

Guidelines for Theatre Safety



Work Projects Administration Poster

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Adapted for Whitman College - 2016

ADMINISTRATIVE GUIDELINES

RECOMMENDED PROCEDURES

An educational environment free from accident and injury is a goal for public education in Texas. Safety is a result of efforts to assure the welfare of students and teachers and the prevention of damage of equipment and facilities.

The Sixth National Conference on Safety Education has made the following recommendations:



- * Adequate equipment, materials, and supplies should be provided for each curriculum area.
- * Provision should be made for regular inspection and maintenance of equipment and facilities. Special attention should be given to stage rigging, electrical wiring, and lighting apparatus.
- * Instruction should be enhanced and updated through in-service experiences, including participation in college and university courses, and through the activities of professional organizations.
- * The staff should be provided with up-to-date and accurate information regarding accident liability and insurance.
- * Effective safety guides should be utilized in the various curriculum areas.
- * Students should be tested to determine safety-related knowledge and skills.
- * Teachers and students should be aware of emergency procedures or varying circumstances.

Eye protection is routinely provided in vocational and industrial arts shops. Since many of the same tools and equipment are employed for scenery construction, eye-protective devices should be provided and used in technical theatre shops.

All accidents should be investigated to determine cause and to take necessary corrective measure. Written documentation should be maintained as part of Whitman's Accident Prevention Program. Contact Environmental Health and Safety for assistance

Instructor RESPONSIBILITIES

Safety in the theatre extends to crews, casts, audience members. It requires awareness, common sense, and perseverance to eliminate hazards, avoid risks, and guard against carelessness.

It is the instructor's responsibility to:

- ☞ make safety a part of the everyday theatre arts program
- ☞ establish safety procedures and regulations and make sure students understand and observe them
- ☞ establish emergency procedures (such as for the evacuation of the stage and auditorium), instruct, and rehearse students in their implementation
- ☞ be aware of possible hazards and alert students to potential dangers
- ☞ promote positive student attitudes toward safety; students should not fear using tools and equipment but should respect them for potential hazards
- ☞ set good safety examples when conducting demonstrations
- ☞ instruct students in the proper care and use of tools and equipment
- ☞ check students out on using tools and equipment
- ☞ maintain adequate supervision when students are using potentially hazardous equipment
- ☞ inspect facilities and equipment regularly to eliminate hazards
- ☞ discontinue use of defective or unsafe equipment as soon as the defect becomes known
- ☞ report, verbally and in writing, potentially unsafe equipment or facilities to the school administration along with suggestions for improvement
- ☞ make sure that a fully-stocked first-aid kit is readily available and properly maintained in each shop and stagehouse work area
- ☞ take extra precautions to ensure safety during the strike period following the closing of a show



If an injury does occur:

- ▲ protect the victim from further harm
- ▲ for minor injuries, render first aid, direct the injured student to the Welty Health Center, and complete an incident report
- ▲ for more serious injuries, call 911 and complete an incident report

ACCESSIBILITY

Disabled or handicapped students can and should be encouraged to actively participate in both the technical and performance areas of theatre. (The Fine Arts Section of the Texas Education Agency can provide specific suggestions.)

To ensure accessibility, the teacher should:

- ✦ research barrier-free facilities and make local adjustments accordingly
- ✦ be aware of the capabilities of the student but not underestimate his or her potential. Consult with local district special service personnel in dealing with specific problems.
- ✦ pair a disabled student with a student of normal capabilities
- ✦ give instructions both orally and visually, then have the student repeat the instructions to be sure he or she understands
- ✦ keep backstage areas and shops in order and free of obstacles

FIELD TRIPS

A primary element of the educational theatre program is the opportunity for students to observe preparations and productions of professional, community, and other educational theatre companies.

