15’20’ 22’ 30’50’ TELESCOPIC CRANE RISK ASSESSMENT

All Technicians must be aware who the Producer /Production Manager or Floor Manager is in the Studio/location and take direction from them.

No unauthorised person is allowed to operate/use a Telescopic Crane

Only fully trained and experienced Grips should be employed by the production company to swing and track the telescopic cranes. If the Technician is not happy on a certain safety point he is to report this to the Producer/Production Manager or Floor Manager.

Hazard Identified: Injury to all personnel by Crane swinging overhead in Studio

Severity: Medium

Likelihood: Low

At Risk: Audience, artists, members of staff

Precautions: Audience to be briefed before shows. Sponge protector is attached to bottom of head. Cameraman must be positioned to have direct sight of crane. The Grips must inform the cameraman of the safe swinging radius. Crane to be checked for any object left on the arm that could fall off.

Hazard Identified: Object falling from remote head i.e. Camera, Remote Focus, lens etc.

Severity: Medium

Likelihood: Low

At Risk: Contractors, Audience or anyone beneath head

Precautions: The crane Technician must check the safety cable is in place on the remote head, through camera & lens - one of main checks on Operator’s Checklist.

Hazard Identified: Brakes operated when crane arm off level and/or telescope in motion

Severity: High

Likelihood: Low

At Risk: Crane Technician

Precautions: Due to the location of the operating handle of the tilt brake, operation of the brake must be controlled by the crane Technician only and only when the telescope is not in motion. Special care should be taken if the front end of the arm is tilted above or below level. It is essential that if the arm if tilted up, the brake should only be operated from the left hand side of the yoke; if the arm is tilted down, the brake should be only operated from the right hand side of the yoke. The crane Technician must be assisted by a swinger/grip that prevents a possible motion of the arm when the crane Technician is releasing the tilt brake.

Hazard Identified: Removal or addition of weights, camera, and remote head to unbalanced crane

Severity: High

Likelihood: Low

At Risk: All personnel around crane

Precautions: The crane Technician must supervise all adding or subtracting of weights or equipment and the unstrapping of the crane. TECHNOCRANE MUST NEVER BE UNSTRAPPED WITHOUT SUPERVISION OF TECHNICIAN. All crane balancing to be performed with the tilt brake off. No weights or equipment to be removed with the tilt brake on.

Hazard Identified: Dropping of weights

Severity: Medium

Likelihood: Low

At Risk: Technician, grips & riggers

Precautions: Personnel are advised to wear steel capped protective boots/shoes. Ensure that the crane base and/or arm are secure before lifting weights or the camera onto or off it. Take care if there are any special risks such as low light levels wet weather conditions, uneven surfaces or unfamiliar environments.

Hazard Identified: Bad lifting of all equipment

Severity: Low

Likelihood: Low

At Risk: Technician, grips & riggers

Precautions: Lift with knees bent and back straight. Three people must work together rigging and de-rigging Technocrane. If Supertechno (30') has to be lifted manually onto or off column, a minimum of 10 people must assist to safely complete the task. Use mechanical aids wherever possible. Operators to wear steel capped protective shoes.

Hazard Identified: Remote head falling whilst loading onto crane.

Severity: Medium

Likelihood: Low

At Risk: Technician & grips

Precautions: Technician must ensure two people carry out this task.

Hazard Identified: Contact with overhead lights or wires.

Severity: Medium

Likelihood: Low

At risk: Artists, Technician, grips crew

Precautions: All crew to be aware of any overhead danger. Cranes not to be used in a location where there are overhead cables low enough to be touched by crane. Cranes must never be used overhead high voltage electricity wires unless a separate assessment is made on site.

Hazard Identified: Trip hazard on cables

Severity: Low

Likelihood: Low

At Risk: Production crew & artists

Precautions: Ensure cable runs are neat and lie flat. Cloak cables where possible. Ensure crane does not run over cables. All personnel to be made aware of risk.

Hazard Identified: Movement of arm if crane unattended.

Severity: Medium

Likelihood: Low

Precautions: Technician must ensure that the retaining straps are in place when the arm is in an unbalanced state, during breaks and overnight. The Technician must ensure that the arm is secured when left unattended and switch off every power source. The remote head must be powered down or the controls disabled when not in operational use. The wheel base must be jacked to hold it in position when unattended.

Hazard Identified: Movement of crane on slope or uneven ground

Severity: Med

Likelihood: Low

At Risk: Production crew & artists

Precautions: Crane not to be moved prior to correct balancing of the crane.
s to be aware of position of the arm and changes in the arm length which is compensated by movement of the counterbalance weights. s must ascertain that their path is clear before starting a move, especially when pulling the crane. Sufficient manpower to be in attendance when moving crane/dolly on slopes. Dependant on circumstances, i.e. side inclination of ground, weights should be removed prior to movement of crane.

Hazard Identified: Objects falling from stand alone remote head

Severity: High

Likelihood: Low

At Risk: Personnel beneath rig

Precautions: Remote Head Technician must secure head, scaffolding adaptor and camera and lens with safety bonds. Also secure the camera and lens with a ratchet strap.

