

$$F_1 = \frac{F_A D_2}{S}$$

$$F_{1H} = \left(\frac{F_A D_{2H}}{S} \right) \left(\frac{D_{1H}}{D_{1V}} \right)$$

$$F_2 = \frac{-F_A D_1}{S}$$

$$F_{1V} = \frac{F_A D_{2H}}{S}$$

$$F_{1L} = \left(\frac{F_A D_{2Hnew}}{S_{new}} \right)$$

$$F_{2V} = \frac{F_A D_{1H}}{S}$$

Ignorance is not bliss.

The ETCP exam confirms you (and your coworkers or vendors) are solid on the hard facts and formulae

I CAME TO WORK AT BARBIZON as a Project Manager almost ten years ago after spending several years working for an event production company. Prior to this, I was the Technical Director for a small (but production- and schedule-intensive) dinner theatre as well as a Stage Manager for both local and touring productions. My education in theatre at the University of Maryland at College Park exposed me to virtually every aspect of technical theatre, including sitting on the headblock beam and watching the cables go by while doing annual rigging inspections.

At Barbizon it has been my pleasure to work with a wide range of clients on projects including everything from small churches to national broadcasting facilities and landmark theatres to museums. I have been fortunate to work with many excellent riggers and rigging manufacturers from whom I have learned even more. All of these experiences taught me skills and exposed me to ideas and equipment that are called upon almost every day in my work now as a Systems Integrator. As part of my job, I help clients of all levels choose rigging systems ranging from dead-hung battens and pipe grids to all varieties of motorized hoists. While it is easy to pull out a catalog and show that a piece of XYZ hardware is rated for a certain use or a specific load, it is far more difficult to show that a given individual should be involved in the design or installation of equipment that will ultimately be supporting weight over the heads of people.

This is precisely why I wanted to take the ETCP—Theatre Rigging certification exam. Did I really know enough? What was I overlooking that might be dangerous? What were these rules of thumb and best practices that we use daily really based on? But what was I supposed to study? After all, it is an exam and there is an outline for the content. There must be something to study from right? After digging around and clicking on some links I found my way to the Educational Resources section of The ESTA Foundation

website. Looking at the list of publications, I was suddenly reminded of my daughter discussing what books she would use in studying for her MCATs. The short answer was, study everything. Every book I had ever touched or class I had attended on stagecraft, stage rigging, OSHA fall protection and construction safety, climbing, and engineering had some part of the information which could be included in the exam. So, for me, studying for the exam was to be a process of matching up information which I knew from experience and information which I knew from education and then making sure I was solid on the hard facts and formulae.

But first, to give myself a benchmark, I went ahead and took the practice exam. This provided an excellent opportunity to get an idea of the types of questions and got me started thinking about how to study. It also showed me that while I knew many facts and figures, there were some gaps in my memory of basic operations. Figuring it would take me about a month, with my other duties, it was time to hit the books. Since several of the titles on the list were old friends, I started with their relevant sections. *Scene Design and Stage Lighting*; *The Backstage Handbook*; and *Stage Scenery, Its Construction and Rigging* had all been college texts and were still on my bookshelf. These reminded me of a few pieces of hardware and also some terminology that I had forgotten. Okay, I will admit it; I couldn't remember what a jack line was. Then again, the last time I handled a hemp set was 1995. I also reviewed my materials from the Miller Fall Protection training which I attended a few years ago to refresh my knowledge of the OSHA standards.

I then consulted the list again to really dig into the specifics. I chose to start with the *Stage Rigging Handbook*, having worked with Jay O. Glerum a few years ago on a project and knowing his reputation as one of the industry's experts on the subject. This provided a great refresher on the various types of theatrical rigging systems as well as some of the basic math and engineering

information I knew was needed. I balanced this with the late Harry Donovan's tome *Entertainment Rigging: A Practical Guide for Riggers, Designers, and Managers*. This supplied a further analysis of the math required for the exam, but more importantly, it offered careful thought experiments in rigging safety. I found another helpful source to be many of our industry's leading manufacturers' websites where I went to review specifications, design guides, and any other helpful tidbits I could glean.