Safety measures for field trips include:

- ✦ rules for safe conduct established prior to the trip and observed by all present
- ✦ prompt notification about any student involved in an accident to administrators and parents
- ✦ Prior to loading into a new host's facility the staff and students shall perform walkthrough of the venue and locate Exit routes, Fire Extinguishers, Fire Alarm Pull Stations, Fire Curtain and Smoke Vent controls, if any. They should also make a general hazard assessment of the facility and equipment conditions noting open ledges (loading docks), (orchestra) pits, traps, unguarded ladders, etc.; and should look for mechanical, rigging, electrical, chemical, and thermal hazards, too
- ✦ Bring your own safety equipment including, but not limited to flashlights, gloves, boots, hearing protection, safety glasses, fall protection equipment, etc. Do not expect your host to provide these





FACILITIES AND EQUIPMENT

- ✓ Since many theatre activities occur after regular instructional hours, a telephone with a direct outside line should be conveniently located in the theatre facility. Emergency numbers (paramedic, ambulance) should be posted by the phone.
- ✓ Stage curtains and drapes should have a fire retardant treatment or be inherently fireproof. Records shall be kept showing the date of manufacture and last treatment of each soft good. Soft goods should have unique identification markers that correlate to written records. Materials shall be retreated with fire retardants as recommended by the manufacturer.
- ✓ Stage rigging should be properly maintained and regularly inspected.
- ✓ Stage lighting circuitry, dimmers, and instruments should be properly maintained and regularly inspected.
- ✓ Auditorium exits should be identified by lighted exit signs.
- ✓ Exits and access to exits should be unobstructed at all times.
- ✓ Proper types of fire extinguishers should be located according to fire code regulations and kept unobstructed.
- ✓ Adequate first-aid supplies should be maintained.
- ✓ An adequate shop or space for the safe operation of tools and equipment should be provided.
- ✓ There should be master switches for electrical power in the scene shop area and for the stage lighting equipment.
- ✓ Safety rules for equipment and tool operation should be posted.
- ✓ There should be adequate numbers of grounded electrical outlets to reduce the need for extension cords.
- ✓ Adequate exhaust ventilation should be provided in the scene shop to remove wood dust and paint fumes. Air conditioning or fans that simply circulate the air in the room are not sufficient.
- ✓ Adequate storage areas for tools, materials, and supplies should be provided and kept clean and orderly.
- ✓ Safe storage should be provided for flammable materials such as paint and thinner.
- ✓ There should be adequate provisions for scraps and refuse.

- ✓ There should be adequate protective equipment such as eye goggles or face shields, ear muffs, gloves, aprons, and safety belts.
- ✓ The scene shop should contain washing facilities with an adequate supply of soap and towels.
- ✓ An adequate number of ladders of the proper size should be kept in good repair.
- ✓ Platforms and risers should be sturdy.
- ✓ The orchestra pit, risers, and tall platforms should have guard rails.
- ✓ Dressing rooms should have restroom facilities with an adequate supply of soap and towels.
- ✓ Dressing rooms should be kept clean and sanitary for the prevention of skin infection.
- ✓ Mirrors in the dressing rooms should be securely mounted, and there should be adequate storage for makeup supplies.
- ✓ An adequate supply of operable flashlights should be maintained in the box office in case of power failure during a performance.



“The heavens give safety to your purposes!”
—Angelo, MEASURE FOR MEASURE

“Provide for thine own future safety.”
—Wolsey, KING HENRY THE EIGHTH

“Devise the fittest time and safest way.”
—Celia, AS YOU LIKE IT

“Effect it with some care.”
—Oberon, A MIDSUMMER NIGHT’S
DREAM

“Keep it safe.”
—King John, KING JOHN

“Be not with mortal accidents oppressed.”
—Jupiter, CYMBELINE

“Embrace your own safety.”
—Celia, AS YOU LIKE IT

“Take care.”—Stephano, THE TEMPEST

“The gods with safety stand about thee!”—
Priam, TROILUS AND CRESSIDA

“Look to it well, and say you are well
warn’d.”
—Richard, HENRY THE SIXTH, PART I

CAUSES OF ACCIDENTS

Safety in the theatre means safeguarding crews, casts, and audiences from all foreseeable hazards and emergencies. Learning to work safely is a vital aspect of educational theatre. Most accidents can be avoided by replacing unsafe habits with safe practices. The main causes of accidents:

- ✧ Insufficient knowledge
- ✧ Improper use of tools and facilities
- ✧ Failure to safeguard hazardous equipment
- ✧ Failure to remove faulty equipment
- ✧ Carelessness
- ✧ Taking unnecessary risks
- ✧ Being in a hurry

The most dangerous time of a production is the strike—when the show is over and the technical elements are dismantled and stored. This time of exhilaration and exhaustion warrants a greater degree of attention and vigilance than any other period in the course of the production.

