Study Guide: A Test, IATSE Local 22

I. Carpentry

A. Responsibilities: be familiar with the duties and responsibilities of the Carpentry Department throughout the production process. Also, have an understanding of the Head Carpenter's role in the layout, setup, and running of a show, and of the stage space and stage crews themselves.

B. Terminology: know the terms, phrases and concepts associated with the work of the Carpentry Department.

C. Work Space: know the different parts of the theater, stage spaces, and work areas. Know their names, locations, construction and purposes. Included in this is a knowledge of stage directions, as well as:

1. Scenery - types of hard scenery, methods of mounting, hanging, handling, securing, bracing, assembling, moving and the maintaining, repairing and storing of these items.
2. Soft Goods – the various types, their location, function, handling, repair, storage, materials and construction.
3. Platforming – distinguish different types; be familiar with their construction, assembly, handling and storage.
4. Automation – basic parts of a system, their function, location and operation.
5. Traveler tracks – their components and function, location, and operation, including reeving of the control line.
6. Knots – be familiar with the various knots commonly used in all areas of the theater, and their typical applications. Be able to tie them!

D. Gear: Be able to identity, define and describe the function, safe operation and proper use of the following:

1. Tools – all hand tools and power tools used in the work of the Carpentry Department
2. Equipment - all equipment used by the Carpentry Department in the layout, setup, assembly, repair, maintenance, operations and storage of scenic items. This may include larger free-standing power equipment such as table saws, drill presses, etc., as well as winches, chain motors, welders and such items.
3. Hardware – all items used for lashing, fastening, securing, hanging, assembling, repairing, moving, handling and storing scenic elements. This should include an understanding of the sizing and load ratings of appropriate items.
4. Materials – all materials commonly used in the theater, how they are measured, sized and rated. This includes items such as lumber, steel,

wire rope, hemp, pipe and fabrics.
5. Safety Gear – be familiar with the various safety gear items and the situations in which they should be properly used.

E. Procedures: Be familiar with the various tasks, processes and techniques which compose the work of the Carpentry Department. Be able to describe or demonstrate any of the following:

1. The layout of a show, including finding or marking significant reference points, using supplied paperwork.
2. The safe handling, rigging, setup, assembly, and securing of various types of scenic elements, including hard scenery, soft goods, platforming, and traveler tracks
3. The safe and proper use of tools in the execution of a project, including proper setup and tear down. This may include hand and power tools, as well as free-standing power tool equipment.

F. Paperwork: be able to read, interpret, and extract information from stage plots, ground plans, sections, elevations, and other paperwork associated with the carpentry department. Apply this to the layout of a show.

II. Fly Floor

A. Responsibilities: know the responsibilities and duties of the flymen and their crew

B. Terminology: Know the terms, phrases, and concepts commonly used in the work of the fly floor crew.

C. System: Possess a full understanding of the different types of fly systems, and their components. Be able to identify and describe the parts of each system, and the name, function, locations and safe handling of each of those parts.

1. Counterweight systems – single and double purchase, and differentiate between them
2. Hemp house system

D. Gear: Be able to identify, define, and describe the function, proper use and safe handling of the following:

1. Tools – all tools used in the setup, operation, maintenance and repair of the fly system.
2. Equipment – any equipment associated with the fly system, including such items as block and fall, boatswain's chair, sunday, etc.
3. Hardware – all types of hardware used in the setup, operation, and maintenance of the fly system, including crosbies and nico-press sleeves, their purpose, sizing, load and their proper load ratings and applications.
4. Materials – all materials associated with the fly system, including rope, wire rope (aircraft cable) etc. Know their function, sizing, and load ratings.

5. Safety Gear – be familiar with various safety gear, and the situations in which it would be used.

E. Procedures – Be familiar with, and be able to describe or demonstrate in all phases of the production process the safe operation and proper procedures of the following:

1. The Grid – including mounting sheaves, mule blocks, spotting lines, etc.
2. The Loading Bridge – loading and unloading of counterweights, their types and weight
3. The Pin Rail – safe handling of lines under load, including the DC tie off.
4. The Lock Rail – including setting and marking of trims, operation of lines to bring pieces in or out, and other techniques for the handling of lines under varying loads, i.e. pipe heavy or arbor heavy.

F. Paperwork – be able to read and extract information from a line plot, and be able to lay out, label, and spike linesets on a lock rail.

III. Rigging

A. Responsibilities – be familiar with the responsibilities of the Head Rigger, and his rigging crew, including ground riggers and up riggers

B. Terminology – know the terms, phrases, symbols and concepts commonly used in the work of the rigging crew

C. System and Work Space: Be familiar with the different types of spaces and circumstances in which rigging is done, and the types of items which are often rigged to hang. Understand the different kinds of rigging points, the parts and applications of each.

