

Engineering High School Outreach Program

Session # 5

Constructive Solid Geometry

Agenda

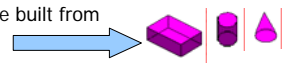



- Primitive Solids
- Boolean Operations

Reference
Inventor® R10, Chapter 3

P. 1

Engineering High School Outreach Program

Constructive Solid Geometry

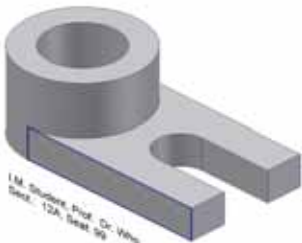
- Complex Objects are built from Primitive Solids like 
- Boolean Operations helping construction include:
 - Join or Union 
 - Cut or Difference 
 - Intersection or Common Material 

P. 2

Engineering High School Outreach Program

Creating a More Complex Object

How would you make this object as a set of geometric primitives?

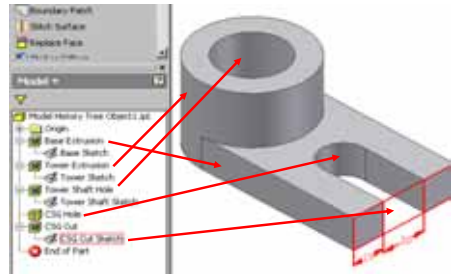


Always plan ahead! – See pg. 3-5 of Inventor Book for example of thought process

P. 3

Engineering High School Outreach Program

Completed Model History Tree



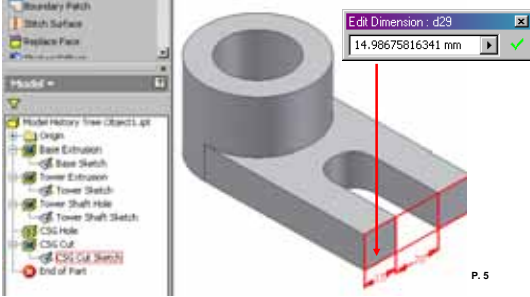
All of the primitive features and the sketches that were used to create them are part of the Model History Tree.

P. 4

Engineering High School Outreach Program

Dimensioning Caution!

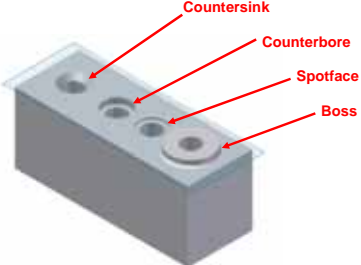
Enter dimensions explicitly, even if they appear correct. CSG is not able to line up features if they are off by even .000000001



P. 5

Engineering High School Outreach Program

Other Features Related to Holes



P. 6

Today's Assignment:

- Make a 3D model of the "Locator" from Chapter 3.
- Add text information , save and print the model.