



香港
建造
學院 | HONG KONG
INSTITUTE
OF
CONSTRUCTION

Safety Training Course for Construction Workers of Specified Trade (Silver Card Course)

Tower Crane Worker (Erecting, Dismantling, Telesoping & Climbing) (A11) Key Points Review (M1)

4.2020



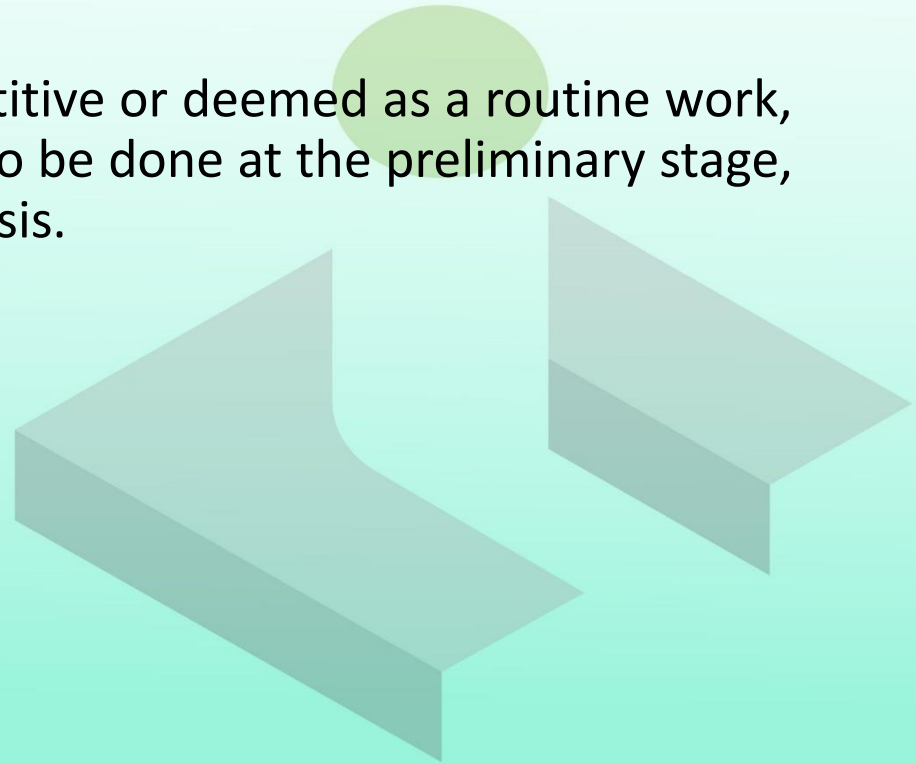
I. Tower Crane Operation – Management and Planning

Safe System of Work

- The contractor shall establish a safe system of work in written form to let everyone concerned to abide by it on each and every tower crane operation either in one go of lifting or a series of lifting work.
- This safe system of work shall be done with the confirmation of owner, contractor, competent person, safety officer and other related parties.

II. Planning of the Tower Crane Operation

- We should plan ahead for each and every lifting operation to ensure these works are done in a safe manner.
- Planning shall be done by an authorized person with professional knowledge.
- If the lifting work is generally repetitive or deemed as a routine work, then the planning may only need to be done at the preliminary stage, but to be reviewed on a regular basis.



III. Transportation of the Tower Crane and the Preparation Work Prior to Installation

Inspection check before delivery

- Prior to the delivery, it needs to adhere to the method statements laid down by the manufacturer according to the model and type of the tower crane, its length of jib, height of hook and the installation procedure to prepare a thorough checking on all the accessories in store.

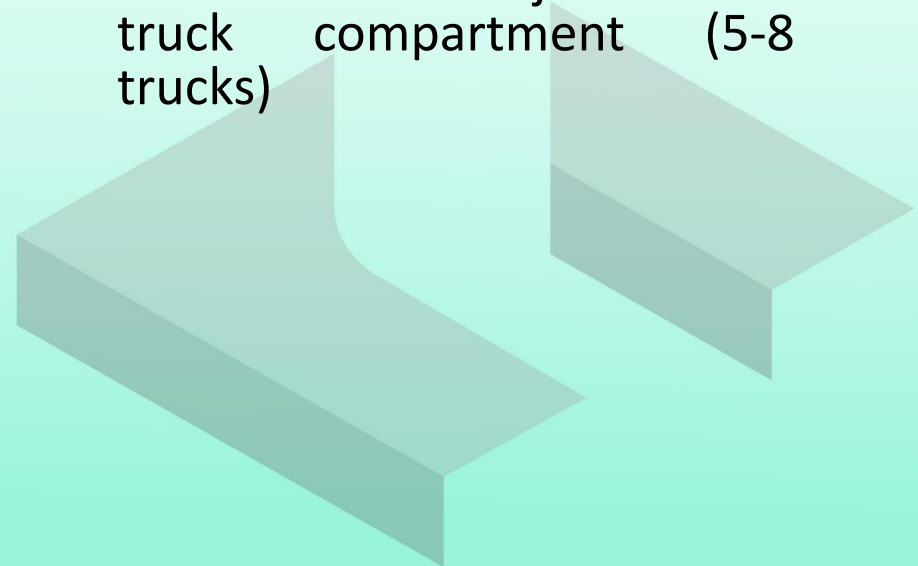


IV. Transportation of the Tower Crane to Site

Procedure on locating the accessories onto the truck

The following procedures are suggested in laying the accessories onto the truck:

- The end ballast shall be laid horizontally on the truck compartment, then the mast shall be placed on top of the end ballast (3-5 trucks in total)
- Place the rotation base and the driver cabin on the truck compartment (1 truck)
- Divide the end jib into 2 parts and placed on 2 truck compartments (2 trucks)
- Place the 'A Top' and other wire, shackle, bolts on the truck compartment (1 truck)
- Place the front jib on the truck compartment (5-8 trucks)



V. General Safety Precautions for Tower Crane Installation

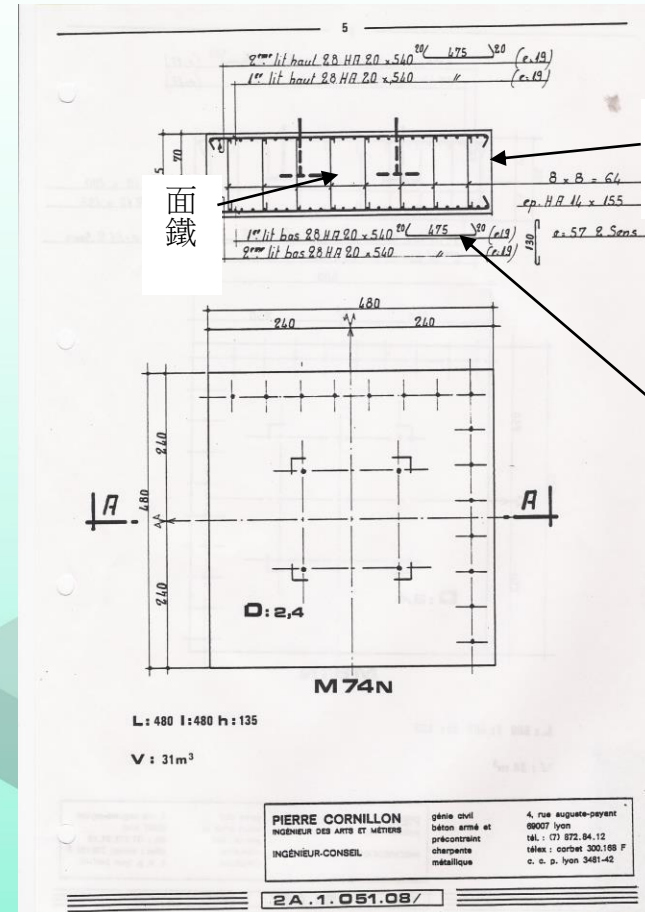
Safe use of hydraulic jib crane

- The mobile crane should only be used on hard, even and level ground.
- The ground should be strong enough to withstand the maximum safe working load in the course of lifting operation.
- Seek information from the manufacturer on wind speed effect to the crane and the gross weight of the crane and its dynamic loading when in operation to ascertain its maximum work load.
- Provide adequate timber or steel base/footing support to avoid sinking of the outriggers as a result of collapse of the crane
- Whenever possible, all outriggers should be fully extended with the hydraulic jacks fully popped up to ensure all rubber tyres are released off the ground.
- The base/footing supports should be at least 3 times the area of the base plate of the outriggers of the crane.

VI. Installation Methods

Use of Mobile Crane

- Installation of the footing of the mast
- To select proper concrete foundation according to the height of the mast or type



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VII. Raising and lowering of the tower crane

In-building climbing crane

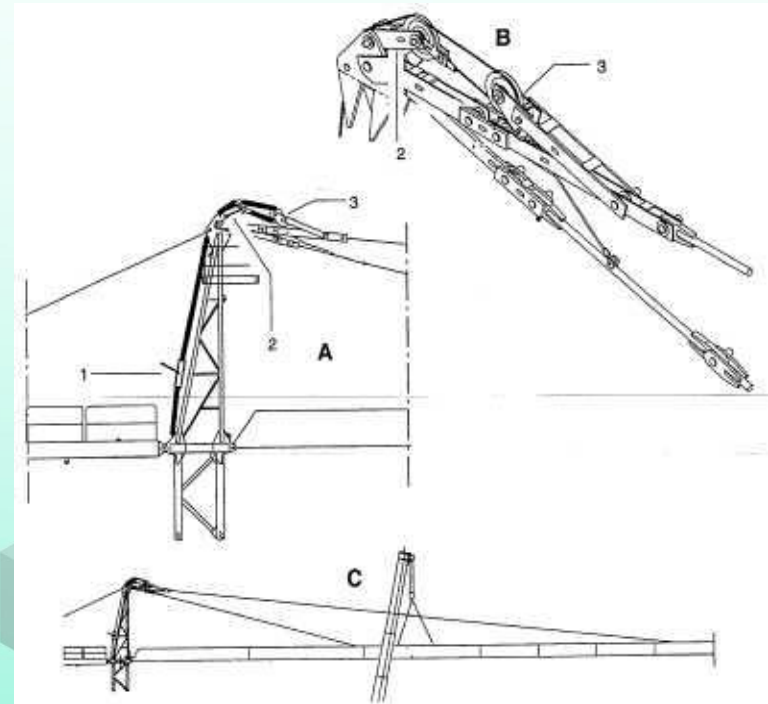
➤ Belt type climbing method

Safety Practice for raising of tower crane:

- All lifting gear shall checked of their valid test certificates when entering the site
- All workers shall report to the Safety Officer in the morning prior to work commence and to show their safety cards in the safety meeting
- Wires ropes for lifting of materials shall also be possessed with test certificate before use
- Before raising of the crane, site foreman shall barricade the work area to avoid intruders.

VIII. Demolition Methods

Use of mobile crane for demolition (a reverse cycle of the installation procedures)



Use of Boom Derrick Crane for Demolition



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