D. Gear: Be able to identify, define, describe and demonstrate the function, proper use, storage and safe handling of the following:

1. Tools – all tools used in rigging work, including the Klein tool, go/no go gauge, nico press tool, dynamaster, etc.
2. Equipment – includes all types and uses of truss, block and falls, chain hoists, etc. Chain motors, their parts, uses, sizes, speeds, load ratings, power and control hookups, proper applications and orientation.
3. Hardware – includes shackles, pear rings, deck chain, quick links, carabiners, nico's and crosbies, etc. Understand the sizes, load ratings, proper applications and orientation in varying circumstances of these items.
4. Materials – includes rope, spansets, steel slings and wire rope. Understand the sizes, lengths (color codes), load ratings, proper and safe applications of and hazards to these items. Also understand the function of burlap in a rigging system.
5. Safety Gear – Be familiar with the various types of safety gear used by the

riggers and anyone who climbs. Understand the use, purpose and assembly of these items.

E. Procedures: Be familiar with and able to describe or demonstrate:

1. The layout and assembly of various types of hanging points
2. The use of spansets in different configurations, and how that affects their load ratings
3. The proper use and application of safety gear
4. The proper use, handling, and storage of common tools and equipment, including Klein tool, rope, block and fall, truss, chain motor, etc.

F. Paperwork: Be able to read and extract detailed information from a rigging plot, and use that information to layout and mark rigging points for a show.

IV. Electrics

A. Responsibilities –be familiar with the duties and responsibilities of the Head Electrician and his crew, throughout the production process.

B. Terminology – know the common terms, phrases, concepts and symbols used by the electrics department.

C. System: Posses an understanding of the electrics system, including all its components, their function and location, including power and control distribution.

1. Be able to identify different hanging positions and their locations.
2. Be familiar with the different types of circuits, how they operate, and give typical examples of these.
3. Have a working knowledge of electrical theory and Ohms Law, and be able to apply the formulas in performing basic calculations.

D. Gear: Be able to identify, define and describe the purpose, function, proper use and safe handling of the following:

1. Tools: including all hand and power tools, plus diagnostic tools such as a multi meter
2. Equipment: this includes various types of lighting instruments used in theater, TV, and concerts.
    a. “Conventional” lighting instruments, their different types, applications, sizes and parts, including bulb types and ratings. You should have a basic understanding of the optics of each, plus what accessories can be used with them (i.e. scroller, barn doors, top hats, etc.)
    b. Moving lights –their proper handling and hanging basics, orientation and common applications
    c. Other devices - such as foggers, hazers, strobes, FX, etc.
    d. Dimmer racks, control consoles, DMX

    e. Cables and connectors – know different types, their purpose, sizes and gauges, load ratings, color coding, and composition
    f. Spotlights - know the various types, their parts and controls
3. Hardware - all types of hardware used in mounting, hanging, securing, safetying, operating and repairing electrical equipment
4. Materials – this includes materials used in connection with electrics work, and may include gel and other color media, templates, black wrap, z-tex, etc.
5. Safety gear – any safety gear used by the Electrics Department

E. Procedures – Be familiar with the various tasks, processes, and techniques which compose the work of the electrics department. Be able to describe or demonstrate the safe and proper procedure of any of the following:

1. The layout, assembly, hookup and operations of a small, basic lighting system, including power tie in and hookup, and connection to dimmer racks
2. The hanging, circuiting and focusing of lighting instruments and appropriate accessories, from supplied paperwork
3. The connection to and operations of a lighting control console.
4. Operation of a spotlight, including startup, the execution of a sequence of called cues, standard procedures, maintenance, and setup and the use of a sighting device.
5. Basic use of a multi meter to do diagnostics, and to 'read' power.

F. Paperwork – read, understand, and be able to extract detailed information from light plots and associated paperwork. Apply this information to the layout and hanging of a show.

V. Props

A. Responsibilities: Be familiar with the duties and responsibilities of the Prop Department, throughout the production process. Have an understanding of the role of the head Prop Person.

B. Terminology -know terms, phrases and symbols commonly used in the work of the Prop Department.

C. Work Space: Be familiar with the areas in which the Prop Department works. This includes the prop table, its layout, organization, location and items which it should include; any areas used to layout, handle, repair, or store props; quick change booths; the orchestra pit, etc. Know the different types of props, including their handling, any modifications deemed necessary, storage, repair, and how each is marked and spiked for location onstage, including changing locations during a show.

