

ARKANSAS FESTIVAL TECH CHALLENGE 2014

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The **Tech Challenge** is a series of events that are designed to test your knowledge of basic skills that every technician should have. The combination of team and individual events represents the fact that theatre technicians do not always work alone and that it is an ensemble working together to accomplish the given tasks that makes the production successful. In technical theatre both time and accuracy are critical to a successful outcome. As artists we demand excellence in the tasks we are given but as technicians we also have to perform those tasks quickly and efficiently so it does not disrupt the production process. Your tech team should consist of between 4-7 students. The Tech Challenge consists of six events: 3 individual and 3 team events. These events represent some basic skills that every technician should possess to be well rounded theatre professionals.

The events for the 2014 Tech Challenge are:

1. **Lighting – Hanging and Focusing an Ellipsoidal Reflector Spotlight**
2. **Costuming- Button Sewing**
3. **Stagecraft – Knot Tying**
4. **Costumes- Quick Change** (team of 4 event)
5. **Stagecraft – Leg a Platform** (team of 2 event)
6. **Scenery – Fold a Drop** (team of 4 event)

We acknowledge the fact that there are many ways to accomplish these tasks and that various professionals, vendors and educators may have different methods. The following packet has been designed by professionals, educators and the Educational Theatre Association to communicate the standards that each event will be judged on. The study materials will provide materials for your team to practice each event.

Challenge Breakdown

****Words in bold face correspond to attached vocabulary****

TEAM EVENTS: (2 or 4 from each team per event. Each team gets two attempts, excluding the mystery event)

Stagecraft – Legging a Platform (pair event)

Constructing set units is a fundamental skill every technician should master. The platform is one of the basic elements in a set and should be constructed in such a way as to provide safety and support for the actors or other set units. This is the responsibility of the construction crew, headed by the **Master Carpenter**. Legs on a platform can be of various sizes, from supporting the platform just barely off the floor, to towering overhead. Properly securing the legs to the platform is paramount.

In this challenge, a pair of technicians must properly attach two legs to a platform, then remove the other two legs on the platform.

Costumes – Quick Change (team of 4 event)

During the run of any given production the **Wardrobe Master** is in charge of the successful execution of the **Costume Design**. Their duties included making sure that all of the actors are in the correct **costume** and also maintaining the look and integrity of the costumes. One of the most important jobs that the Wardrobe Master and their crew has during the **run** of a show is a **Costume Quick Change**. **Quick Changes** are vital to making sure the flow and pace of the production is uninterrupted. Many times the wardrobe crew has less than a few minutes to successfully complete the given change. Thus leading to “organized chaos”. To organize the chaos the Wardrobe Master provides his/her crew with a **Quick Change Plot**. In this challenge your team of four must use the Wardrobe Master’s Quick Change Plot to successfully complete the costume change.

In this case your actor was not able to under-dress so you will have to complete the entire change. Your team will have two attempts to perform this challenge and the fastest time will be kept as your score for this event. The first attempt will be to change the actor from Costume A into Costume B. The second attempt will be to change the actor from Costume B back into Costume A.

Scenery – Folding a Theatrical Backdrop

Backdrops and other **soft goods** (curtains) are essential to every production. When the goods are not **hung** on a **batten** for show use there are particular ways that the goods should be folded for safe storage and easy identification.

In this challenge your team of four will be asked to successfully fold a theatrical backdrop for storage using the method outlined in the related materials. *Related Documents:* How to fold a drop handout

INDIVIDUAL EVENTS

Lighting – Hanging and Focusing an instrument

Lighting provides a tool for not only making the scene visible, but for setting moods and tones of scenes on stage. Having knowledge of how to use the equipment allows one to act as the *Master Electrician* for a production. The person responsible for hanging and focusing the lights for a show is the **Master Electrician (M.E.)**. There are many different types of lighting instruments that the M.E. will use in the theatre. Each type of instrument plays an important role in the overall lighting scheme. It is important that the M.E. has a broad understanding of all of these instruments: how they work and how they are installed on the **electrics**. One of the instruments that you will use the most is the **Ellipsoidal Reflector Spotlight or “Leko”**. There are many types of Ellipsoidals all from different manufactures; one of the most common is the *ETC Source 4*.

This is an individual event. There may be two participants per team and **each** gets two tries.

In this challenge, individuals will be asked to successfully hang and focus an *ETC Source 4*. All equipment and tools will be provided. You may bring and use your own gloves and wrench if you would like (no ratcheting wrenches). Successful completion of this challenge is when the unit is secured to the pipe, powered on, correctly focused to the shape marked out on the wall, and a gel inserted into the gel slot then secured.

