

ENG 004 Lecture 17, Nov 27, 2012

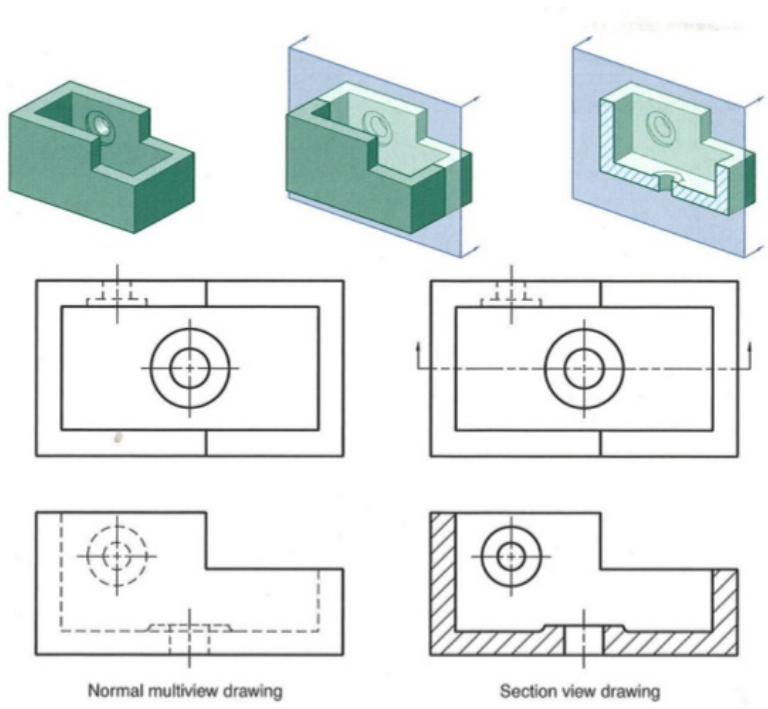
Announcements

- Homework #7 due on Thursday
- Read Chapter 8

Topics

- Section Views

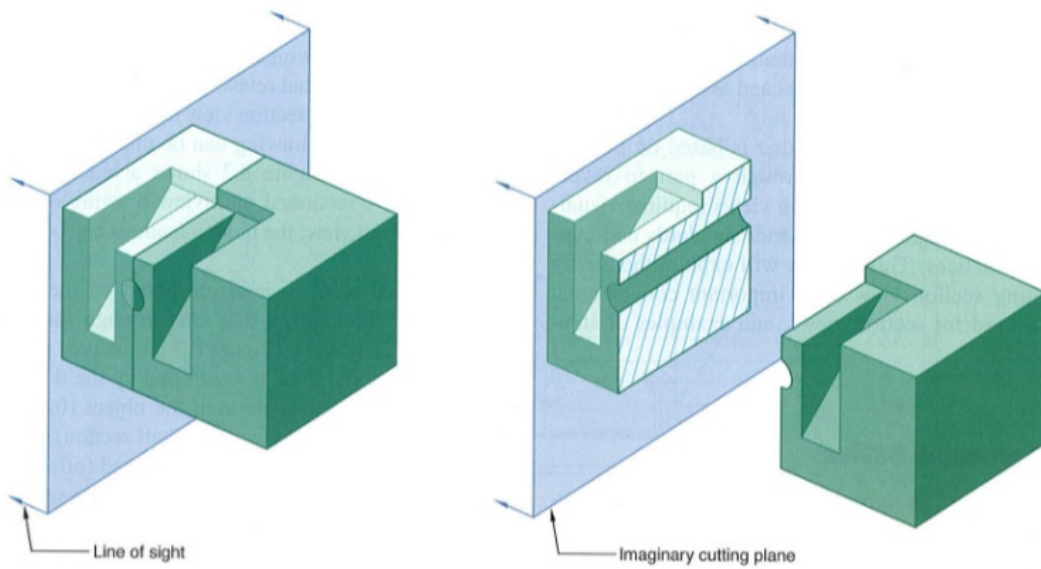
Section Views



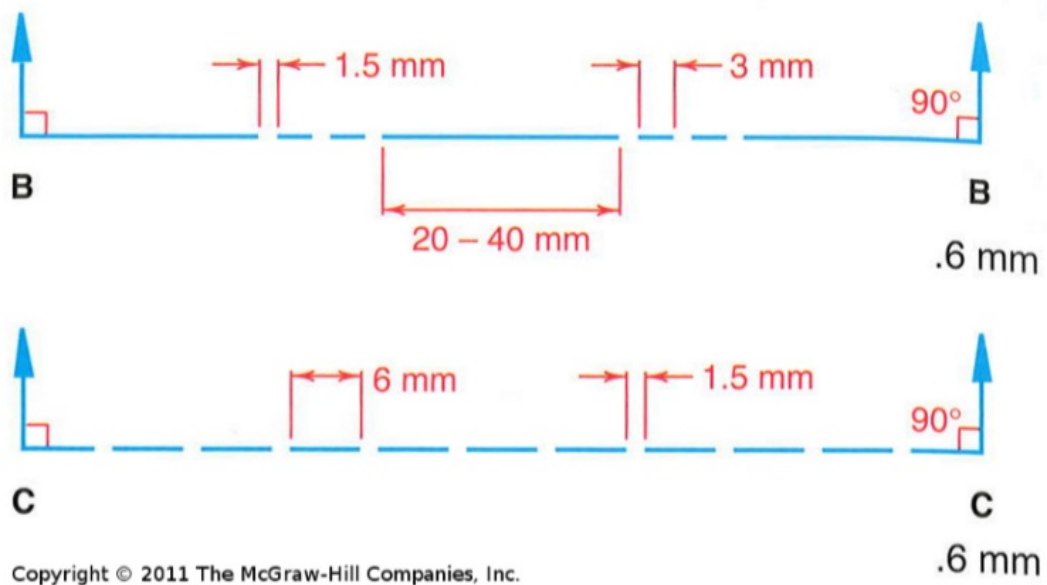
Section Views

- Sections are used to clarify interior construction that cannot be clearly described by hidden lines in exterior views.
- Section views are obtained by an imaginary cutting plane passed through the object perpendicular to the line of sight.
