Dimension Rounding Behavior – Creo Parametric

The problem & the solution

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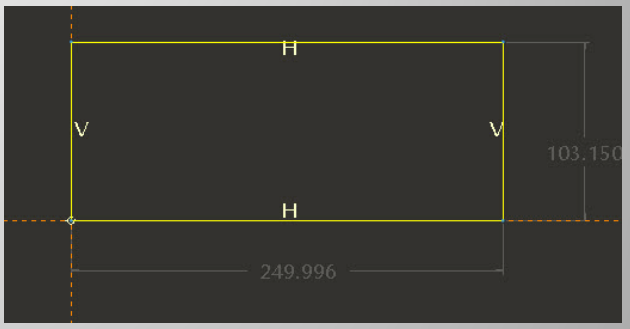
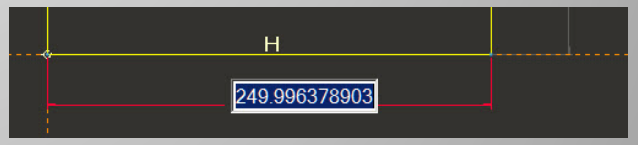
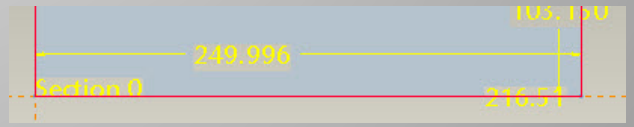
Wildfire 4.0 and earlier behavior

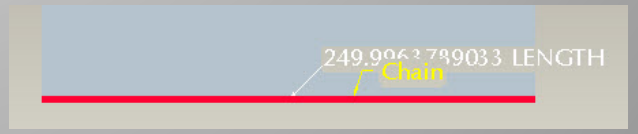
- Parts created with weak dimension, do not show the actual size of the model when viewing the dimensions or measuring the model.

  - Test:
    - Set the following config.pro options
      - default_dec_places 2
      - measure_dec_places 10
      - sketcher_dec_places 3
    - Create a sketch with weak dimensions
    - Double click on one of the dimensions
      - Notice the it goes out to 9 places
    - Finish the part use the default depth
    - Edit the dimension in the part
      - It only shows 3 places
    - Measure the length of the edge in the part
      - It shows 10 places
    - Save the part as weak_dims_problem.prt