The SWL (Safe Working Limit) of any winches used to suspend a remote head must be able to sustain the overall load whilst in operation. This is the responsibility of the Studio/Client.

Hazard Identified: Back Injury due to bad lifting of weights

Severity: Low

Likelihood: Low

Precautions: Each weight weighs 14 kgs and should be lifted with bent knees and a straight back. When carried, one weight should be carried in each hand to give balance to the body.

Hazard Identified: Back Injury due to pushing of base of crane of fully set up crane

Severity: Low

Likelihood: Medium

Precautions: The Techno 15 on a normal base has an "all-up" weight of 1150 lbs
The Technocrane (20') has an "all-up" weight of 2100 lbs. The Supertechno (30') has an "all-up" weight of 2,900 lbs. and all should be moved carefully by at least two personnel on even ground only.
The Super Techno 50 has an "all-up" weight of 5,100 lbs. and should be moved carefully by at least four competent personnel on even ground only.

Hazard Identified: Contact with trees

Severity: Medium

Likelihood: Low

At risk: Artists, Technician, grips crew

Precautions:
All crew to be aware of any overhead danger. Cranes not to be used in a location where there are overhead branches low enough to be touched by crane. Cranes not be used below overhead high voltage electricity wires

Hazard Identified: Crane positioned on a raised platform

Severity: High

Likelihood: Low

Precautions:
Crane to be pushed up a ramp onto a low 16x16 base, the crane technician must brief all personnel beforehand on action required,
Crane to be weighted and accessories added after it is securely on base.

Hazard Identified: Crane falling from Transporter (tracking vehicle etc)

Severity: High

Likelihood: Low

Precautions:
Make sure the crane base is secured correctly to the transporter.
Transporter to be driven carefully – no sudden acceleration or braking.
No severe cornering
Minimum crew that is necessary should ride on Transporter.

Hazard Identified: Flagstones cracking and crane tipping over

Severity: High

Likelihood: Low

Precautions: Load of Supertechno (30') (1150 kgs.) is spread over 4 wheels. Each wheel supporting a load of 287.5 kgs which is within the maximum load for the flagstones.
Boards should also be laid over the flagstones if the surface is uneven to help to spread the load evenly.

Hazard Identified: Crane falling in strong wind

Severity: High

Likelihood: High if safety precautions not taken

Precautions: Crane must not be used in winds stronger than Beauport Scale 5.

Hazard Identified: Lifting Of Dolly Base

Severity: High

Likelihood: Low

At Risk: Rigging Crew

Precautions: Dolly and column to be lifted by straps supplied by Panavision London.
Persons around forklift/lifting hoist to be cleared apart from Panavision Technicians.
Only 1 person to control the lifting operation and to be in view of the forklift driver at all times.

Hazard Identified: Lifting of Telescopic Arm

Severity: High

Likelihood: Low

At Risk: Rigging crew

Precautions: Telescopic Arm to be strapped to forklift forks by the use of Ratchet straps in a figure "8". Persons around forklift must be cleared apart from Panavision Technicians.
Only 1 person to control the lifting operation and to be in view of the forklift driver at all times

Hazard Identified: Lifting of all equipment to Rostrum

Severity: Med

Likelihood: Low

At risk: Technician, grips, riggers

Precautions: Forklift to be used where possible to lift equipment onto rostrum.
All lifting to be carried out with knees bent and back straight. Personnel are advised to wear protective footwear.

Hazard identified: Inclement weather

Severity: Low

Likelihood: Low

At Risk: Technician, grips, riggers

Precautions: Weather can make a significant difference to the degree of risk. Wet weather and high wind increase the probability of slips, trips and falling objects; extra care needs to be taken in windy conditions to secure equipment and props; some activities which include rigging at heights and use of scaffolding, temporary buildings, etc., will be especially vulnerable.

UNUSUAL RISKS

EXAMPLE

Super Technocrane (30') rig & de-rig on a platform

Method for rig:

The crane will arrive broken down into 2 main sections, the Arm and Dolly.

All up weight of Arm – 350kgs
All up weight of Dolly – 350kgs

1) Dolly to be lifted onto platform using a fork lift with SWL of 1.5 tonnes. The Dolly base must be strapped to fork lift using 4 helicopter (lifting) straps supplied by Panavision.

2) The arm to then be lifted from floor directly onto the dolly using the fork lift. Arm must be secured to fork lift with ratchet strap over the top. The arm must then be secured onto the dolly with 2 ratchet straps.

3) Finish full assembly of the crane on platform.

This procedure to only be carried out by Panavision approved Technicians

Advised Minimum Platform sizes and safe working limits

Techno 15' 11' x 11' min SWL 1250kgs
Techno 20' 14' x 14' min SWL 1850kgs
Techno 30' 20' x 16 min SWL 2250kgs
Techno 50' 32' x 32' (360 Swing) min SWL 3500kgs
Techno 50' 32' x 24' (180 swing)
Max load is calculated as weight of crane + 3 people @100kgs each + load Inertia

Should the crane be used in a situation outside the scope of this Risk Assessment, a separate risk assessment for that operation must be completed.