



Technical Standards Program

ESTA



CAMERA CRANE OPERATOR'S HANDBOOK

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Introduction

A camera crane is safe if used properly. However, improper use, assembly, and disassembly can cause property damage, serious bodily injury and even death. This handbook of safe practices, procedures and conditions coupled with common sense, good judgment, and proper evaluation of each situation will greatly reduce the risk of accidents.

This handbook mentions situations that may be encountered in the field, but it cannot cover nor anticipate all possible situations. Again, common sense and good judgment must be used.

This handbook is a recommendation. All pertinent laws and regulations take precedent and should be followed. While this reflects the current standards in the industry it cannot address all possible situations that may be encountered in the field.



The Basics

Overview

- Have a safe attitude
- Use good sense and judgment
- Take charge

A safe attitude is the single most important element of preventing accidents. Decide that you will use a camera crane the correct way. Decide that you will prevent accidents.

Designate a camera crane operator to be in charge of the camera crane.

As the Camera Crane Grip/Technician, you are the camera crane expert. Take charge of the camera crane. Everyone should know who is in charge of and operating the camera crane.

Operators must be free of anything physical, mental, or chemical that will interfere with their ability to safely operate a camera crane.

Training

Overview

- Educate yourself
- Use trained personnel



Increase your experience and knowledge in operating camera cranes utilized in your craft. Read camera crane manuals, attend training, watch videos, talk to co-workers, and stay current on equipment and skills. Assemble and operate camera cranes only with trained and authorized personnel.

Camera Crane Selection

Overview

- Evaluate requirements

Consider all criteria:

- Access to site
- Choose the right crane
- Exposure to hazards
- Height
- Load requirements
- Weight limits
- Prior experience
- Reach
- Remote or rideable operation
- Space limitations
- Load limit of supporting surface

Evaluate the requirements of the shots(s) to make a decision on which crane to use. Take all criteria into consideration including the following: Height, reach, weight limits, load requirements, space limitations, speed, environmental conditions, access to site, exposure to hazards, load limits of supporting surface, remote or rideable operation, and prior experience.

Inspection

Overview

Inspect the crane:

- Before assembly
- Before operation
- Cables/wiring
- Each day/shift
- Emergency controls
- Excessive wear
- Leaks
- Manufacturer items
- Missing parts
- Outriggers/stabilizers
- Placards/warnings
- Poor adjustment
- Replace or repair missing/damaged components

- Safety devices
- Seat belts
- Structural components
- Inspect the area
- Bumps/ground obstructions
- Debris
- Drop-offs/holes
- Explosive/flammable atmosphere
- High voltage conductors
- Overhead obstructions
- Special effects
- Surface/supports for load
- Unauthorized persons
- Wind/weather
- Other conditions

Inspect the crane prior to and during assembly. The camera crane should have been inspected prior to shipping, but because damage may occur during transportation, inspect the crane components again prior to and during assembly.

Inspect and test a camera crane prior to operation, but after assembly and set up, to ensure all aspects are operating properly. Pay ample attention to hardware supporting riding personnel.

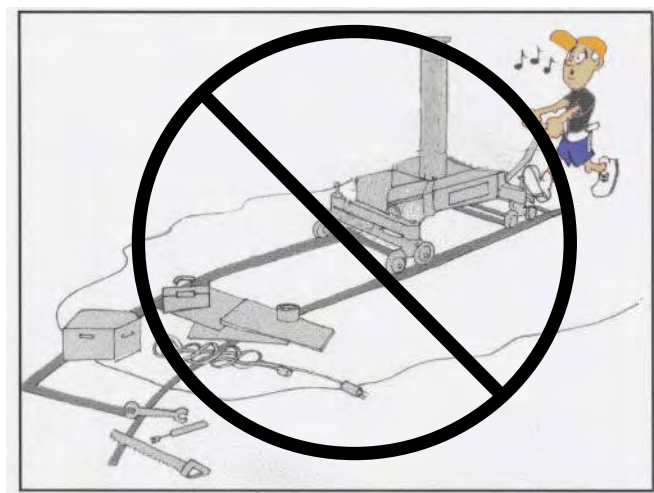
Inspect camera cranes before each day or at the beginning of each shift with qualified personnel (e.g., key grip, camera crane/dolly grip, vendor's representative, or other qualified personnel as determined by the Producer) following an inspection protocol supplied by the manufacturer.

