DERRICK CRANE
HFC15



Year 1
study

Features
- Compact Bench top apparatus
- Simulates Crane
- Determines forces within JIB and TIE
- Forces read direct from JIB and TIE
- Adjustable lengths
- Full set of weights and hanger supplied

Description
This apparatus represents the forces in a simple crane and introduces the student to equilibrium of forces and solution by the triangle of forces. The crane is mounted on a base designed to be stood on a level bench. The jib arm pivots about its vertical support, whilst the tie retains the jib in its angled position. Both the jib and tie include spring balances for measuring the internal forces. A load is hung from the end of the jib by using the Load hanger and calibrated weights set provided. Re-adjustment of the crane geometry back to its original unloaded layout is possible by adjusting the links of the chain.

Related Laws/Applications
- Triangle of Forces
- Polygon of Forces
- Compression
- Tension
- Jib and Ties
- Structural Engineering
- Civil Engineering
- Cranes
- Static Co-planar

Learning capabilities
- To resolve by experiment, the combination of the three static co-planar forces which exist in a loaded Derrick Crane
- To compare the experimental results with the graphical solution obtained by constructing a triangle of forces diagram
- To investigate the effect on the forces by altering the geometric shape of the configuration

Technical Specification

- Maximum vertical distance between wall pivots approximately 350mm
- Tensile Member length: 500mm (approx.)
- Compressive Member length: 400mm (approx.)
- Tensile force spring balance 6Kgf in 0.1Kgf increments
- Compressive force spring balance: 60N in 2N increments
- Weights set: 2 x 2N; 3 x 5N
- 1 x Load hanger

What's in the Box?

- 1 x HFC15
- 1 x Spring balance assembly
- 1 x Load hanger
- 1 x Tape measure
- 1 x Spanner
- 2 x 2N; 3 x 5N
- 1 x 3m Spare cord
- Instruction manual
- Packing list
- Test sheet

You might also like

- HFC14

Weights & Dimensions

- Weight: 4 kg
- Length: 585mm
- Width: 260mm
- Height: 285mm

Essential Services

- Sturdy Bench Top

Ordering information

To order this product, please call PA Hilton quoting the following code:
HFC15

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