BASIC ROOF TRUSS
HFC17

Year 1
study

Features
- Bench top apparatus for Co-planar forces
- Two rafter struts, joined at an apex
- Load applied at apex
- Member forces directly measured and recorded in Newton's
- Length of struts and tie all variable
- Full set of weights and hanger supplied

Description
The basic roof truss consists of two rafters or struts and a restraining tie. Both rafters are pivoted at their apex.

The other end of one of the rafters is pivoted to a free standing base, whilst the remaining rafter end runs on ball bearings along a track.

When a load is hung from the apex, the free end of the rafter moves sideways, restrained by a spring balance tie.

Both rafters also include spring balances so that all internal loads can be directly measured.

Re-adjustment of the geometry back to its original unloaded configuration is easily made before taking measurements. The length of the tie can be varied to change the angles of the truss.

Related laws
- Co-planar forces
- Strut and Tie
- Rafter
- Roof Truss
- Compression
- Angle effects
- Civil Engineering

- Structural Engineering

Learning capabilities

- To compare experimental values of the forces in the struts and tie of a basic roof truss with theoretical predictions
- To observe the effect of changing the tie bar length

Technical Specification

- Roof Truss pitch from 30° to 45° during experiment
- Typical rafter length: 410mm
- Typical tie length: 350mm
- Tie spring balance: 6kgf range, 0.1kgf resolution
- Rafter Scale: 0...60N range, 1N resolution
- Weights set: 1 x 5N, 2 x 10N, 2 x 20N
- 1 x Load hanger

What's in the Box?

- 1 x HFC17
- 1 x Spring balance assembly
- 1 x Load hanger
- 1 x Tape measure
- 1 x 5N; 2 x 10N; 2 x 20N
- Instruction manual
- Packing list
- Test sheet

You might also like

- HST16
- HST17
- HST19

Weights & Dimensions

- Weight: 2 kg
- Length: 760mm
- Width: 110mm
- Height: 320mm

Essential Services

- Sturdy Bench Top

Ordering information

To order this product, please call PA Hilton quoting the following code:
HFC17