If components are missing, damaged, or improperly fitted, remove the camera crane from service immediately. Replace or repair missing or damaged components in accordance with the manufacturer's procedures and specifications prior to the crane being returned to service.

Include, but do not limit, the inspection to the following tests and visual inspections:

- Structural components
- Operating mechanisms for poor adjustment that interfere with proper operation
- Operating mechanisms for excessive wear
- Emergency controls

- Safety devices
- Personal protective devices including seat belts and fall protection
- Hydraulic system leaks
- Cables and wiring harness
- Loose or missing parts
- Tires and wheels
- Placards, warnings, and control markings
- Outriggers, stabilizers, and other structures
- Other items specified by the manufacturer



Survey the entire working area including the path to and from the area in which the camera crane will be used.

Survey the entire working area including the path to and from the area in which the camera crane will be used. Look for the following and any other hazards:

- Drop-offs, holes, or uneven ground
- Cables and hoses
- Bumps and ground obstructions
- Debris
- Overhead obstructions
- High voltage conductors
- Explosive and/or flammable atmosphere locations
- Inadequate surface and support to withstand all load forces

- Wind and weather conditions including man-made effects
- Presence of unauthorized persons
- Special effects
- Other possible unsafe conditions



Obstructions in the path of the camera crane can cause it to become unstable and/or tip over.

Assembly / Set Up

Overview

- Follow the manufacturer's manual
- Allow enough time for set-up, inspection, and testing
- Make available sufficient crew and/or handling equipment
- Brace or block all parts
- Do not tie boom arm to base unless specified
- Use largest base possible
- Operate on flat/level surface
- Chock two wheels when assembling on an incline
- Brace and level dolly tracks
- Secure wedges and other support
- Place stops near the ends of track
- Do not exceed maximum payload
- Secure all equipment/objects against falling
- Support outrigger feet
- A safe operating zone should be maintained

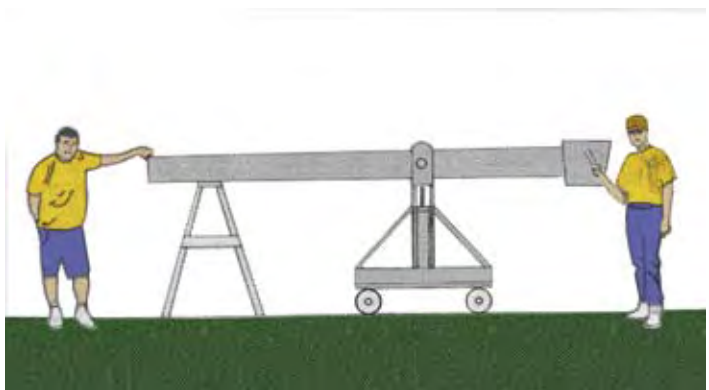
Allow sufficient time to assemble, set up, inspect, and test equipment prior to use.

An assembly/usage manual, supplied by the manufacturer/vendor, should accompany each camera crane. The manual should clearly show assembly, set up, inspection, operation, maintenance and storage instructions, maximum payload, and gross weight in all configurations.

When assembling a camera crane, ensure that there is adequate clearance for assembly. Consider potential obstructions or hazards, such as power lines, helicopter rotors, fire sprinkler heads, etc. Establish a safe operating zone with qualified personnel and the designated on-set safety coordinator. The designated on-set safety coordinator may be needed to maintain the safe operating zone. Keep all non-essential personnel clear of safe operating zone.

Read and follow the assembly/usage manual.

Camera cranes have heavy parts and may require considerable force and precision to assemble. Have an adequate number of persons available to lift, lower, or position parts. Alternatively, use hoists, lifts, tailgates, or other mechanical handling equipment to assemble or move the unassembled camera crane where feasible.



Brace or block camera crane parts against falling during assembly or disassembly.