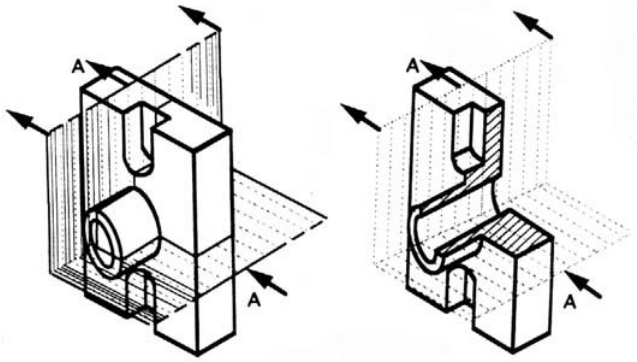
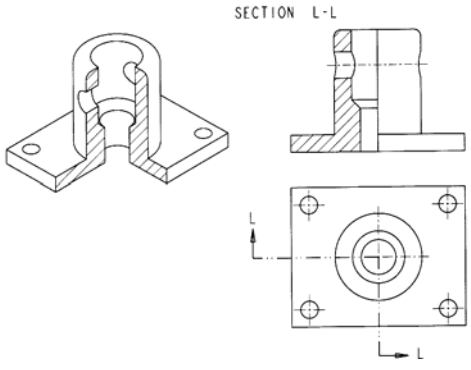
# Half Section

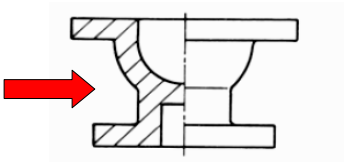
- A half-section is a view of an object showing one-half of the view in section.




# Half Section

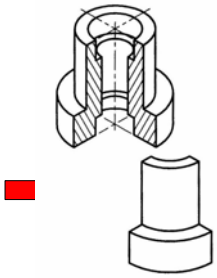
- Symmetrical parts can be shown in **half** sections.
- **Half section without hidden lines**

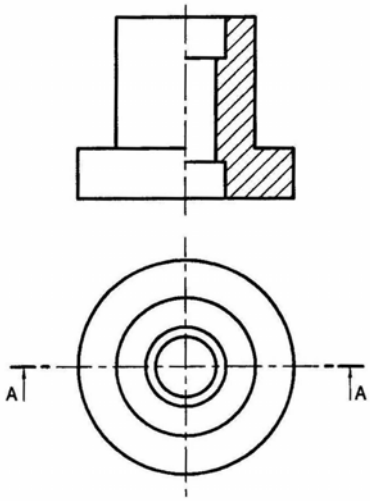


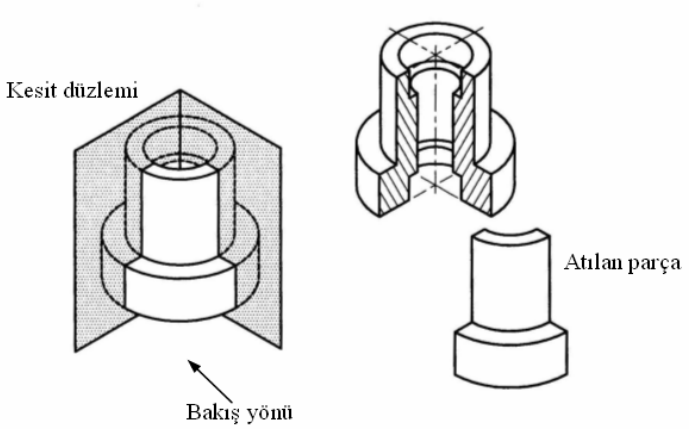
# Half Section

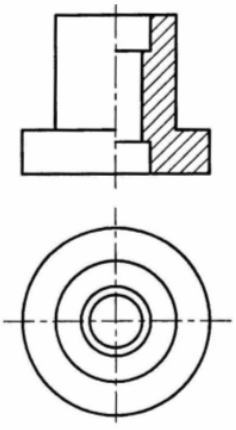
- Half sections are commonly used to show both the internal and outside view of symmetrical objects.