Stagecraft – knot tying

The ability to tie basic knots is essential to a wide range of technicians. This fundamental stagecraft skill is used every day from hauling equipment to the **catwalk** or properly **rigging** scenery.

This is an individual event. There may be two participants per team and **each** gets two tries.

In this challenge, individuals will be asked to correctly tie a series knots. Contestants will start by tying a clove hitch onto a pipe, and then secure it with a half hitch. Next, they will have to tie that rope to a different sized rope using a sheet bend. Finally, they will tie a bowline around the waist using only one hand. Time will be stopped when the contestant signals with raising both hands up.

Costuming – Sew a Button

One basic skill required of any wardrobe technician is the ability to quickly fix costume problems that may arise. This begins with the ability to reattach a button.

This is an individual event. There may be two participants per team and **each** gets two tries.

In this event, one team member will have to successfully sew a button with a **SHANK** on the material provided. Prior to the event, the needle will be threaded, but not knotted. You will be provided fabric, a shank button, a small flat button, the threaded needle and scissors.

VOCABULARY

Backdrop – a fabric curtain that has scenes, images or textures painted on it. Scenic element used in theatre to set the location of the scene. Backdrops also helps to disguise a scene change that is happening upstage of the drop.

Soft Goods – A term used for any type of curtains or drops used in a theatre that are not framed or rigid.

Batten – A pipe or bar that lighting instruments, soft goods and scenery are attached to for rigging purposes.

Pipe pocket – The open hem in the bottom of a drop or curtain that allows a piece of pipe to be inserted to stretch the drop.

Webbing – The top three (3) inches of the drop that is reinforced with webbing. The webbing also includes the ties and grommets for attaching the drop or curtain to a batten.

Nap – The short fuzzy ends of fibers on the surface of cloth.

Master Carpenter – The person in charge of scenery construction, aided by the carpenters in the shop.

Wardrobe Master – The person who is in charge of the running of the costume crew for a production. He/she is also oversees the upkeep and laundering of the costumes during the run of the production.

Costume Designer – The person who develops the artistic and technical scheme for the costumes of a particular production.

Costume – The clothes and accessories worn on stage by an actor portraying a character.

Quick Change – Any costume change that happens between or during scenes and the actor does not have enough time to go return to their dressing room to complete the change. Quick changes may be simple as simple as just adding or subtracting an accessory or they can be as complicated as changing the actor's entire costume.

Quick Change Plot – The organizational paperwork that outlines the what, who, when and how of the quick change and how it is going to work.

Lighting Designer – The person who develops the artistic and technical scheme for the lighting of a particular production.

Master Electrician – the person who oversees the lighting crew. He / She is responsible for the hanging, focusing, and programming of the show as well as the day to day up keep of the lighting for the production's run.

Electrics – A special batten that just contain lighting instruments and circuits.

Ellipsoidal Reflector Spotlight – A lighting instrument with a lens that throws and intense light on defined areas. This type of fixture is used for front light, side light, specials, and projections (gobos).

C-Clamp – The hardware used to attach the lighting instrument to the batten.

Pipe bolt – The long skinny bolt located on the front of the C-Clamp that secures the clamp to the pipe.

Safety Cable – A piece of aircraft cable that is attached to the yolk of an instrument and around the batten to prevent the instrument from falling to the ground if the C-Clamp fails.

Yolk – The U shaped metal that attaches the lighting instrument to the C-Clamp. Allows for a technician to adjust the position of the instrument once secured to the batten.

Tail – The electrical cable that runs from the lamp base of the instrument to the connector.

Circuit – Provides power to the instrument.

Pan – The horizontal position of the lighting instrument.

Tilt – The vertical position of the lighting instrument.

Focus – The positioning shaping and coloring of lighting instruments according to the lighting designer.

Beam – The cone of light that is being projected by the instrument.

Drop Focus – the act of an instrument loosing it correct positioning, shape or color.

Color (Also know as Gel or Filters) – The colored plastic and frame that goes in the front of the instrument to color the light.

Pattern (gobo) – A thin metal disk that goes in the gate of the instrument to create texture or project images.

ETC Source 4 – A type of Ellipsoidal or Fixed Beam spotlight that is manufactured by Electronic Theatre Controls (ETC).

Catwalk – The overhead access that allows technicians to reach lighting and rigging positions high up in the theatre.

