



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 19AUE308 - SPECIAL VEHICLES

III YEAR /VI SEMESTER

Unit 4- Cranes and Special Utility Vehicle

Topic 1 : Industrial Jib Cranes



CONTENT



- Introduction
- Need for Jib Cranes
- Components
- Construction & Working
- Advantages & Disadvantages
- Applications
- Manufacturing Companies



INTRODUCTION



- A jib crane is a type of overhead lifting device that's often used in a smaller work cell area for repetitive and unique lifting tasks.
- Jib cranes are extremely versatile and can also be paired with overhead bridge cranes to maximize production.
- It is mainly used for lifting heavy things and transporting them to other places.





NEED FOR JIB CRANE



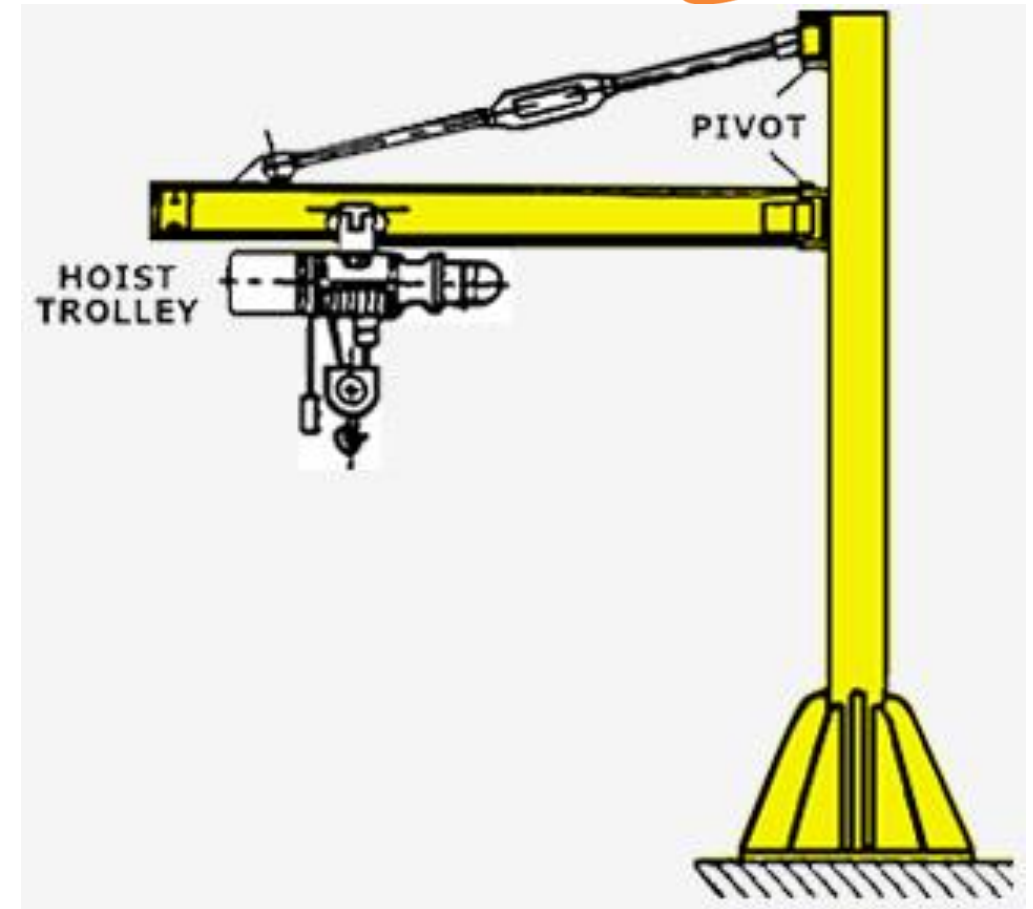
- Lifting the heavy objects in Industry by using man power is a complicated process
- Since it takes more time to move and also some objects cannot be moved by using man power.
- By the use of Jib cranes, we can lift the object easily.





COMPONENTS

- Boom
- Mast
- Control switch
- Trolley
- Electric motor
- Pneumatic Assembly or Hydraulic assembly
- Hook





CONSTRUCTION



- **Boom** is the horizontal beam that the trolley travels back and forth on in the jib crane.
- **Mast** is the vertical beam used to support the boom.
- The **movable hoist** is used to lift the load, position it and lower a load to the required place.





CONSTRUCTION



- **Trolley** assembly is used for moving the hook to the required place for lifting the load.
- The motion of the trolley can be manual, motorized, or pneumatic.
- The trolley carries the hoist, wire rope or chain, and the hook along the entire length of the boom.
- On free standing and mast type jib cranes, you can achieve 360° of boom rotation.
- On wall and column-mounted jib cranes, you can achieve $180-200^\circ$ of rotation.



TYPES OF JIB CRANES



- Free Standing Jib Crane
- Foundationless Jib Crane
- Mast Type Jib Crane
- Articulated Jib Crane



Mast Type Jib Cranes



Foundationless Jib Cranes



ADVANTAGES



- Reduces human effort.
- Reduces process time.
- Can lift heavy objects.
- Increases production in an Industry.





DISADVANTAGES



- Requires proper maintenance.
- High Capital Cost
- High operating Cost.





APPLICATION

- Used in automobile assembly section for lifting the heavy components for assembling.
- Used in automobile service centers for lifting heavy weight components like engines.
- Used in ports for carrying the heavy loads
- Used in many manufacturing sectors.





MANUFACTURING COMPANIES



- GH Jib Cranes
- Endurance Material Handler Private Limited
- Sparkline
- Modheshwari Engineering and Fabrication

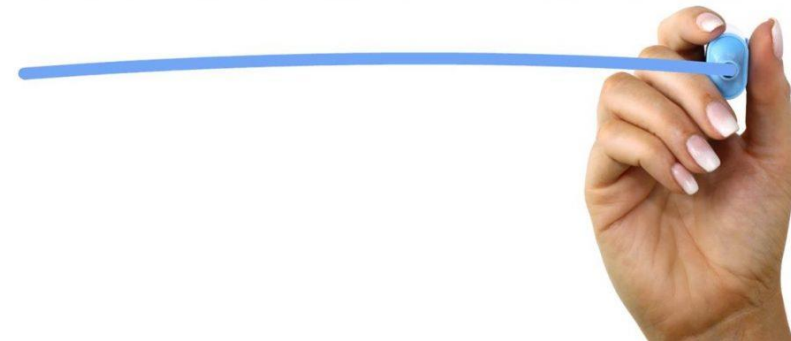


MODHESHWARI
ENGINEERING & FABRICATORS



1. Mention the components of a Jib Cranes
2. What are the types of Jib Cranes?
3. What is the cost of Installing a Jib Cranes in an Industry?

ASSESSMENT





REFERENCE



- ❖ <https://hoistsandcrane.com/blog/what-are-the-jib-crane-types-and-their-characteristics/>
- ❖ <https://www.youtube.com/watch?v=NYaOUDK8VXQ&t=81s>



THANK YOU !!!