- The portion of the object between the cutting plane and the observer is assumed to be removed and section lines indicate the exposed surfaces.
- Hidden lines behind the cutting plane are omitted in section views.
- The cut surfaces are indicated using **cross hatching**

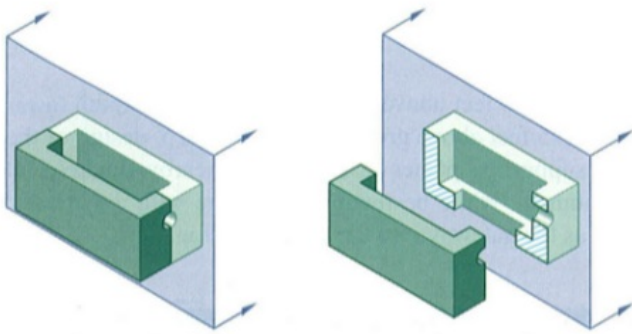
Section Views



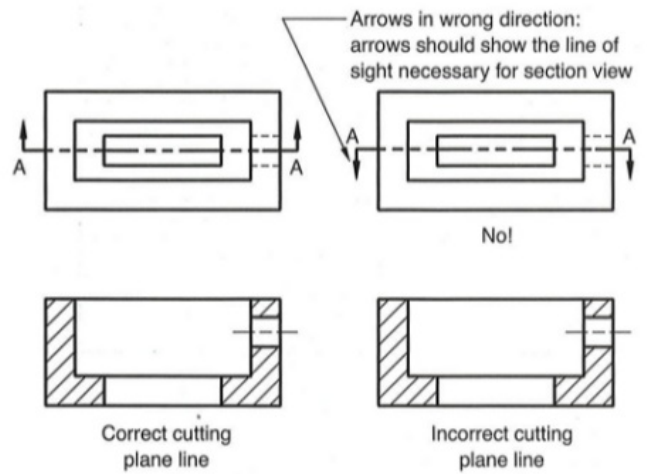
Cutting Plane Lines



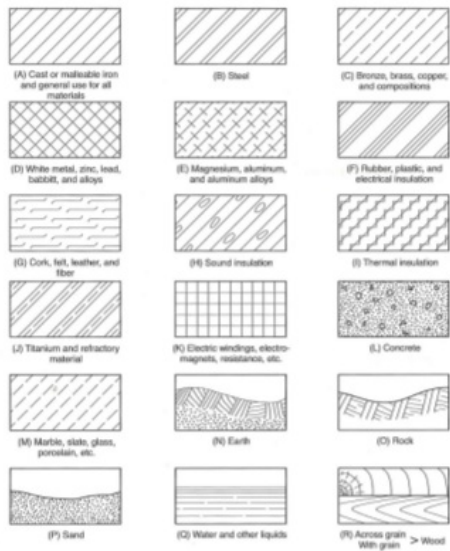
Cutting Plane Lines



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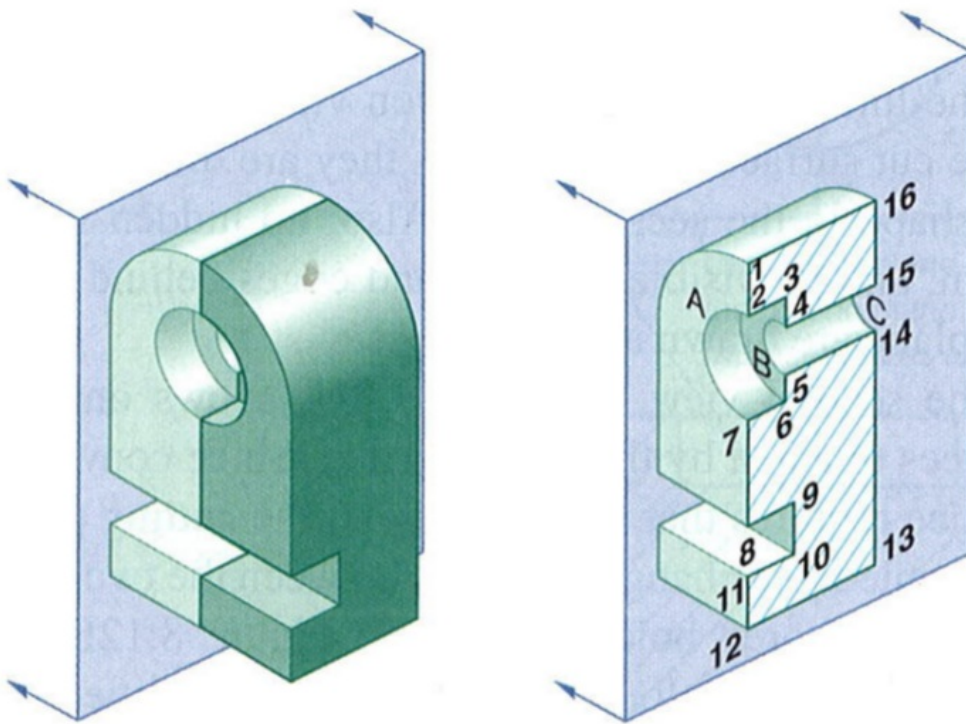