GENERAL SAFETY REGULATIONS

Running, practical jokes, throwing tools or materials, jumping from one level to another, or any other dangerous activity is not permitted.

The proper method of bending the knees, keeping the body erect, and pushing upward with the legs should be used when lifting objects. Assistance should be obtained when lifting or carrying heavy objects.

The shop, stagehouse, or other work area must be cleaned and left in a safe condition. All tools should be returned, floors cleaned (using a vacuum or wet mop rather than dusting and sweeping), trash emptied, and walkways and exits left clear and unobstructed. In short, any potential safety or fire hazard must be eliminated.

Open traps and unusable platforms or step units must be barricaded (fenced or roped off) or covered. They should be marked with large signs at all times between work periods or performances.

Cleanliness and order in the storage areas should be maintained at all times.

Any accident should be reported immediately to the supervising instructor so that first aid and/or medical attention can be administered without delay

CLOTHING AND PROTECTIVE EQUIPMENT

Hard-sole shoes should be worn while working in the scene shop, stage, loading dock, or anywhere in the theatre facility. Tennis shoes are not desirable; sandals and bare feet should not be permitted." Only performers (actors, dancers, musicians) in dress rehearsal or performance should be permitted to wear open toed or soft construction shoes on stage and in pre-production areas. Workers loading or unloading trucks, moving platforms, scenery, stage weights, or other heavy objects should wear steel-toed work boots.

Loose-fitting clothing, scarves, ties, or jewelry should not be worn while using power equipment. Long hair should be tied back or covered. Long-sleeved shirts should be either buttoned at the cuffs or rolled to the upper arm.

Goggles, face shields, or safety glasses—all ANSI rated for impact—should be worn while working around the shop or stage when in the vicinity of anyone painting, spraying, sanding, cutting, drilling, chiseling, hammering, nailing, or stapling. Safety glasses shall have side guards to deflect incoming projectiles from the side. Welding masks and shields shall be used around welding operations.

Ear muffs should be worn during prolonged exposure to excessive noise.

Gloves should be worn to protect against abrasion, punctures, and solvents. Gloves shall NOT be worn when operating saws, drills, lathes, or other equipment that could capture the fabric of the glove and draw the worker into the machine.

Hard hats should be worn while scenery or lighting equipment is being rigged overhead, or when the worker is in a low ceiling area where there are exposed sharp and/or hard surfaces that could cause head injuries.

Wear special work clothes which can be removed after work. Wash clothes frequently and separately from regular clothing.

Wash hands in soap and water during work breaks, before eating, and after work. Never use solvents to clean hands.

Knee pads should be worn when tasks require the worker to kneel down and rest weight upon the workers knees.

