


Collaborative Engineering

Functionality Evaluation



- CAD Models and Applications
- Solid Model Representation
- Solid Modelling Techniques
- Software User Interfaces

OrthoCAD Lab, I.I.T. Bombay


Functionality Evaluation: Form, Fit, Function

Form: 3D Shape

- Dimensions
- Distances, Thickness
- Curvatures

Fit: Assembly

- Excess Gaps
- Interference



Functionality Evaluation: Form, Fit, Function

Form: 3D Shape

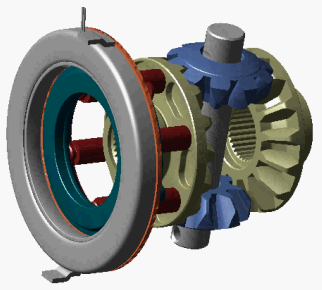
- Dimensions
- Distances, Thickness
- Curvatures

Fit: Assembly


- Excess Gaps
- Interference

Function: Mechanism

- Intended motions
- Interference



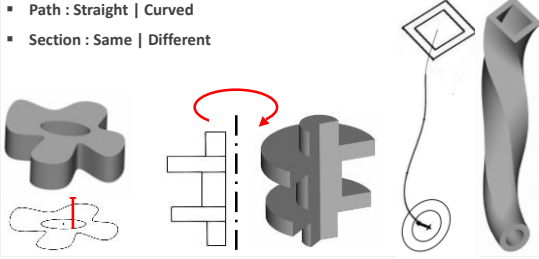
Solid Modelling Programs



Solid Modelling Techniques

Extrude and Sweep

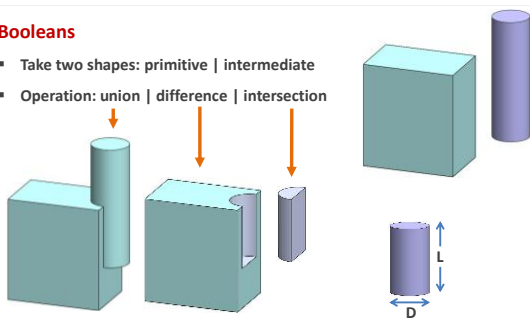
- Sketch section, provide path
- Path : Straight | Curved
- Section : Same | Different



Solid Modelling Techniques

Booleans

- Take two shapes: primitive | intermediate
- Operation: union | difference | intersection



Parametric Features-Based Modelling