

Course Length: 5 Days

Mobile Crane Inspector ITI Qualification Available

This program is designed for crane maintenance mechanics and inspectors. It focuses on spotting the problems and identifying the damage that can be discovered through external evaluation. The course curriculum identifies and instructs students to crane components by the acronym “MESH” (mechanical, electrical, structural and hydraulic). It is an ideal preparation course for those who are governed by unique state or federal laws requiring “certified” inspectors.

Course Length: 5 Days

Forklift & Telehandler Operator Meets OSHA Requirements

All personnel who operate forklifts to conduct their work activities are required to be trained and qualified per OSHA. This program meets the OSHA requirements.

Course Length: 1 Day



Mobile Crane Operator ITI Qualified

This program is designed to increase the crane operator’s knowledge, skill and proficiency level through classroom and hands-on training. Students can achieve qualified operator status by successfully completing written and hands-on segments. Qualification is for LBT (Lattice Boom Crane) and TLL (Large Telescopic, above 17.5 tons). Qualification for other types and capacities is available by special arrangement and for additional fees. This is an excellent prep course for those who wish to take the NCCCO or CIC national certification exams.

Course Length: 5 Days

Aerial Work Platform Operator ITI Qualification Available

Candidates for this course are those who operate Aerial Work Platforms to conduct their work activities. Manually Propelled, Self-Propelled and Boom Supported equipment is covered.

Course Length: 1 Day

Skid Steer Operator

Candidates for this course will be required to perform a pre-operational inspection and operating control demonstration. A work assignment must be performed using the loader bucket in a variety of applications, while traveling and turning with the bucket loaded and empty.

Course Length: 1-5 Days

Mobile Crane Operator Initial

This program is designed to assist a person who has little or no experience with mobile crane operation to establish good operating practices while gaining seat-time and real-life operating experience. Participants will conduct pre-operational inspections of hydraulic and lattice/conventional cranes, receive individual instruction regarding crane operating basics, and will gain seat-time while handling an empty and loaded hook.

Course Length: 10 Days

Overhead Crane Inspector ITI Qualification Available

Candidates for this course include journeyman electricians and lead millwrights who are assigned to perform Frequent and Periodic Inspections on overhead lifting devices, which include bridge, gantry, monorail, fixed hoists, and jib wall mounts.

Course Length: 3 Days

Overhead Crane Operator ITI Qualification and Nationally Accredited Certification Available

Anyone who is required to operate an overhead lifting device, which include bridge, gantry, monorail, fixed hoists, and jib wall mounts, while performing their work activities or who is a crane operations trainee or crane maintenance personnel should attend this program. Certification is available.

Course Length: 1 Day

Rigging Training Programs

These courses are scheduled at ITI Training Centers or customized for presentation at your facility. Course length may vary when conducted at your facility based on the number of participants, availability of equipment, customization and qualification/certification requested. Continuing Education Units (CEUs) are awarded for all programs.

Crane Assembly & Disassembly Director

All of those that are responsible for the assembly and the disassembly of a crane should attend this program. The Crane Assembly & Disassembly Director Course identifies required applicable procedures for the assembly and disassembly of the crane booms and extensions, understanding capacities and identifying areas of hazard. Previous training or experience with a variety of rigging tasks will help the participant ramp up quicker in the applications described during the course.

Course Length: 2 Days

Lift Director & Site Supervisor

All those who are responsible to oversee lift activities should attend this program. Participants should have some exposure to mobile crane activity and load chart usage. Knowledge of overhead crane and tower crane operations is also useful. Previous training or experience with a variety of rigging tasks will help the participant quickly grasp the applications described during the course. Having served as a crane operator or rigger in the field is not a requirement for this program.

Course Length: 1 Day

Critical Lift Planning

All those who are responsible to oversee lift activities should attend this program. Participants should have some exposure to mobile crane activity and load chart usage. Knowledge of overhead crane and tower crane operations is also useful. Previous training or experience with a variety of rigging tasks will help the participant quickly grasp the applications described during the course. Having served as a crane operator or rigger in the field is not a requirement for this program.

Course Length: 2 Days

Journeyman Rigger (Comprehensive Rigging)

This course is designed for the beginner to intermediate level person whose work assignments involve some rigging activity. The participants could include millwrights, boilermakers, pipe fitters, electricians, maintenance mechanics, construction workers, carpenters, welders, machinists, and all other trades that participate in rigging activity during their work day.

Course Length: 2 Days

Master Rigger

Although anyone wanting to gain rigging knowledge and skill would benefit from this program, most master rigger students have had some exposure (2-10 years) to crane and rigging operations. Participants include lead field personnel, safety coordinators, and senior trades personnel, such as a millwright, boilermaker, pipe fitter, mechanic, rigger, machinery mover and other trades.

Course Length: 4 Days

CIC Qualified Signalperson & Rigger-Basic

CIC Qualified Rigger-Advanced Nationally Accredited Certification

ITI is now offering preparatory courses and certification exams that are Nationally Accredited through Crane Institute Certification (CIC). Candidates include signalpersons and riggers who are required to become qualified, meeting the new OSHA Rule. CIC offers a 5 year certification to all candidates who successfully pass written and practical exams.