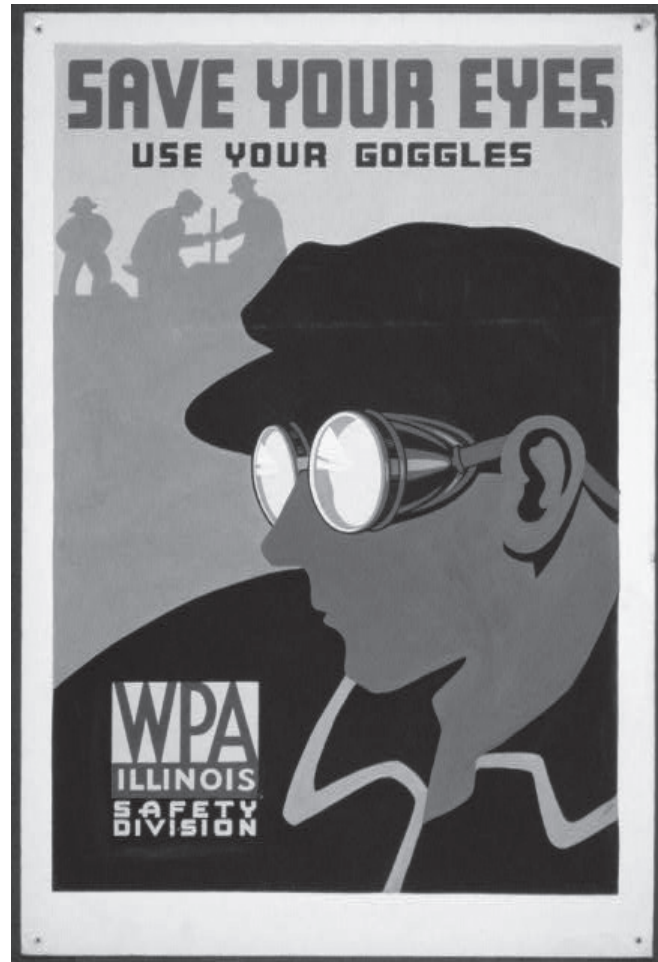
FIRE PROTECTION

Theatrical fires can be divided into three categories:

1. Class “A”—fire involving ordinary combustibles such as paper, cloth, cardboard, and wood
2. Class “B”—fire involving petroleum base products such as paint, oil, grease, and fuel
3. Class “C”—electrical fire

Proper procedures for evacuation should be discussed and rehearsed.

Exits and access to exits must be kept clear and unobstructed at all times. During periods of occupancy, no exit door should be locked, chained, or obstructed by any means. The door must be readily opened from the inside.



“ABC” fire extinguishers must be well-maintained and unobstructed at all times. Students should be trained in their use. Staff and Students should know the locations of all Fire Extinguishers, Fire Alarm Activation Stations (Pull Stations), Fire Hose Cabinets, Fire Curtain controls (releases) (if facility is equipped with a fire curtain), and smoke vent hatch controls (releases)) (if facility is equipped with smoke vents).

Flammables such as paint, thinner, and spray cans should be stored in special metal storage cabinets. All rags or clothing materials saturated with flammable paints or solvents should be properly discarded outside of the building.

Open flames on stage should be avoided if possible. Adequate enclosure and safeguards must be provided if open flames are used.

Electric light bulbs must not be covered or decorated with paper or other combustible material

Exit signs shall remain visible to the occupants at all times and may not be covered, dimmed, removed, or disabled in any way.

Doorways / openings through fire protective partitions (i.e. prosceniums with fire curtains, doors exiting the stage or shop, etc.) shall not be blocked from fully closing or propped-open with scenery, carts, stage weights, or other obstacles that will prevent them from closing in the event of a fire. Latching mechanisms shall not be defeated.

Scenery, fabrics, and props shall be fabricated from non-flammable materials or shall have materials treated with fire retardant chemicals.

LADDERS

- ✓ Before any ladder or scaffolding is used, it should be inspected to assure that it is in safe condition. A chair or box should never be substituted for a small ladder.
- ✓ Ladders should be constructed of electrically non-conductive material like wood or fiberglass. Metal ladders should be avoided wherever possible as they can conduct electricity.
- ✓ Wood ladders should not be painted inasmuch as paint hides splits and defects (shellac or varnish are acceptable alternatives). Any ladder or scaffolding that is damaged, missing the manufacturer’s safety labels, or is otherwise unsafe should be removed from service. Do not modify any ladder or scaffolding by drilling holes, adding casters or rolling bases unless they were specifically manufactured by the ladder or scaffolding manufacturer as an authorized accessory.
- ✓ Nonskid safety feet should be installed on any straight ladder before it is placed in service. Guard rails should be used on scaffolding.
- ✓ The base of a straight ladder should rest on a level surface and should be placed so that the distance away from the wall or surface against which it leans is approximately one quarter the length of the ladder.
- ✓ Straight ladders should be tied off, blocked, or otherwise secured when in use. Or, an assistant should support the ladder against accidental slipping or sliding.
- ✓ A step ladder should always be completely opened and climbed only on the side with the steps. Never stand or work from the top of a step ladder.
- ✓ Tools or other objects should be secured against falling while work is being performed from a ladder. Such items should never be left on a ladder, dropped, or pitched to another worker.