Rigging – The suspension of soft goods, lighting instruments, scenery and people over the stage so that they can be brought in for quick scene changes or easy access.

Amplification – The act of reinforcing an actor's voice using mechanical means (a microphone).

Playback – The use of devices to play sound effects or music (such as CDs/ Mini Disk/ Mp3s)

Sound Effects – The recorded or live recreation of a known sound. (i.e. Dogs barking or a car honking)

Music – The recorded or live performance of musical instruments (including singing)

Sound Engineer – The person who is responsible for the execution of the sound design during the run of the production.

Sound Designer – The person who develops the artistic and technical scheme for the sound of a particular production.

Hook up chart – The organizational chart that shows how the sound system is set up for a given production.

Mixing Console – The control desk that allows the sound engineer to control various devices and how they sound to the audience.

Microphone – An amplification device that allows the actor's voice to be reinforced by the sound system.

Playback Device – A particular piece of gear that allows the sound engineer to play recorded sound effects of music (i.e. CD player, Mp3 Player)

TEAM EVENTS

TECHNICAL HANDOUTS

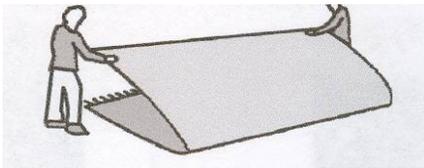
How to Fold a Drop Images used by permission of J Galt Design, www.jgaltdesign.com

Backdrops and other soft goods (curtains) are necessary in every production by providing scenic elements and masking the backstage areas. When the goods are not hung on a batten for show use there is a particular way that the goods should be folded for safe storage and easy identification.

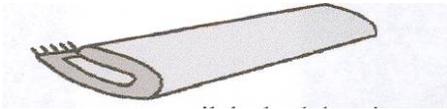
The method that is described bellow is the most common method used. However, it is not the only method in practice.

Step 1.) Place backdrop on a clean stage floor face (painted or knap side) up. Make sure the drop is smooth and free of any wrinkles.

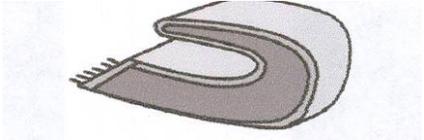
Step 2.) The next step requires four (4) people. Together fold the pipe pocket (lower corners) to the webbing (upper corners).



Step 3.) Fold again from lower edge to the webbing (top) and smooth out any wrinkles.



Step 4.) Fold again in the same manner until the backdrop is approximately 3 feet wide. Again smooth out any wrinkles or creases.



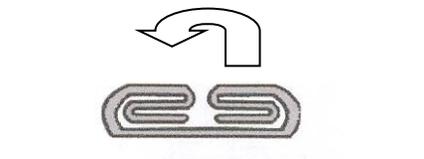
Step 5.) Fold hemmed edges towards the center, leaving enough space for the final book fold (approx. 1' to 1'6").



Step 6.) Fold edges towards the center again, in the same manner until the backdrop can be folded into a square of 2 to 3 ft.



Step 7.) Fold the two halves of the drop on to them self, creating a book like shape with one open end.



Scenery: Leg a Platform (Pair Event)

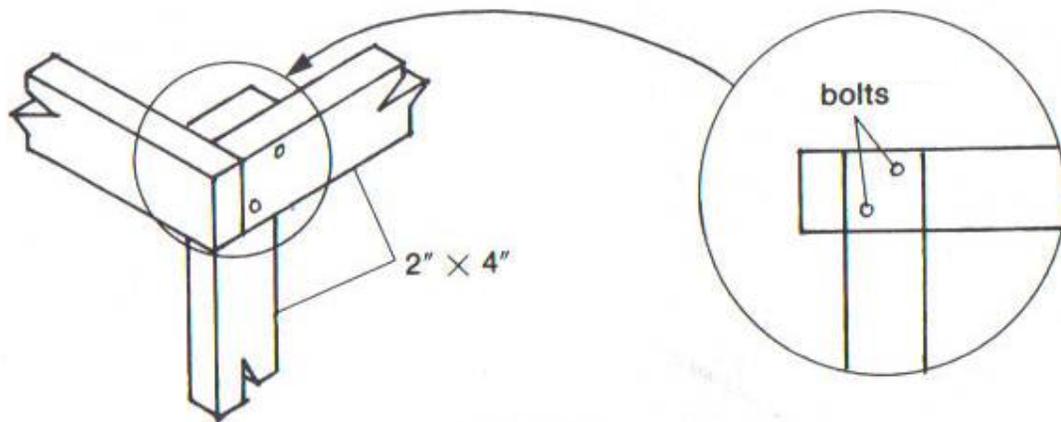
The team must attach two legs and remove two legs, leaving the platform ready for the next team. (2 legs are bolted to the platform and 2 not.)