Hatch Styles

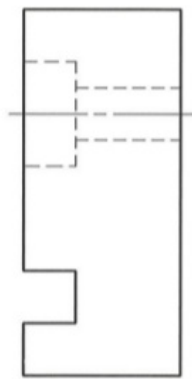
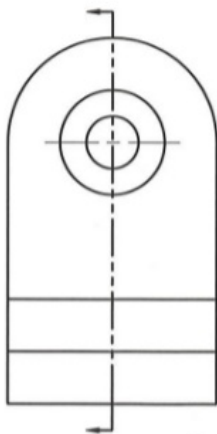
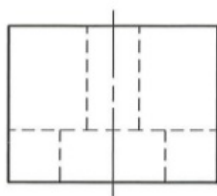


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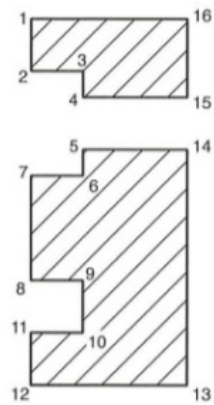
Full Section View



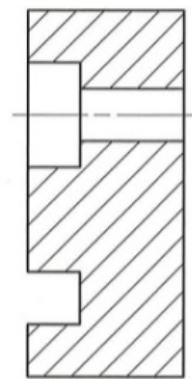
Full Section View Process



Normal multiview drawing

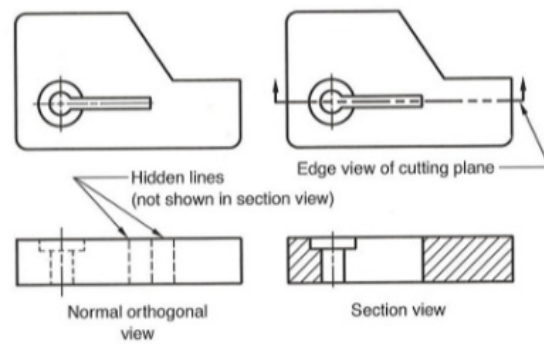
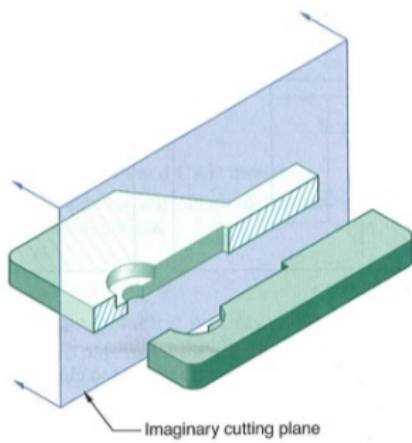


(A)



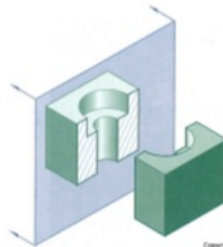
(B)

Hidden Lines

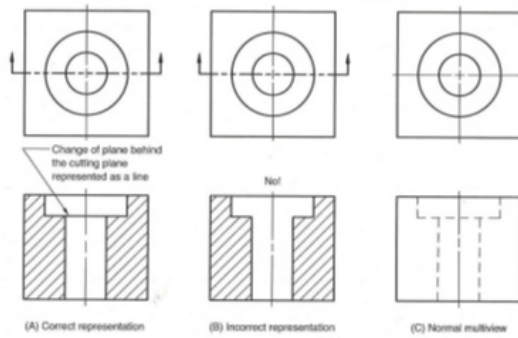


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Edges



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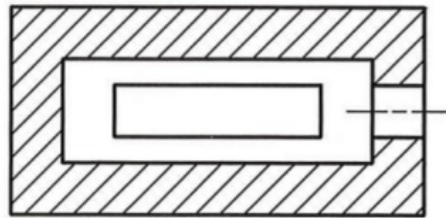