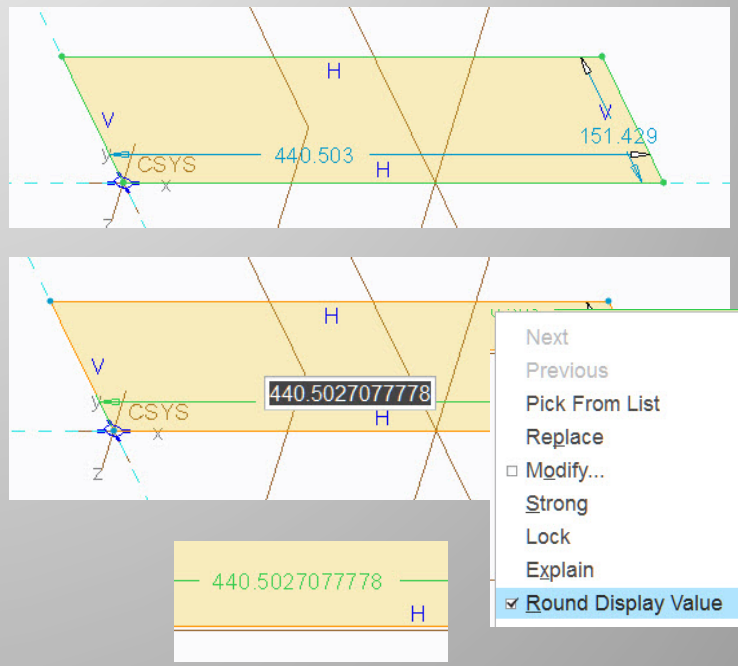




Wildfire 5 and Creo behavior

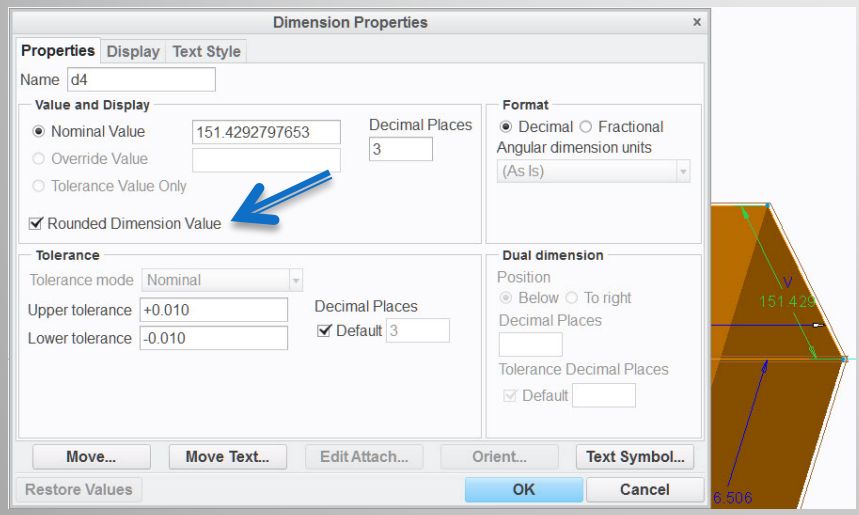
- If you know to look for it, rounding of dimension can be shown and controlled.
- The problem is, any dimension, strong or weak, can be rounded. Meaning the displayed dimension may not match the model size.

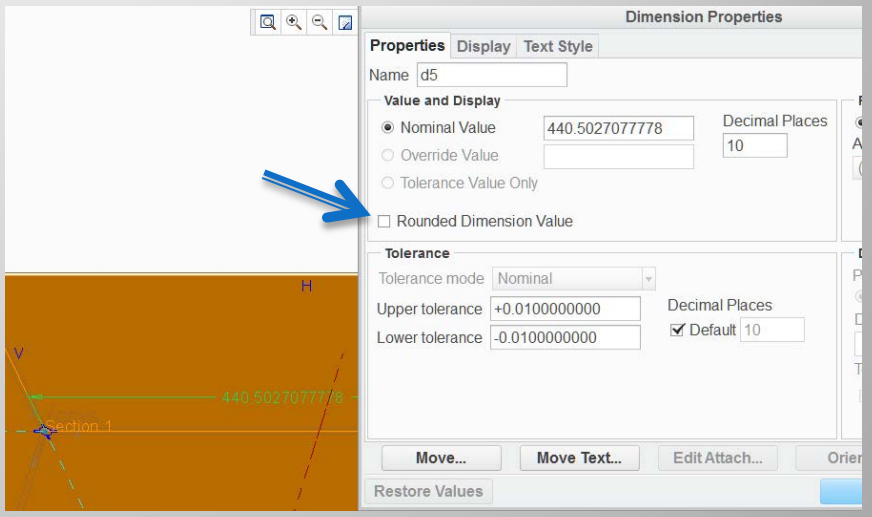
  - Test:
    - Set the following config.pro options
      - default_dec_places 3
      - measure_dec_places 3
    - Create a sketch with weak dimensions
    - Double click on one of the dimensions
      - Notice the it goes out to 10 places
    - Select the dimension and from the RMB menu
      - Select Round Display Value
    - The dimension now displays its full value
    - Finish the part use the default depth



Wildfire 5 and Creo behavior

- Test Continued:
  - Double click on the part to show the dimensions. Show the properties of the horizontal and vertical dimensions of the part.

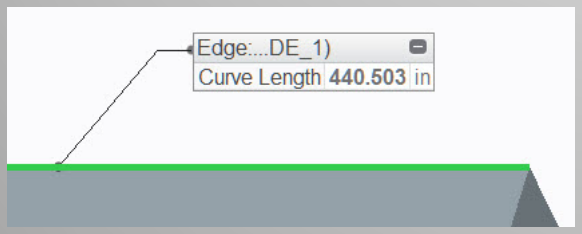


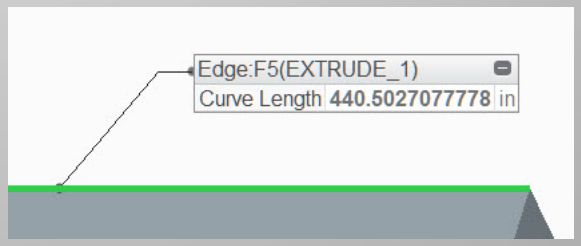


  - Notice there is a check mark next to **Rounded Dimension Value** on the vertical dimension and missing from the horizontal dimension