D. Gear: Be able to identify, define, and describe the function, proper use and safe handling of the following:

1. Tools – all tools used in the layout, assembly, setup, maintenance, repair, handling, and storage of props, prop areas and the stage area.
2. Equipment – any equipment used to layout, setup, handle, repair, move or store prop items. This may include prop tables, spear carts, wardrobe gondolas, Marley carts, dollies, and pianos and piano moving equipment.
3. Hardware – Any items used to assemble, repair, mark, mount and secure props on a set or floor treatments on a stage, plus fastening devices.
4. Materials – Any items used to assemble, repair, mark, mount and secure prop items or floor treatments, tape and various adhesives.
5. Floor treatments - their different types, and how they are laid out

E. Proper Dress – i.e. show blacks, costume, tux, suit and tie, etc. What is considered appropriate and when.

F. Procedures: be familiar with the various tasks, processes, and techniques which compose the work of the Prop Department. Be able to describe or demonstrate the safe and proper procedure of the following:

1. Setup, organization, and layout of a prop table
2. Handling of props, including transfers between the prop person and a performer
3. The repair, handling, and securing of small prop items
4. The proper marking and spiking of various types of props onstage, for changing locations in different scenes of a show.
5. The layout, handling, and securing of various floor treatments
6. The layout and setup sequence of an orchestra pit or band setup.

F. Paperwork: be able to read and interpret paperwork relevant to the prop department, such as prop diagrams and pit plots, and apply the information to the setup of those areas.

VI. Sound

A. Responsibilities – be familiar with the various duties and responsibilities which encompass the work of the Sound Department, throughout the production process.

B. Terminology - know terms, phrases, concepts, and symbols commonly used in the Sound Department.

C. System: Understand the system and its components, their function, location, and proper orientation. This includes Clear Com (communications) system.

D. Gear: Be able to identify, define, and describe the purpose, proper application and safe handling of the following:

1. Tools - all tools used in assembly, repair, operations and diagnostics
2. Equipment – including all devices and components of a sound system, i.e.

racks, consoles, various types of speakers and microphones, stands, as well as all cables and connectors.
3. Hardware and Materials - any items used for mounting, securing, repairing or operating sound equipment, and appropriate accessories.
4. Safety gear – any pertinent safety gear, including hearing protection

E. Procedures: be familiar with the various tasks, processes, and techniques which compose the work of the sound department. Be able to describe or demonstrate the safe and proper procedure of the following:
1. The layout, setup, and assembly of a basic sound system
2. Start up, shutdown, EQ, and operation of the console to produce clean sound, basic diagnostics.
3. Setup and operation of a clear com system.
4. Understanding of the basic repair of sound system components

F. Paperwork: be able to read and interpret a sound stage plot and associated paperwork, and apply that information to the layout of a basic stage setup.

VII. AV (Audio Visual)

A. Responsibilities: be familiar with the duties and responsibilities of the AV technicians throughout the process of load in, set-up, operation and tear down of a meeting or convention-type event. This should include the considerations of client relations and the technician's code of personal conduct and personal appearance.

B. Terminology –know the terms, phrases, concepts and symbols relevant to hotel, convention, and theatrical AV work

C. System: Understand audio and video systems and their components. Be able to identify those parts and describe the function, location, and safe handling of each, and how those parts integrate to make up the system. Be able to understand and differentiate between the different types of video signals.

D. Gear: Be able to identify, define, and describe the purpose, operation and safe handling of the following:
1. Tools - any tools commonly used in the setup, assembly, operation and diagnostics of AV systems
2. Equipment
    a. Audio – includes various types of mics (i.e. lavaliere, handheld), stands, speakers, racks, control consoles, recording devices, and the various cables, connectors and interfaces used with them.
    b. Video – includes screens and their frames and legs, various types of projectors, stands, cameras, tripods, other recording devices and the carious cables, connectors, and interfaces used with them.
3. Hardware – any items used to setup, rig, secure, or fasten AV equipment

4. Materials – any items used in conjunction with the setup, assembly, operation, dressing, and repair of AV systems. This should include presentation materials (i.e. slides, cd's, videos, overhead transparencies, etc.) and disc and tape based recording media.
5. Proper attire – appropriate dress, appearance, and behavior during an event

E. Procedures – be familiar with the processes involved in the layout, assembly, setup, operation and tear down of AV systems, including proper power up/ power down sequences, and basic diagnostics and troubleshooting of problems. Be able to describe or demonstrate the safe and proper procedure of the following:

1. Audio – the setup, operation, and tear down of a simple sound system for a meeting type event, including wiring of both a client and a podium with mics, proper running and dressing of cables, setup and connection of speakers and a console, and the ability to produce clean sound form the system.
2. Video - the setup, assembly, operation and tear down of a video system, including cameras, computers, screens, projectors and stands.
3. Television - Demonstrate a basic knowledge of television utilities and the terminology, procedures and equipment used in the setup of cameras from a remote truck for a broadcast or taping at a venue.

F. Paperwork – be able to read and interpret all paperwork associated with the work of AV technicians, and apply that information to the layout and setup of AV systems. This includes flow sheets and their associated abbreviations.