(A) Correct representation

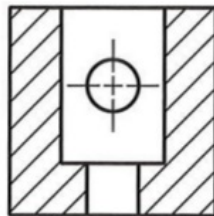
(B) Incorrect representation

(C) Normal multiview

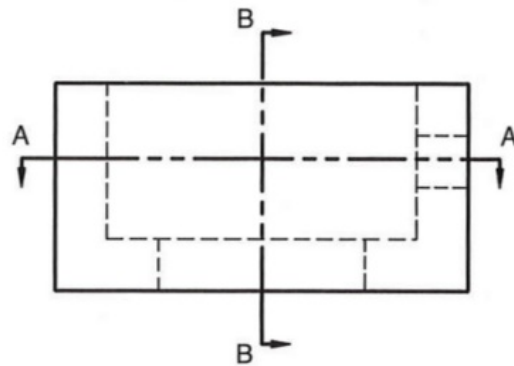
Multiple Sections



SECTION A-A



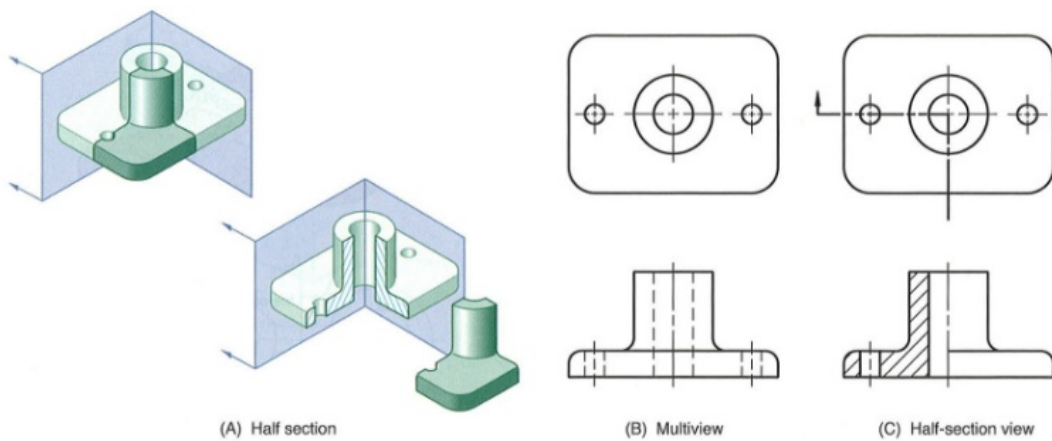
SECTION B-B



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Half Section

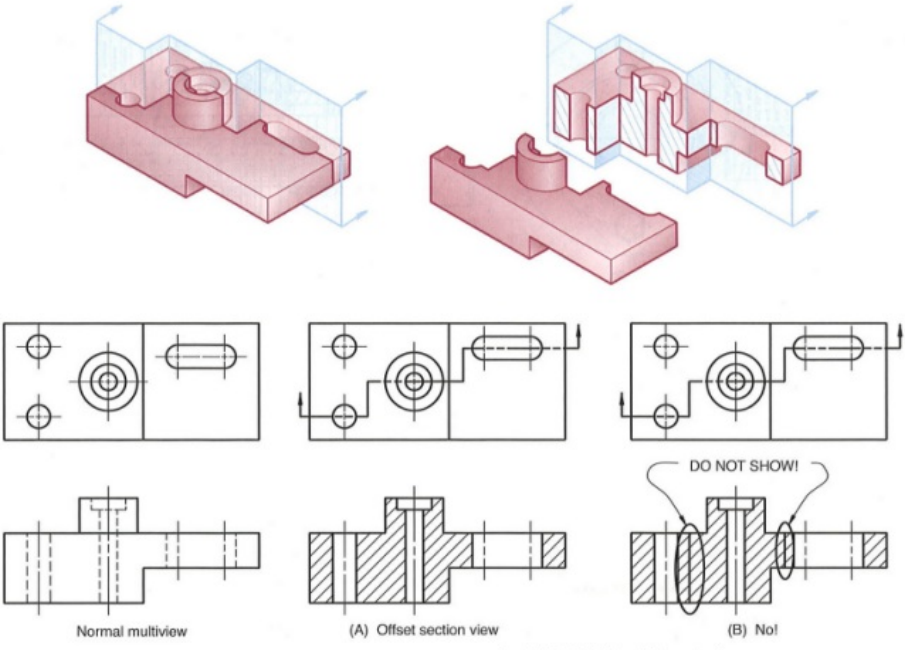
Used to show features of 1/2 the part (usually these parts have circular symmetry)



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Offset Section

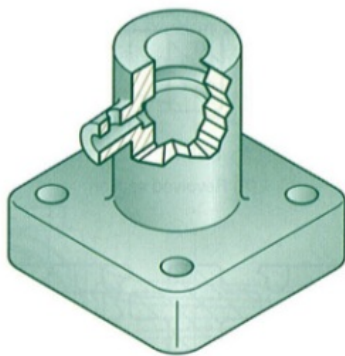
Used to include features not found on a single plane but on parallel planes.



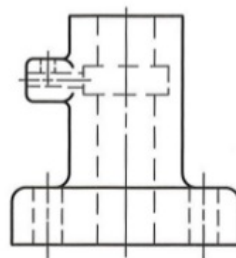
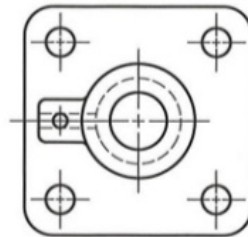
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Broken Views

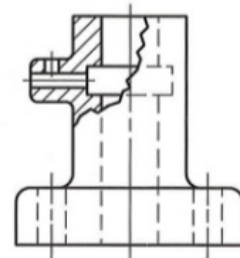
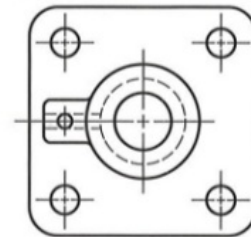
Shows only a small portion of the part's interior