I had set a goal of reading each of these books, cover to cover, and doing all of the exercises included. I also wanted to make sure that I could identify all of the formulae on the supplied list and

that I could re-create the tables which seemed the most important to me from memory. Once I had done this, I put all of the books away for about two weeks. During this time, I went back and forth between feeling like my brain was full (thank you Mr. Larsen) and that I should really be reading something else. After this time, which was intended to see if I actually remembered what I had read, I went back and did all of the exercises again as well as reviewing the practice test.

It was now time to actually schedule my test. I went online to AMP's site, found the location, and registered for their next available appointment which was a little over a week away. This

was probably the hardest part—having decided I was ready, now I had to wait.

Finally, it was time to take the exam. I arrived at the testing center about 15 minutes before my appointment time, with my calculator and scale rule in hand, as well as a couple of extra pencils and a copy of the formula sheet (just in case). The person at the testing center was helpful and efficient at getting me signed in, but did have to call the AMP office to confirm that I was allowed to take a scale rule in with me. Then it was off to the races. I used every minute of the three hours, with some questions taking no time at all, but others requiring some careful re-checking of math and a few that I had to mark for review. This was a great feature of the testing software—you can mark a question to come back to, whether you have answered it or not and then quickly jump back through these questions later.

At the end of the three hours, I headed out the door feeling like I had really known the material and only had doubts about a few questions. These doubts though were all about the sorts of things that if I was at my desk I would look up, or know who to call for an answer. I approached the desk, and was surprised to be given a sheet with the results of my exam! Somehow, in all of the information I had read about the exam and its contents I hadn't realized I would get my scores right then. Happily, I saw that I had passed and, not surprised, but pleased, headed out re-assured that while I certainly didn't have all the answers I at least knew many



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of the questions to ask to make my small part of the rigging world safer.

This really should be the goal of any safety program—to create a mindset that raises questions and keeps a focus on probing the possible issues and outcomes of the choices we make while providing tools to assist in answering and resolving them. The ETCP - Theatre Rigging exam, by focusing on both materials and methods really helped to remind me of many important factors in the safe installation and operation of rigging systems. It is crucial to find the weak links that could become failure points and determine the best ways to address them. In itself, not knowing the answer is not dangerous as long as you are willing to find the answer. Not knowing the question, or even worse, being ignorant that there should be a question is the real danger. ■



Mark Fink is a Systems Integrator for Barbizon Capitol, Inc. where he works with clients designing and realizing lighting and rigging for their theatrical, museum, broadcast, and architectural projects. Previously for Barbizon he was the Project Manager for the Newseum and The Atlas Performing Arts Center in Washington, DC; and The Paramount Theatre in Charlottesville, VA among many, many others. Mark can be reached via email at mfink@barbizon.com.

ETCP celebrates 1,000 certifications

The Entertainment Technician Certification Program Council is proud to announce that it has issued over 1,000 certifications since the program began issuing certifications in November of 2005. These certifications are held by 877 ETCP Certified Technicians. Eleven technicians hold all three certifications: Rigger—Theatre, Rigger—Arena, and Entertainment Electrician.

“When the ETCP program was launched, it represented an unprecedented attempt by ESTA to create an inclusive program to improve the safety of our industry. The use of certified technicians can and does provide substantial benefits to audiences, employers, and employees. One thousand certifications represents a tremendous milestone for which all program participants can be extremely proud,” says ESTA President, Bill Groener. “The success of the program is due to the remarkable commitment by ETCP Council Members, the Subject Matter Experts, ETCP Recognized Employers and Labor Providers, our donors, Media Partners, and most importantly, the certified technicians who have embraced this program as a way of demonstrating their dedication to their craft and to safety.”

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