Wildfire 5 and Creo behavior

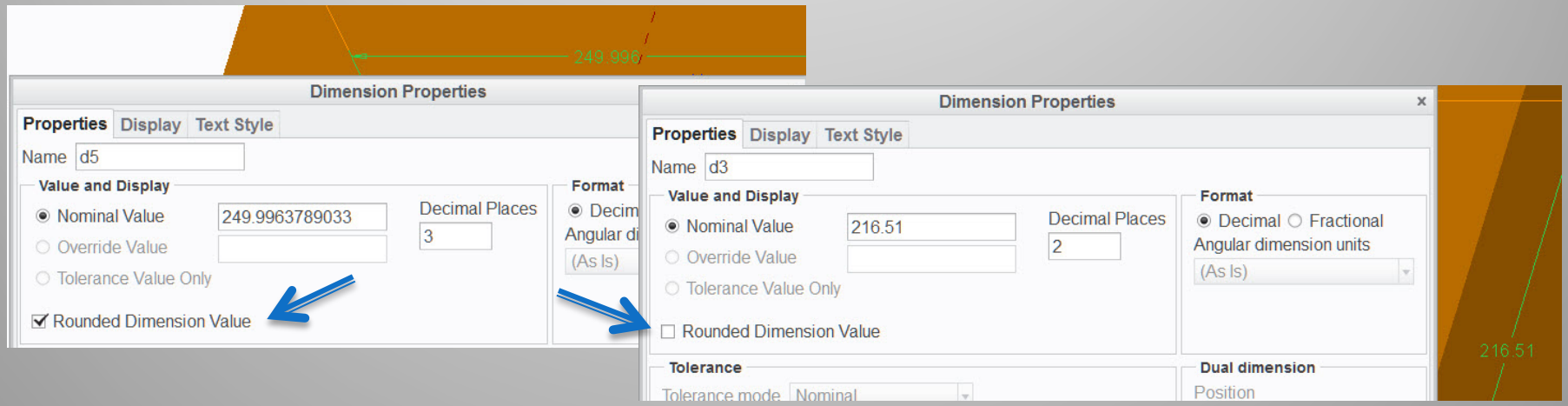
- Test Continued:
  - Pick the **Analysis** Tab and select **Measure, Length**
    - Notice it only reports the length to 3 decimal places
  - Edit the config.pro and change the option
    - Measure_dec_places 13
  - Now measure the edge again
    - Notice it now reports the length to 10 decimal places





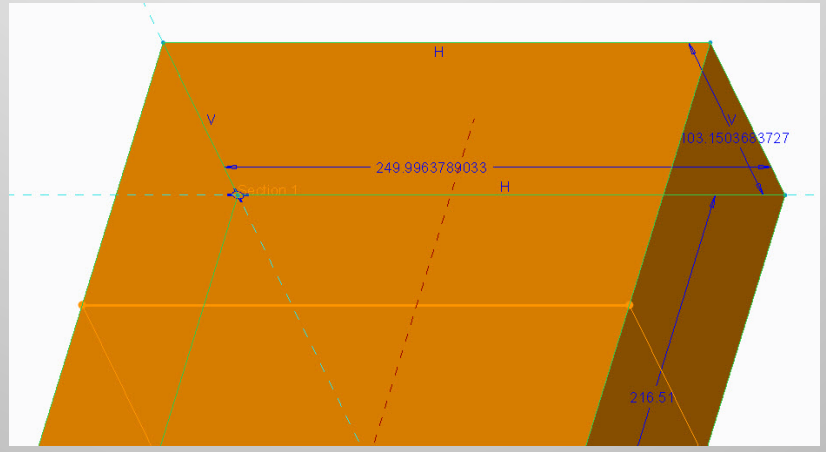
Importing Old Models into Creo

- Open the Wildfire 4 model weak_dims_problem.prt
- Go to dim Properties for the horizontal and depth dimensions
  - Horizontal = Rounded Dimension Value **on**
  - Depth = Rounded Dimension Value **off**
- This is the default Creo behavior, config option:
  - round_prewf5_displayed_dim_val = **calculated**



Importing Old Models into Creo

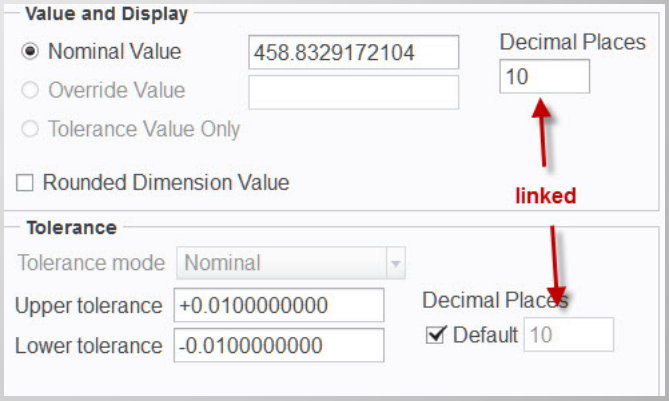
- Exit Creo
  - Change the config option to **round none**
    - Yes, it has a space in it
  - Again open the weak_dims_problem.prt