(A) Broken-out section



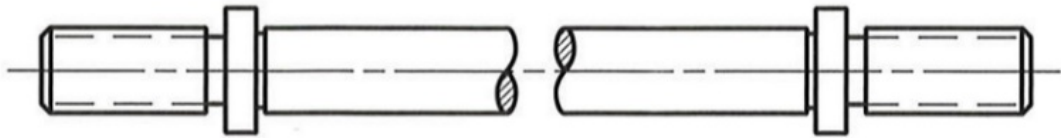
(B) Multiview



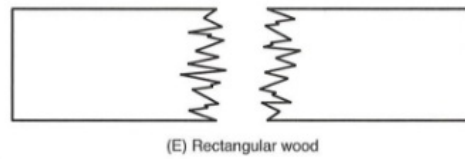
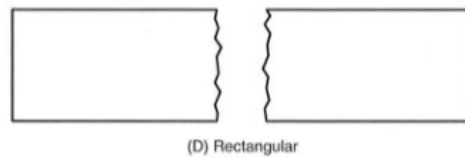
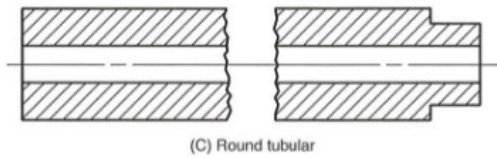
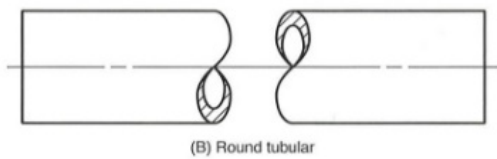
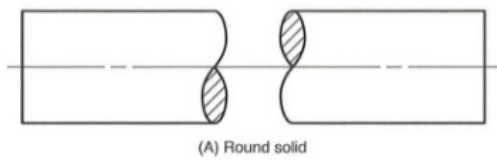
(C) Broken-out section view

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Conventional Breaks



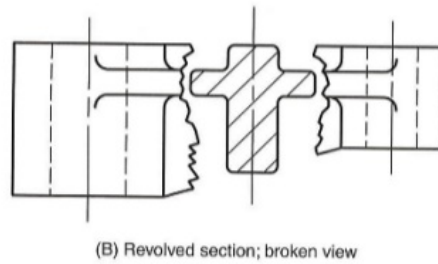
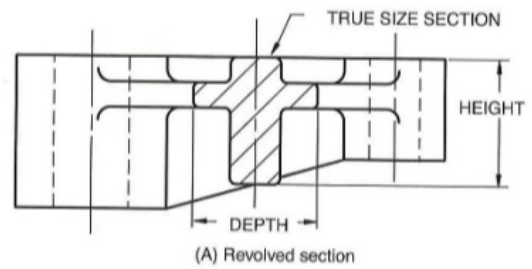
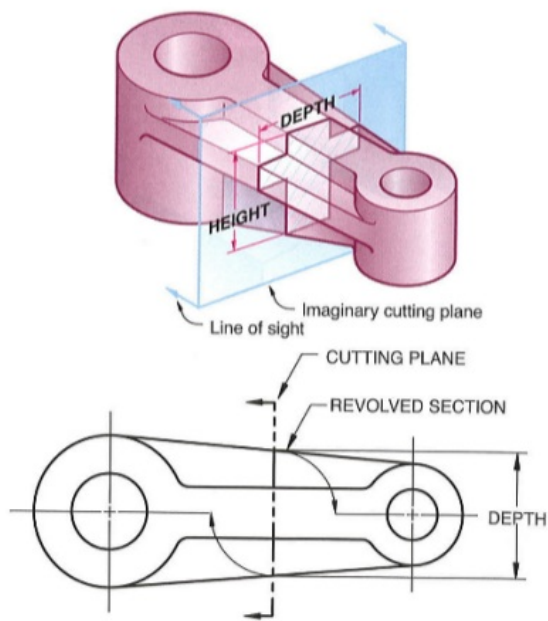
Conventional Break Symbols



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Revolved View

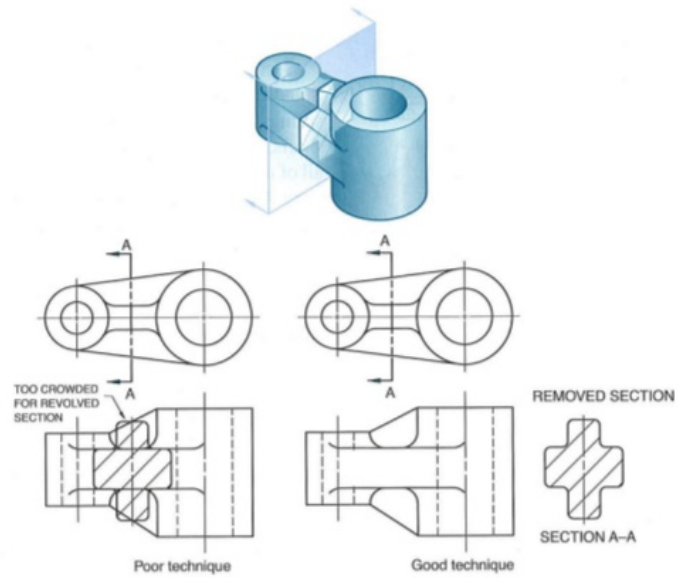
Show the internal features of a part in one of the standard views.