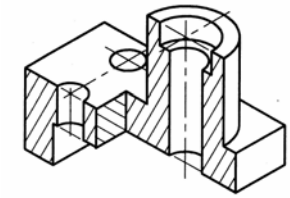

# Half Section

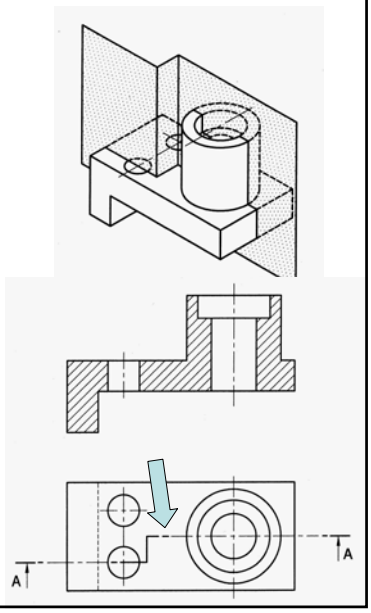


# Offset Section

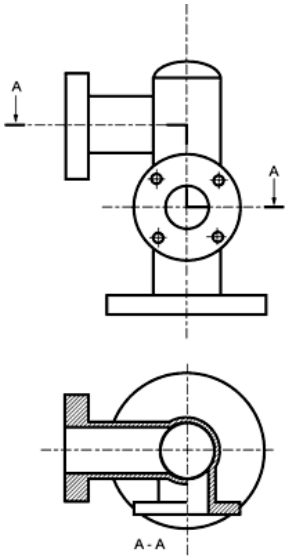
- The cutting plane is off-set to include features that are not in a straight line.
- Figure on the right is a example of offset section.



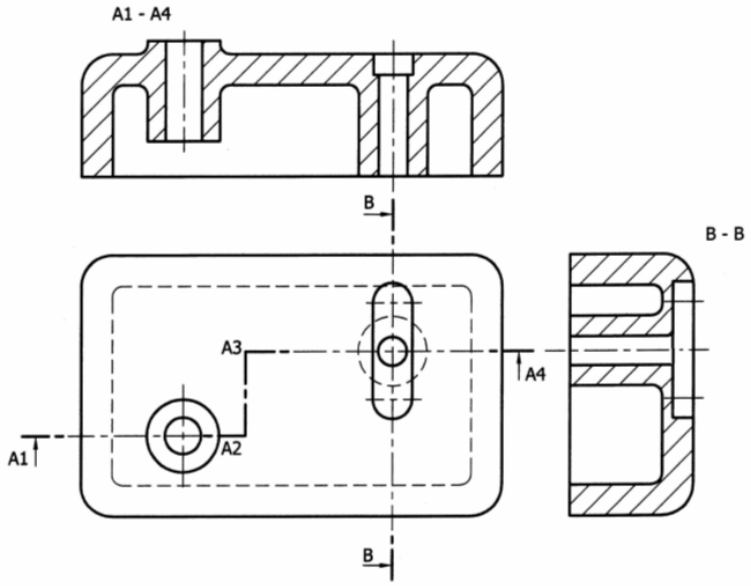



# Offset Section

- It is possible for the cutting plane to change directions, to minimise on the number of sectional views required to capture the necessary detail.
- The example below shows a pipe being cut by two parallel planes. The sketch shows where the object is cut.

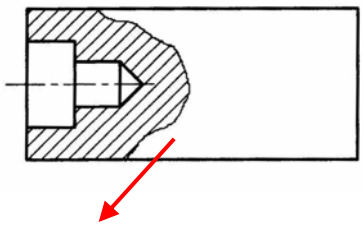


# Offset Section




# Broken out Section

- **A small portion of an object needs to be sectioned to expose internal details.**
- **Part** or 'broken out' sections can be used.



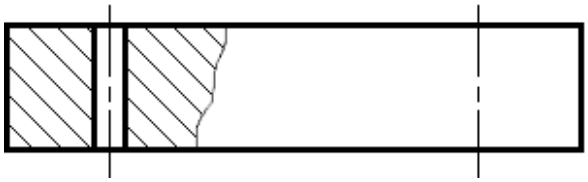
Command : SKETCH

# Broken out Section

- It is common practice to section a part of an object when only small areas need to be sectioned to indicate the important details.

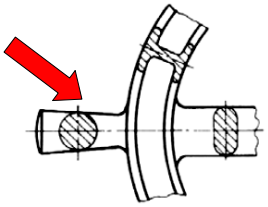
The example above shows a part sectional view to indicate a through-hole in a plate.

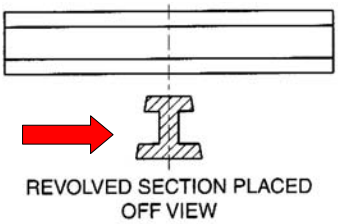
Notice that the line indicating the end of the section is a thin continuous line.

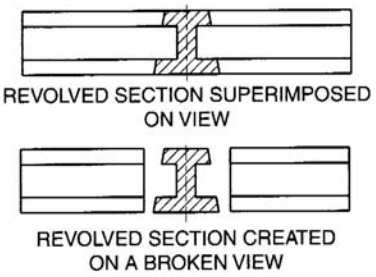


# Revolved Section

- **Revolved** sections are useful when clarifying local cross-section shapes as shown in Figure.