✓ Only move ladders when they are unoccupied. Only move man-lifts when they are lowered to the transport position. Only one person at a time shall be on a ladder.

✓ Provide Personal Protection Equipment (PPE) such as fall protection harnesses, fall arrestors, shock arresting lanyards, etc., as required to protect workers.

TOOLS AND MACHINERY

✓ Keep the work area free of clutter.

✓ Know the location of the master electrical switch in the scene shop.

✓ Before operating machinery or power tools for the first time, be checked out on proper operation procedures by the supervising teacher.

✓ Dress properly. Wear hard-sole shoes, avoid loose clothing, and cover or tie long hair that could catch in moving parts or air vents.

✓ Use safety eye or face protection. Wear safety glasses with side shields, impact goggles, full face shields, or masks/respirators as indicated by the nature of the work being performed.

✓ Do not use any defective or questionable electrical tool, machine cord, connection, or accessory. Report any defects for repair or replacement immediately.

✓ Understand the application, limitations, and potential hazards of any tool or machine you use. Select the proper tool for the job to be done. Don't improvise.

✓ Use only recommended accessories. Keep guards in place and in working order.

✓ Make sure saw blades, drill bits, etc., are sharp, clean and regularly maintained.

✓ All saws should be adjusted before use to expose only the minimum amount of blade necessary. The fingers and hands must be kept clear of the blade at all times.

✓ The blade in the table saw should be recessed when not in use.

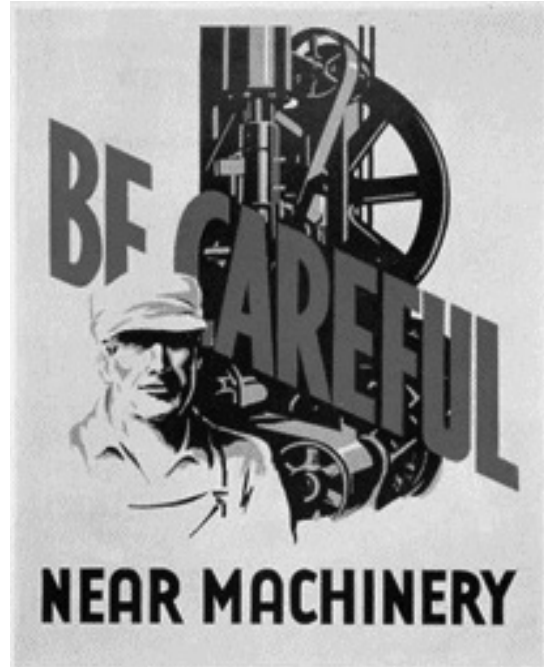
✓ Do not use a tool with a frayed cord or broken connection. Use only heavy-duty U.L.-listed extension cords of proper wire size and length.

✓ Electrical lines running along the stage floor should be taped or otherwise secured to prevent tripping during work periods, rehearsals, and performances.

✓ Use clamps or a vise to hold work in place when practical, freeing both hands to operate the tool.

✓ Avoid accidental startup. Make sure the switch is "off" before plugging in the cord or when power is interrupted. Never carry a power tool with your finger on the switch.

✓ Ground all power tools. If a tool is equipped with a three-prong plug, it should be plugged into a three-hole electrical outlet.