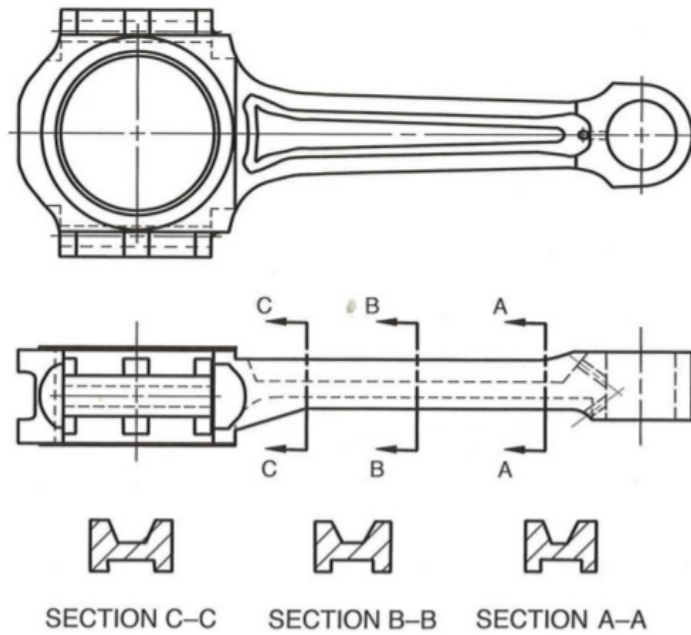
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Removed View

Shows internal features along the length of a part



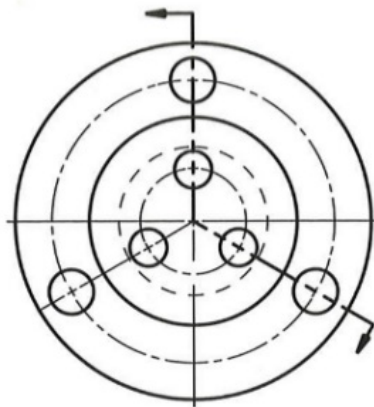
Multiple Removed Views



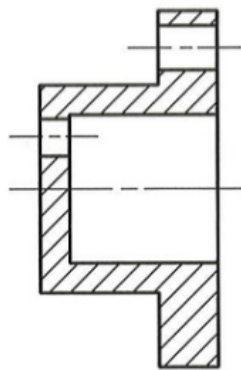
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Aligned Views

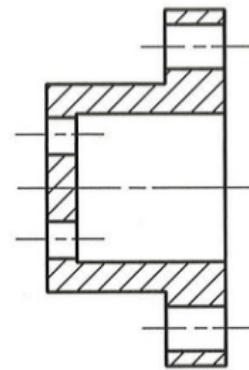
Used to show features not on a single cutting plane, nor parallel cutting planes, but on cutting planes that intersect through a single axis



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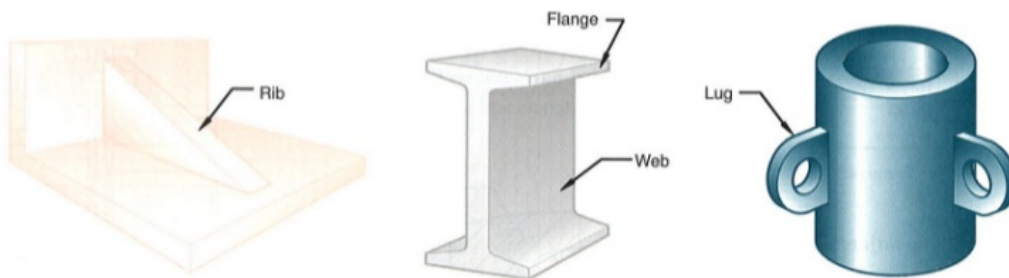