Course Length: 1-5 Days

Qualified Rigger – Meets New OSHA Rule

The ITI Qualified Rigger Prep Course is conducted by ITI's Qualified Trainer and Third Party Evaluator and prepares participants to take the ITI Qualified Rigger Written and Practical Exams. Candidates include riggers who are required to be qualified, meeting the new OSHA 1926.1400 Rule. This course and qualification can also benefit management personnel who oversee crane operations and lifts. The test prep course is conducted in two days with the written and practical exams being administered on the third day.

Course Length: 3 Days

Qualified Signalperson Meets New OSHA Rule

The ITI Qualified Signalperson Prep Course is conducted by ITI's Qualified Trainer and Third Party Evaluator and prepares participants to take the ITI Qualified Signalperson Written and Practical Exams. Candidates include signalpersons who are required to be qualified, meeting the new OSHA 1926.1400 Rule. This course and qualification can also benefit management personnel who oversee crane operations and lifts. The test prep course is conducted in a four hour session with the written and practical exams administered the same day.

Course Length: 1 Day

Rigging Gear Inspector Level I & II ITI Qualification – Meets OSHA requirement of “competent” person/inspector

Anyone who performs rigging inspection for an employer as an assigned task, such as a tool room check-out/in person or a supervisor who is responsible for the quality of rigging gear in a facility should attend this program, as well as crane maintenance personnel who inspect running and standing ropes, sheaves, drums and associated equipment during monthly and annual equipment reviews. Every company should have a few personnel qualified to perform gear inspections, meeting the OSHA requirement for “competent” person.

Course Length: 3 Days

UPCOMING EVENTS at our Woodland, WA & Memphis, TN Training Centers

APRIL		
2-6	ITI Mobile Crane Operator	Woodland
3-4	CIC Qualified Signalperson-Basic Prep Course & Exams	Woodland
4	E-Learning Hands-on (4.0 hours)	Woodland
5-6	Journeyman Rigger	Woodland
9-10	Journeyman Rigger	Memphis
9-12	Master Rigger	Woodland
11	Lift Director and Site Supervisor	Memphis
12-13	Critical Lift Planning	Memphis
13	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Woodland
16	ITI Qualified Signalperson Prep & Exams	Woodland
17-19	ITI Qualified Rigger Prep & Exams	Woodland
20	ITI Qualified Signalperson & Qualified Rigger Practical Examiner Workshop	Woodland
23-26	Master Rigger	Memphis
27	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Memphis
30	Forklift/Telehandler	Woodland
MAY		
1-4	Rigging Gear Inspector Level I & II	Woodland
14-17	Master Rigger	Woodland
18	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Woodland
22-24	Rigging Gear Inspector Level I & II	Memphis
JUNE		
4	ITI Qualified Signalperson Prep & Exams	Woodland
5-7	ITI Qualified Rigger Prep & Exams	Woodland
18-19	Crane Assembly & Disassembly Director	Woodland
20	Lift Director and Site Supervisor	Woodland
21-22	Critical Lift Planning	Woodland
JULY		
17-18	CIC Qualified Signalperson-Basic Prep Course & Exams	Woodland
19-20	Journeyman Rigger	Woodland
24-26	Rigging Gear Inspector Level III	Memphis

AUGUST		
6-10	Mobile Crane Inspector	Woodland
6	ITI Qualified Signalperson Prep & Exams	Woodland
7-9	ITI Qualified Rigger Prep & Exams	Woodland
14-17	Rigging Gear Inspector Level I & II	Woodland
20-23	Master Rigger	Woodland
24	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Woodland
SEPTEMBER		
17-18	Journeyman Rigger	Memphis
17-21	CIC Mobile Crane Operator	Woodland
19	Lift Director and Site Supervisor	Memphis
20-21	Critical Lift Planning	Memphis
24-28	ITI Mobile Crane Operator	Woodland
OCTOBER		
2-3	CIC Qualified Signalperson & Qualified Rigger-Basic: Prep Course & Exams	Woodland
4-5	Journeyman Rigger	Woodland
8	ITI Qualified Signalperson Prep & Exams	Woodland
9-11	ITI Qualified Rigger Prep & Exams	Woodland
16-19	Rigging Gear Inspector Level I & II	Woodland
22-23	Crane Assembly & Disassembly Director	Woodland
22-25	Master Rigger	Memphis
24	Lift Director and Site Supervisor	Woodland
25-26	Critical Lift Planning	Woodland
26	CIC Qualified Signalperson & Qualified Rigger-Basic and CIC Qualified Rigger-Advanced: Exams	Memphis
NOVEMBER		
5-7	Rigging Gear Inspector Level I & II	Memphis
6-8	Rigging Gear Inspector Level III	Woodland
8-9	Journeyman Rigger	Memphis
12-15	Master Rigger	Woodland
16	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Woodland
DECEMBER		
3	ITI Qualified Signalperson Prep & Exams	Woodland
4-6	ITI Qualified Rigger Prep & Exams	Woodland
4-7	Rigging Gear Inspector Level I & II	Woodland
10-13	Master Rigger	Woodland
14	CIC Qualified Signalperson-Basic and Qualified Rigger-Advanced Exams	Woodland

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The Professional Rigger is a publication of Industrial Training International, Inc. It is distributed to those whose occupations require the safe and proper use of lifting and rigging equipment.

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