- ✓ Remove adjusting keys and wrenches before turning on a tool or machine.
- ✓ Do not force tools.
- ✓ Do not over-reach. Maintain proper footing, balance, and a secure grip on the tool you are using.
- ✓ Never adjust or change bits, blades, or belts with the power tool or machine connected to an electrical outlet.
- ✓ Never brush away chips or sawdust while tools or machines are operating.
- ✓ Never leave tools or equipment running unattended. Disconnect equipment from the power source when not in use.
- ✓ Never surprise, touch, or talk to anyone operating a power tool or machinery.
- ✓ Return tools to the tool room immediately after completing work.



RIGGING

Applicable to stage equipped with a counterweight or hemp system.

- ✓ Only authorized and trained personnel are permitted to work with the rigging equipment and to enter the grid area above the stage.
 - ✓ Safety procedures should be explained to the entire crew at the beginning of each work period involving rigging.
 - ✓ Work should be arranged so that all rigging and flying are done together, with no other work taking place on stage.
 - ✓ When a scenic piece is coming in, or when an arbor is being loaded or unloaded, there should be complete silence on stage.
 - ✓ The technical director or crew head should be the only person to call instructions to the grid crew. The director should inform both the grid and stage crew before a batten or piece is pulled in or out.
- ✓ The correct call to warn of a batten, scenery, or line coming in under control is “Heads up!” The emergency call for falling objects is “Clear the stage!”
 - ✓ Pockets should be emptied before going on to the grid. Tools brought onto the grid must be tied or secured to the worker. Safety belts should be worn while working on the grid.
 - ✓ Ropes or electrical lines must never be dropped to the stage floor from the grid. They should be pulled up, coiled, and carried down.
 - ✓ Any discovered irregularity in cable, rope, or the counterweight system should be reported immediately to the supervising teacher.

LIGHTING

- ✓ Only authorized and trained personnel are permitted to work with lighting circuitry, dimmers, and instruments.
- ✓ Know the location of the master electrical switch for the stage lighting equipment.
- ✓ Do not work around electrical equipment without shoes on.
- ✓ Any electrical or mechanical defect or irregularity must be reported to the supervising teacher for correction. No repair of faulty equipment or instruments should be undertaken unless the supervisor has been consulted and approved corrective repair or maintenance. Always inspect portable lights, foggers, cables, and connectors for damage before use. Do not use equipment that is designed to have an equipment safety grounding conductor and the connector is missing the grounding pin. Do not use equipment where the cable jacket or insulation has pulled-back from the connector body and/or the equipment cord strain relief.
- ✓ Even when disconnected, some electrical equipment can cause shocks. Never remove the cover of a device without assessing the potential danger.
- ✓ Should an electrical shock occur, the source of power must be shut off immediately and artificial respiration applied if the victim's breathing has been interrupted and stopped.
- ✓ Any incidence of electrical shock, no matter how slight, must be reported for immediate correction to the supervising teacher.
- ✓ Food or beverages should not be allowed in the light control area.
- ✓ When changing lamps in lighting instruments, always unplug the device before opening the fixture housing. Always wear leather gloves to protect against sharp metal corners, hot metal parts, and broken glass. Do not touch the glass globe of the lamp with bare hands or fingers – body oils will cause a hot-spot to develop on the glass and can cause the lamp to explode.

PAINT, SOLVENTS AND CHEMICALS

- ✓ Be aware of potentially toxic materials: powdered pigments and dyes, fireproofing chemicals, spray adhesives and glues, solvents, and paints. Keep a file of Material Data Safety Sheets (MSDS) for all powdered pigments and dyes, fireproofing chemicals, spray adhesives and glues, solvents, and paints used in the facility.
- ✓ Compare labels and use products that contain the least toxic ingredients. For example, replace turpentine with mineral spirits.
- ✓ Use premixed paints rather than dry pigments.
- ✓ Use water-based or latex paints rather than oil-based paints and enamels.
- ✓ Use products that are in solution rather than in powdered form.
- ✓ Avoid aerosol cans and spray products.
- ✓ Choose brushing and dipping methods in applying paint over spray methods whenever possible.
- ✓ Avoid breathing vapors and use proper ventilation when painting. General dilution ventilation can be used with acrylic, latex, and artist's oils. Spray painting requires exhaust ventilation (i.e. an air circulation system that exhausts the contaminated air to the outside, not back into the building ventilation system).