(A) True Projection



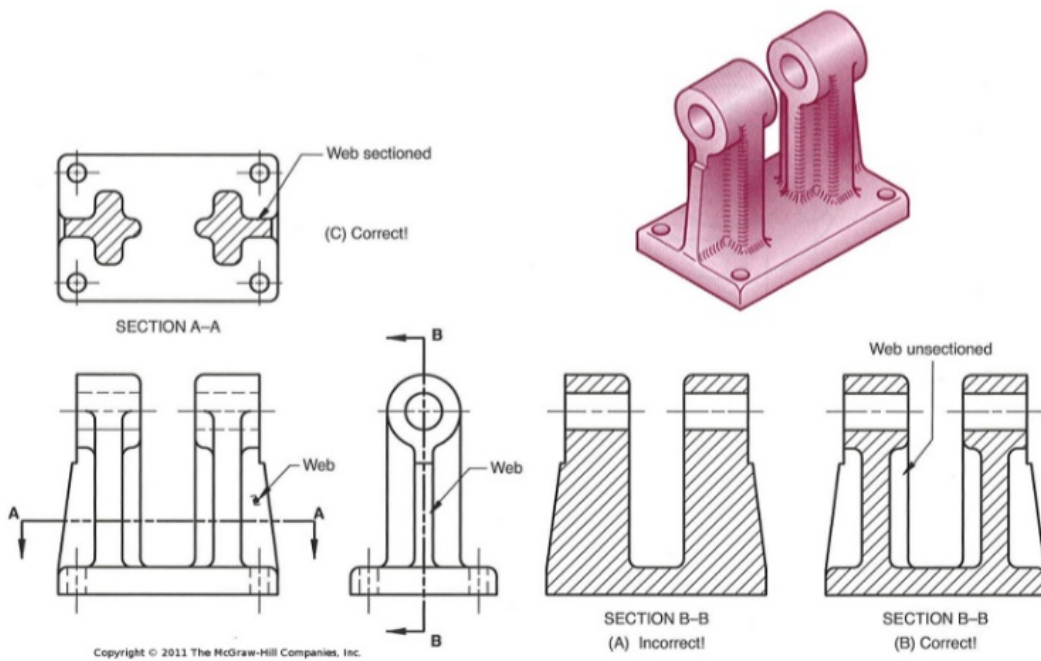
(B) Preferred

Ribs, Webs, Lugs, Flanges

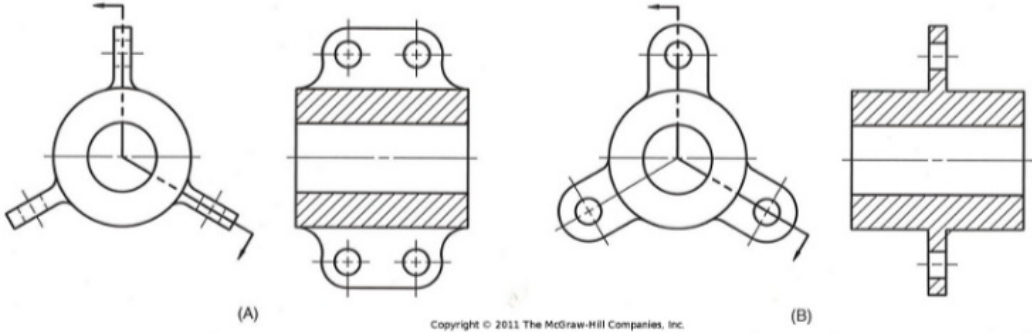


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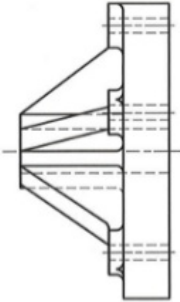
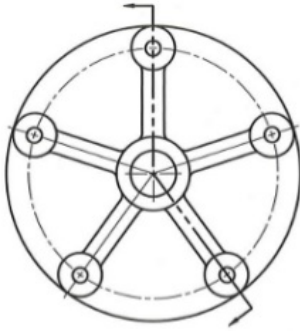
Webs