4'x4' 2x4 framed platform with a 12" 2x4 leg for each corner. The leg holes are drilled slightly larger than the 3/8 inch bolts used to attach them to the platforms. Two ratchets and two adjustable wrenches provided. Two ratchet wrenches and two adjustable wrenches provide challenge of setting the ratchet in forward/reverse mode, and getting the adjustable set to the correct width. The hex-head bolts must be installed with the head on the outside of the platform. There must be a washer on both sides of the 2x4.

Each team must provide one pair of students to complete this event. Maximum time allotted is 5 min. Each team gets two attempts at this event.

Recommended Sequence - One platform

1. Leave the start line
2. Each member grabs a leg, wrenches and hardware.
3. Each attaches a leg (using a wrench and a ratchet)
4. Then remove the other legs.
5. Team returns to the finish line and one member says "DONE!"



Costumes: Quick Change (*Team of 4 Event*)

During the run of any given production, the **WARDROBE MASTER** and Dressing Crew are responsible for the successful organization, running and maintenance of the Costumes designed for a production. Their duties include making sure that all of the actors are in the correct **COSTUME** and also maintaining the look and integrity of the costumes.

One of the most important jobs that the wardrobe master and their crew have during the run of a show is a "Costume Quick Change." **QUICK CHANGES** are vital to ensuring that the flow and pace of the production is uninterrupted.

Many times the wardrobe crew has less than a few minutes to successfully complete the given change, which can lead to organized chaos. To organize the chaos, the wardrobe master provides his/her crew with a **QUICK CHANGE PLOT**.

In this challenge, your team of up to four people must use the "Wardrobe Master's Quick Change Plot" to successfully complete the costume change. In this case, your actor was not able to under-dress, so you will have to complete the entire change. Judging is based on speed, smoothness of change and final look. Each team can try this event twice, but they must do the second try **immediately**. Maximum time allotted is 5 min. For a video demonstration please visit http://www.youtube.com/watch?v=Ql_xcEn-U7E

Recommended Sequence

The crew will have up to 20 seconds for prep before the actor is released from the starting line. *Note: actor will enter even if contestants are not ready.*

1. Leave the start line and begin prepping
2. Actor will be fully dressed in scene 1 outfit
Note: Actor can help during change by unbuttoning, stepping out, removing shoes, etc. but only if crew requests.
3. Assist the performer out of scene 1 outfit
 - a. Undo fastening
 - b. Help lift over head or off arms
4. Assist the performer into scene 2 outfit
 - a. Do fastenings – must be completely buttoned
 - b. Put on hats or accessories
5. Rehang scene 1 outfit neatly and properly
6. Once set, the contestants run to the finish line.

Sample Costume Plot

Act I – Dress	Act II - Suit
Hat	Shirt
Belt	Jacket
Dress	Tie
Shoes	Pants
	Shoes
	Belt
	Hat

INDIVIDUAL EVENTS

How to Hang and Focus a Light Images used by permission of ETC, www.etcconnect.com



Types of Theatrical Lighting

Ellipsoidal

(ETC Source 4)

How to hang a lighting fixture (Ellipsoidal)

1. Place *C-CLAMP* over the pipe at the designated hanging location.
 - a. **NOTE:** the opening of the *C-clamp* should be facing the technician.
2. Finger-tighten the *PIPE BOLT* so that is secure on the electric pipe.
3. Attach the *SAFTEY CABLE* around the electric pipe.
4. Wrench-tighten the *PIPE BOLT* no tighter than $\frac{1}{4}$ turn past finger tight.
5. Pull all of the shutters in the fixture to open.
6. Plug the *TAIL* of the lighting instrument into the designated *CIRCUIT*.

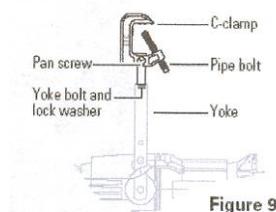


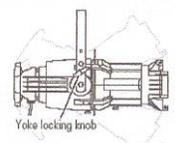
Figure 9

HOW TO FOCUS AN ELIPSOIDAL

1. Adjust the *PAN* of the unit to set in the desired location.
2. Adjust the *TILT* of the unit to set in the desired location.