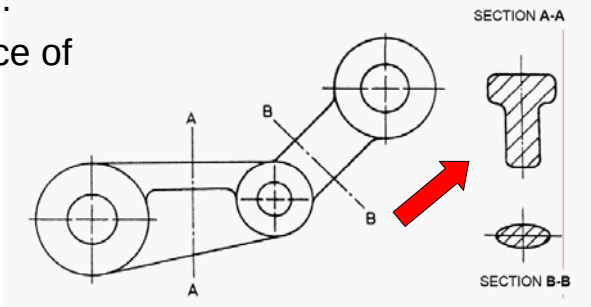




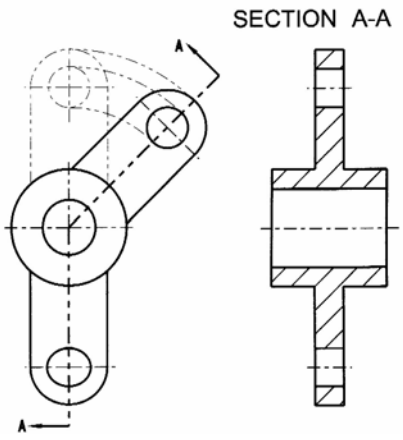
# Removed Section

- It may be appropriate to use **Removed** sections, for webs, beams or arms, as shown in Figure.
- Note the absence of viewing arrows.



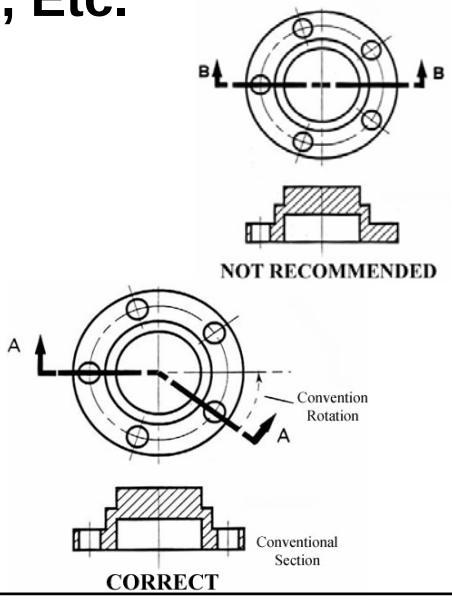

# Alligned Section

- They are used when features are located on radial lines.
- Figure on the right is a example of alligned section.



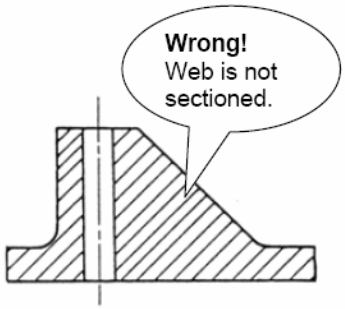
# Sectioning Objects with Holes, Ribs, Etc.

- The cross-section on the right of figure is technically correct.
- However, the convention in a drawing is to show the view on the left as the preferred method for sectioning this type of object.
- **Notice the direction of the arrows for the "A-A" cutting plane**



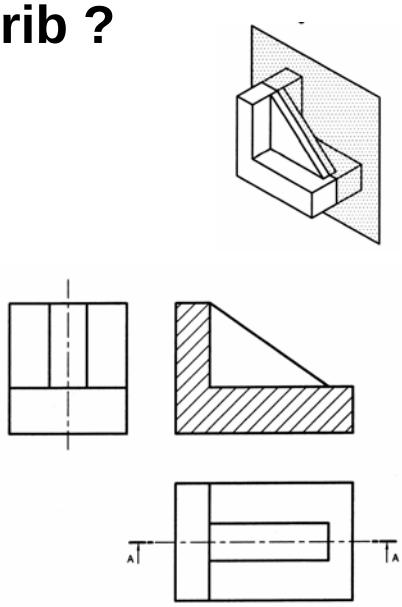

# Sectioning Objects with Holes, Ribs, Etc.

- There are some exceptions to the general rules of sectioning:
- Webs,
- Shafts, rods, spindles,
- Bolts, nuts and thin washers.
- Rivets, dowels, pins and cotters.



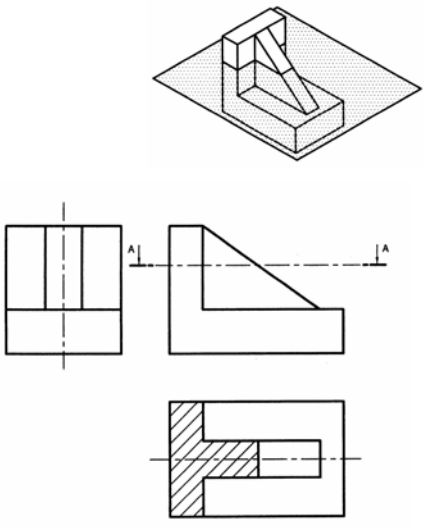
## Web or rib ?

- A web or rib is a strengthining or supporting part of a component.
- When the cutting plane passes through a rib longtudinally it is not sectioned



## Web or rib ?

- When the cutting plane passes through the rib transversely it should be sectioned



# Sectioning Objects with Holes, Ribs, Etc.

- These parts would not be shown as sections if their center lines lie on the cutting plane.