- ✓ Before loading or unloading an arbor, the grid worker must call out, "Clear the rail!" This call is a warning that everyone must clear the area of the stage adjacent to the locking rail. When this area is clear, someone on stage must call out, "Rail clear!" Only after this has been done should the grid worker begin loading or unloading the arbor. It is then the responsibility of the stage worker who gave the "Rail clear" call to keep the rail area vacant.
- ✓ When hanging scenery or lighting equipment, the loading of the counterweights onto the arbor should be carefully coordinated with the attachment of the lighting and/or scenery to the batten. When striking scenery or equipment, the arbor unloading should again be carefully coordinated with the dismantling of the lighting and/or scenery. Example: When loading ten light fixtures each weighing 20 pounds, the stage crew should allow the loading gallery crew the time to add counterweights to compensate for each fixture added. Don't add ten lighting instruments, and then add 200 pounds of counterweight; instead, add a light, add a counterweight, and repeat.
- ✓ A 10-pound weight should not be put on the top of the stacked weights in an arbor. A 20-pound or heavier weight should be on top. Always make sure that the weight locking collars are on top of the counterweights (never under them) and that they are secured in place by tightening the set screws. If the arbor is equipped with spreader-plates, then see that they are raised-up as weights are loaded so that they do not become buried in the weight stack. Spreader plates should be positioned at about every 12-18 inches of counterweight thickness.
- ✓ Counterweights not in use on the stage floor or loading platform should be neatly arranged. They should never be stacked above the toe rail height of the loading platform.
- ✓ When loading or unloading is complete, the loading gallery worker should call out, "Rail is safe!" This call should be acknowledged from the stage.
- ✓ A counterweight set must be left in a balanced position. The rope lock on the counterweight arbor should never have to hold more than about 50 pounds of imbalance. This means it should neither be "batten-heavy" or "arbor-heavy" beyond the control of a single operator.
- ✓ Except for the actual moment of flying, every counterweight set should be kept locked off with the locking rings in place.
- ✓ Pipe extensions to battens must be securely bolted to the batten with a steel splicing sleeve of equal or greater wall thickness than the pipe batten. There should always be at least three feet of pipe extension inside the batten. Batten extension pipes must be of the same or greater strength material than the main pipe batten. Do not use wood, plastic, or thin wall electrical conduit for battens or batten extensions. Long weight-bearing extensions must be bridle supported to the main batten suspension line.
- ✓ When rigging pipes, battens and other flying pieces with a fiber or wire rope, secure the piece with a clove hitch finished with a half hitch and tape. Recommended batten attachment is to use a steel pipe clamp bolted to the pipe, forged screw pin shackle, trim chain rated for overhead lifting, wire rope thimble, and secure the wire rope with a swaged compression fitting (aka "Nicopress"), or a minimum of two forged wire rope clips tightened to manufacturer's recommended torque specification.
- ✓ Stagehouse rigging must be checked and approved by the faculty supervisor before use.
- ✓ When not in use, every batten should be stripped of hardware, extensions, hemp, or other attachments.
- ✓ If the facility is equipped with motorized rigging the equipment controls shall be locked and the key removed except when a fly crew is manning the control station.
- ✓ When rigging lighting instruments, scenery, or props always provide a secondary safety attachment (wire rope cable or chain) to secure the flown device from falling should the primary attachment mechanism become loose or fail.

MAKEUP

- ✓ Never lend or accept makeup from anyone.
- ✓ Wash hands before and after applying makeup. Makeup artists should wash their hands before starting on another actor. Sponges and brushes should be washed after use on each individual.
- ✓ Avoid aerosol products whenever possible.
- ✓ Replace old makeup regularly.
- ✓ Avoid creating clouds of face powder that can be inhaled. Do not use old face powder.
- ✓ Moisten brushes or pencils with clean tap water, not with saliva.
- ✓ When removing spirit gum or latex, avoid prolonged skin contact with solvents. Replace lost skin oils with moisturizer.