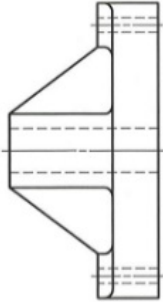
Aligned Lugs



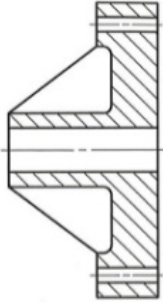
Aligned Ribs



(A) True projection



(B) Preferred

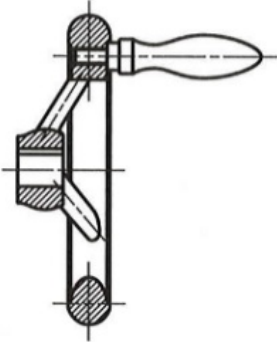


(C) Section view

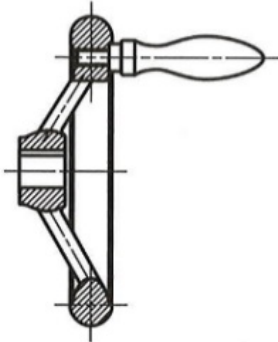
Aligned Spokes



Spoke A omitted in the "preferred" section view



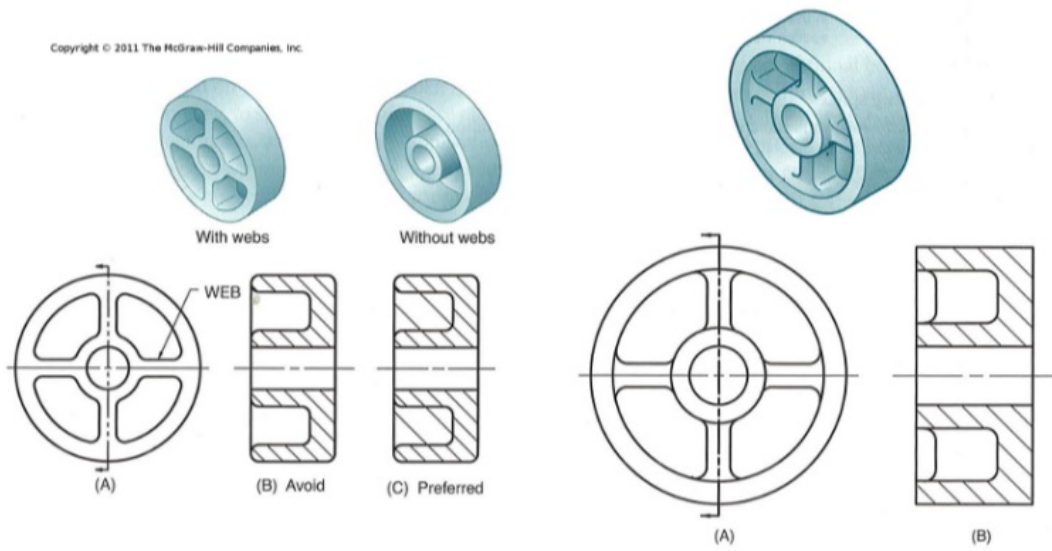
True Projection



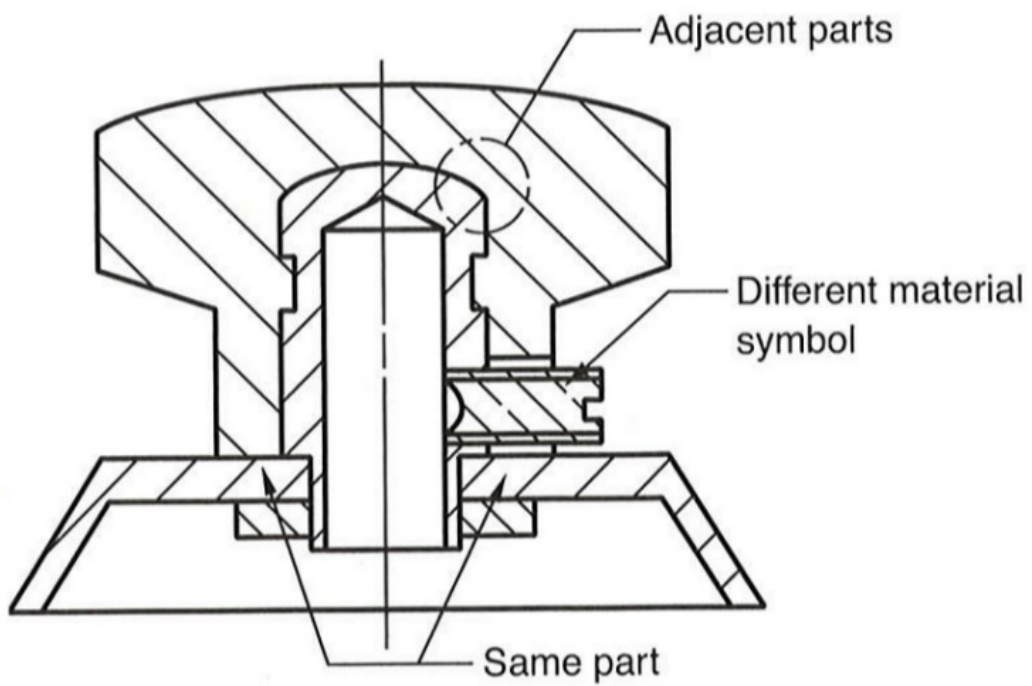
Preferred

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Alternate Web Section

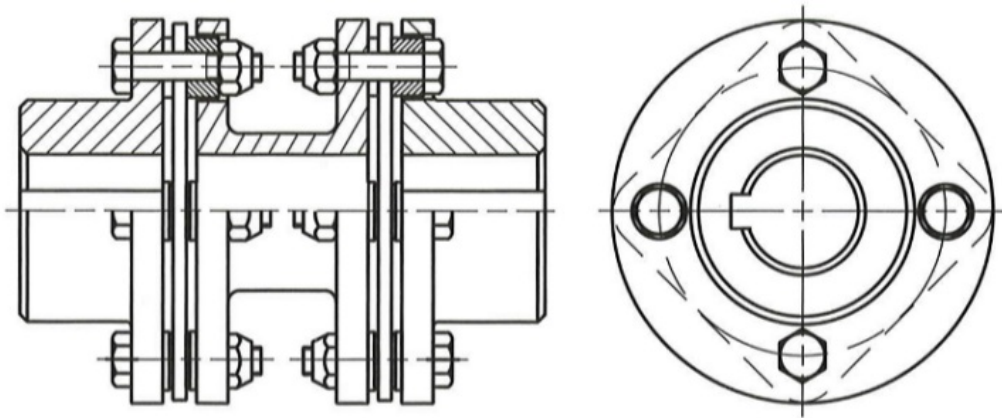


Sectioned Assemblies



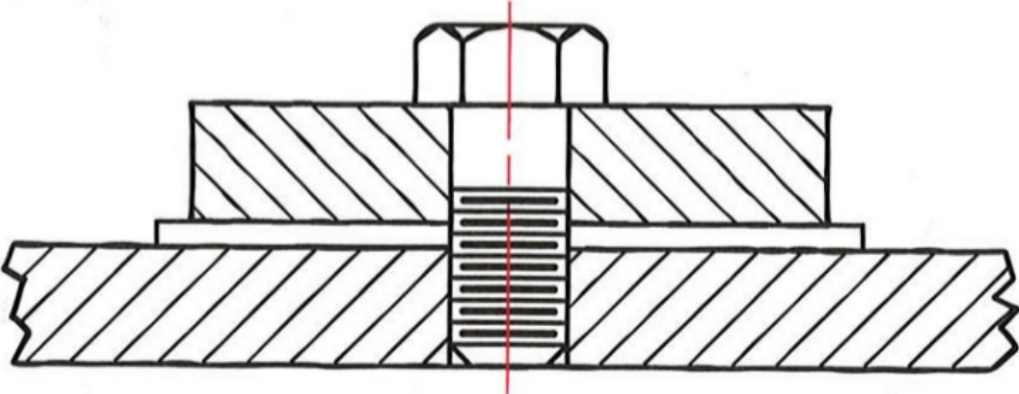
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Standard Parts



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Thin Parts



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Section Example

