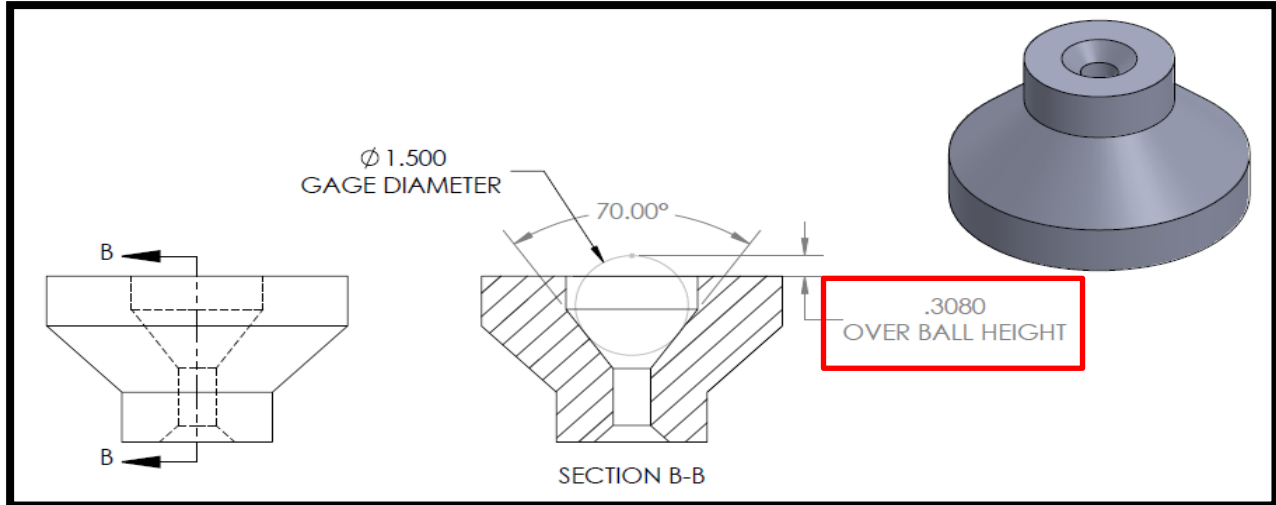


## Obtaining the Over Ball Height Using Zeiss Calypso



**\*Highlighted in Blue Adjust for Gage Diameter\***

**\*Highlighted in Yellow Names may change\***

1. To obtain the over ball dimension like the example above; you will need to start by have to make sure your alignment uses the datum surface in the corresponding origin.
2. Extract and measure the cone to obtain the half cone angle. (Size>Angle>Half Cone Angle)
  - 2.1. Label Half Cone Angle1
3. Use Result Element to obtain Diameter of contact. (Size>More>Result Element)
  - 3.1. Use this formula in result element...
 
$$\cos\text{Rad}(\text{getActual}(\text{"Half Cone Angle1"}).\text{actual}) * \text{Gage Ball Diameter}$$
  - 3.2. Label Result Element "Diameter of Contact"
4. Insert a Cone Calculation Feature.
  - 4.1. Use measured cone feature.
    - 4.1.1. Check position definition and use this formula...
      - 4.1.1.1.  $\text{getActual}(\text{"Diameter of Contact"}).\text{actual}$
    - 4.2. Note: Over Ball datum surface must be set in the alignment used for this Cone Addition.
5. Add in Result Element to obtain Depth of Contact.
  - 5.1. Use this formula in result element...
    - 5.1.1.1.  $\tan\text{Rad}(\text{getActual}(\text{"Half Cone Angle1"}).\text{actual}) * ((\text{getActual}(\text{"Diameter of Contact"}).\text{actual})/2)$
  - 5.2. Label Result Element "Depth of Contact"
6. Add in Result Element to obtain Over Ball Height
7. Use this formula in result element...
  - 7.1.  $(\text{getActual}(\text{"Cone Addition1"}).\text{z}) + \text{getActual}(\text{"Depth of contact"}).\text{actual} + \text{Gage Ball Radius}$
8. Voilà you now have your Over Ball Height Dimension.