

ARCHITECTURAL STRUCTURES I:
 STATICS AND STRENGTH OF MATERIALS

ENDS 231

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SPRING 2007

lecture
 eight



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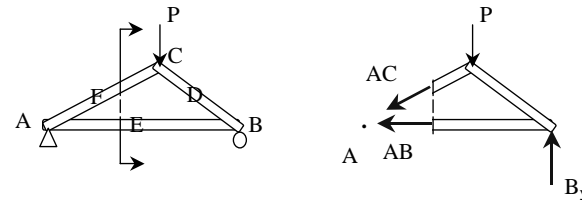
F2005abn

truss
 analysis

Trusses 1
 Lecture 8

Method of Sections

- relies on internal forces being in equilibrium on a section
- cut to expose 3 or less members
- coplanar forces $\rightarrow \sum M = 0$ too



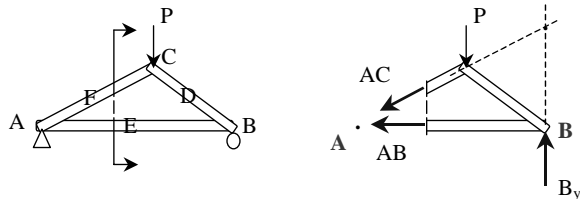
Trusses 10

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Method of Sections

- joints on or off the section are good to sum moments
- quick for few members
- not always obvious where to cut or sum



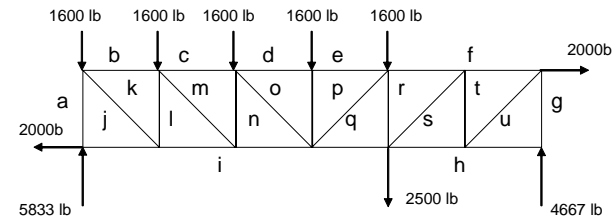
Trusses 11

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Graphical Analysis

- lettering rules (Bow's notation)
- draw a force polygon of known loads and reaction forces



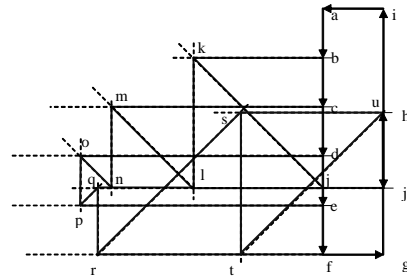
Trusses 4
 Lecture 7

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Graphical Analysis

- draw reference directions for members and find intersections
- measure and determine C or T
- follow steps!
- learn by example



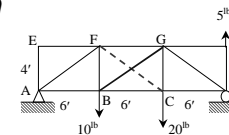
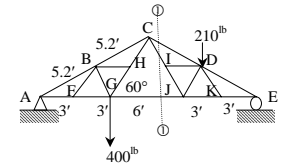
Trusses 5
Lecture 7

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Other Trusses

- compound truss
 - simple trusses with more links
 - might have pins in middle of members
- statically indeterminate
 - too many members
 - constrained
 - diagonal tension counters



Trusses 12

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