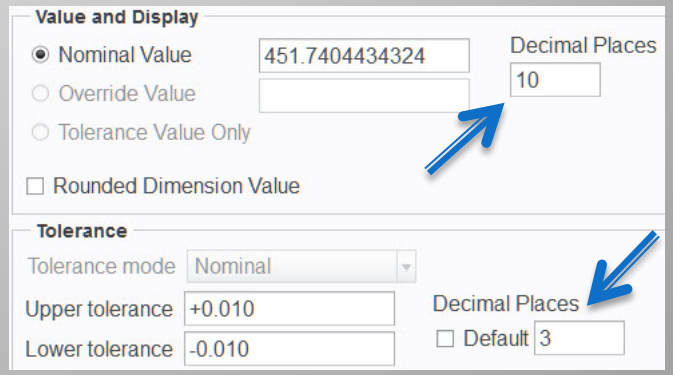
  - The actual model size is now displayed
  - Any old drawing showing these dimension would be affected
  - The other option is **round all** which would look like **calculated**, but all the dimensions would be set to display rounded values

Tolerance Number of Digits

- There is another related config option
  - Tol_num_digits_default_driven
  - Yes look like this:



  - No looks like this:

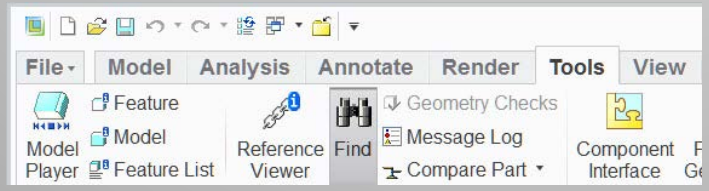


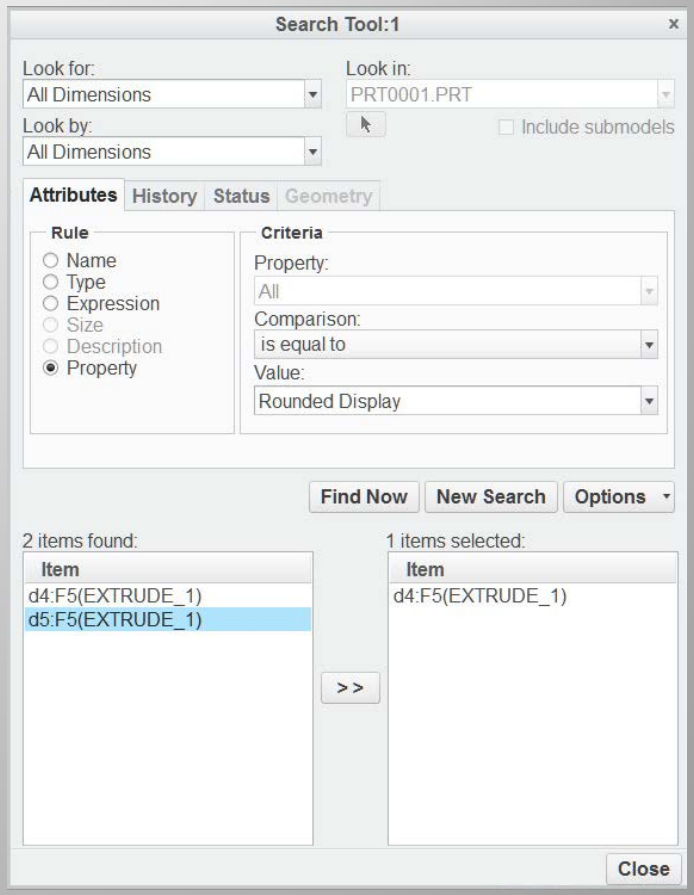
Suggested Config Settings

- Use these config settings
  - These will ensure that the actual model size is always displayed
    - Round_displayed_dim_values **no**
    - Round_prewf5_displayed_dim_val **round none**
    - Tol_num_digits_default_driven **yes**
    - sketcher_strngthn_to_def_dec_pl **yes**
    - measure_sig_figures **10**
  - If old models used weak dimensions, both the models and drawings would be affected.

Finding Rounded Dimensions

- There is no way to prevent users from rounding dimensions, however you can find them.
- Pick:
  - Tools tab
  - Find
  - Look for All Dimensions
  - Look by All Dimensions
  - Attributes Rule = Property
  - Is Equal to = Rounded Display



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