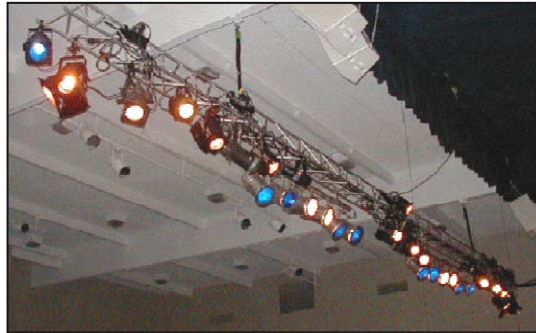


F R E E M A N

AUDIO VISUAL OPERATIONS STANDARD

CONVENTIONAL LIGHTING INSTRUMENTS



Safety

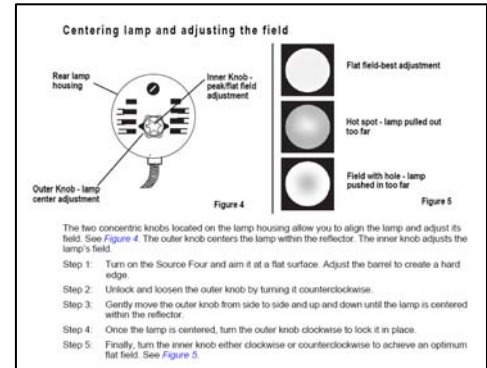
- *Every flown instrument must be secured to pipe or truss with a safety cable/chain in addition to 'C'-clamp – NO EXCEPTIONS.*
- *Flown instruments must hang either directly below or above pipe/truss as weight will be unsafely imbalanced on tree/truss (i.e. yoke must be vertical).*
- *AC cables must never be allowed to rest on the body/shell of a lighting instrument to prevent melting or fire.*
- *AC cables with broken ground pins must never be used – NO EXCEPTIONS.*
- *Physical inspection of all lighting instruments, AC cables, and support structures must be conducted prior to system power up. A lighting instrument with obvious physical or optics damage must never be used.*
- *Lamps must never be touched with bare hands to prevent premature lamp burnout from skin moisture/oils. Always use a cloth, gloves, foam, or tissue when handling or replacing lamps.*
 - EXCEPTION: standard PAR lamps are safe to touch with bare hands.
- *“Hot-hands” or leather gloves should always be worn when working with hot instruments to prevent burns.*
- *Extreme care must be exercised when working with or near hot instruments, as even slight impacts or jars to instruments may result in premature filament failure and lamp burnout.*

General Principles

- *Technicians must be aware of instrument and circuit total wattage as to prevent circuit overload.*
- *Emphasis must always be given to lighting subjects well first, then adding lighting décor.*
- *3-point (or more) lighting is always preferred, including 2-point front lighting and a back light at each subject location. 3-point (or more) lighting must be implemented when using cameras.*
- *Front lighting should be setup as close to optimal angles as possible:*
 - *Horizontal: 45° to the left and right of subject*
 - *Vertical: 35-40° above subject*
- *Unless specified, hard lighting should be softened, defocused, or defused so as to not create a hard edge of light on the stage, especially if lighting will spill onto the backdrop.*
- *Unless specified, colored gels should not be used in front lighting instruments focused on human subjects, especially when using cameras.*

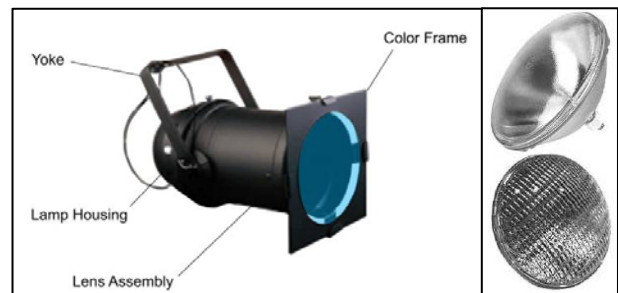
Source Four Ellipsoidals (spots/lekos)

- **Shutters should be fully opened prior to initial focusing. Never turn on a leko with shutters closed as heat may cause warping.**
 - **NOTE:** Shutters must be fully closed prior to packing and transport.
- **By adjusting the focus barrel, the following scenarios should be followed:**
 - Use soft focus for subjects who will move from light source to light source. Softening may also be aided by use of a diffusion gel.
 - Use hard or sharp focus when using a gobo (in combination with a donut), lighting specific areas of scenery, or lighting near screens.
- **If hotspots are noticeable or lamp is not centered in reflector, bench focusing the lamp may be required by manipulating rear knobs as shown the diagram →**



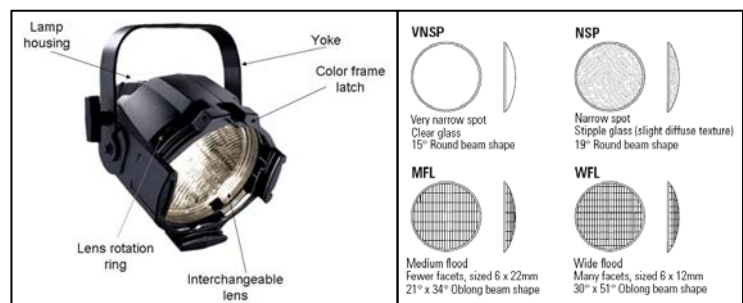
Conventional PARs

- **PARs should not be used to light areas near screens or in areas which require a controlled focus.** Barn doors may be used to give limited control of spillage.
- **Medium-flood and wide-flood lamps create an oblong-shaped hotspot in the middle of the wash. The hotspot must be positioned optimally according to subject or area being lit by rotating the ceramic lamp plug inside the can.**



Source Four PARs

- **The same principles apply to Source Four PARs as conventional PAR cans.**
- **Caution must be exercised when installing and removing interchangeable lenses. Lenses must always be installed in a concave orientation.**
 - MFL and WFL lenses may be rotated using the rotation ring as noted.



Fresnels

- **Fresnels should not be used to light areas near screens or in areas which require a controlled focus, or be used if a long throw distance is required.** Barn doors may be used to give limited control of spillage. Use of the Spot/Flood lever gives additional control of width of beam.