Setting the angle within the yoke

1. Loosen the yoke locking knobs. (**Do not** remove them.)
2. Tilt the fixture to the desired position.
3. Tighten the yoke locking knobs to secure the fixture in position.



3. Focus the *BEAM* to a sharp beam edge.
4. Using the *SHUTTERS*, shape the beam of light to the desired shape.
5. Lock the fixture: Make sure all nuts, handles and knobs are locked down so that the instrument does not *DROP FOCUS*.
6. Drop a gel in to the color slot of the instrument.

Focusing the beam

1. Loosen the beam focus knob located under the barrel as shown in.
2. Slide the lens tube forward or backward to achieve the desired beam edge.
3. Once the fixture is focused, tighten the beam focus knob.

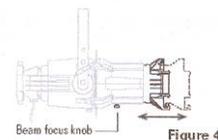


Figure 4

NOTICE: *The only step that must be done in order is that 1. The c-clamp (pipe bolt) must be finger-tightened, then 2. the safety cable attached, then 3. the c-clamp (pipe bolt) wrench-tightened. Failure to follow this sequence will add 10 seconds to your time!

Stagecraft: Knot Tying

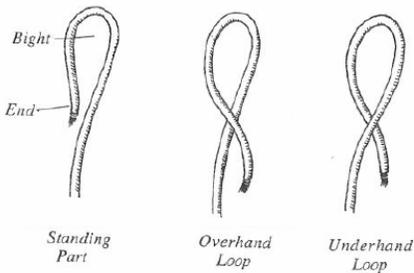
This is an individual event. Two people per team can try this event, and each gets two tries. The maximum time allotted is 2 min. For a video demonstration, please visit <http://www.youtube.com/watch?v=jXRf80kpcC4>

In this challenge, individuals will be asked to correctly tie a series of commonly used knots.

Recommended Sequence

1. Leave the start line
2. Tie a clove hitch on the pipe stand.
3. Tie a $\frac{1}{2}$ hitch on the clove (a locking knot)
4. Tie a second line to the first with a sheet bend (a tailor's knot).
5. Tie a bowline around his/her waist
6. Task completed, the contestant signals with hands-up.

Knot Terminology:



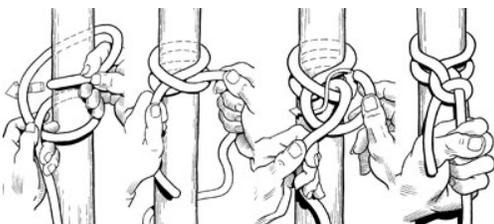
Clove Hitch



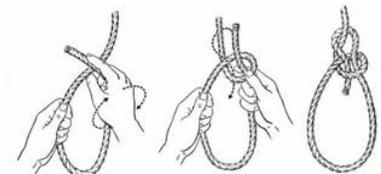
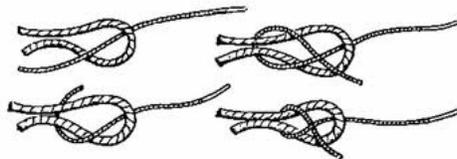
Sheet Bend



Bowline



Clove Hitch w/ added half hitch



Sew a Button (*Individual Event*)

One basic skill required of any wardrobe technician is the ability to quickly fix costume problems that may arise. This begins with the ability to reattach a button.

This is an individual event. Two people per team can try this event, and each gets two tries. Maximum time allotted for this event is 3 min. For a video demonstration please visit <http://www.youtube.com/watch?v=yfTpYoTqHoM>

In this event, one team member will have to successfully sew a button with **SHANK** on the material provided. Prior to the event, the needle will be threaded, but not knotted. You will be given a shank button, the threaded needle and scissors.



1. Pick up the threaded needle.
2. Knot the thread.
3. Locate where you will be sewing the button on to the garment. Place the needle into the fabric, starting at the back side of the garment, bringing it up through the garment.
4. Make two or three stitches in the fabric, without the button to anchor your thread
5. Bring the needle up to the top of the garment, bring the thread through the button shank and back through the fabric
6. Pull the stitch semi tight. The shank should still stand up over the fabric. Do not pull the threads tight enough to sink the shank into the fabric.
7. Stitch through the back button and up through the shank again, repeating to have 4 stitches holding your shank button on to the garment.
8. Bring the needle up to the under the shank button and wrap the thread 4 times around the threads which are holding on the shank button.
9. Create a loop of thread on one side of the threads and bring the needle around through the loop. Pull the threads tight.
10. Bring the needle to the back of the fabric; then knot off the thread.
11. Cut the thread.