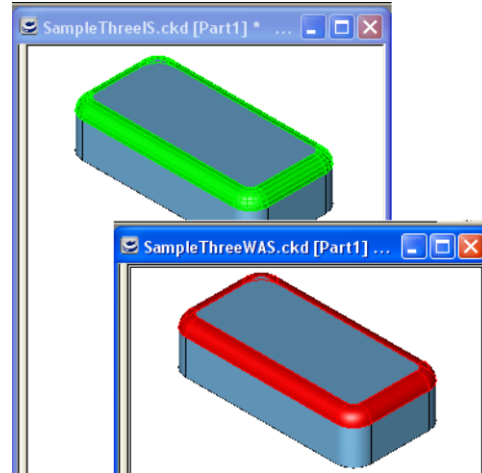


KEYCREATOR 3D Direct Modeling Software

KeyCreator Lesson KC8510

Working with a Discrepant Cosmetic Blends

In this exercise we'll look at how to analyze and repair two files where the difference is caused by a minor variation in the cosmetic blends on the part.

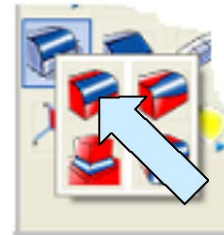


We'll start with a new file in View 7. (The Isometric View.)
The construction plane should be set to View 1.

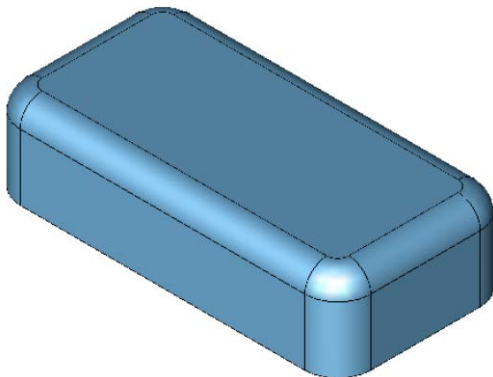
Click on the BLOCK Icon. A Dialog Box appears.
Use the KeyIn Option and type 4 for the Width, 2 for the Length, and 1 for the Height.
Hit the ENTER Key.

Using the KeyIn Option, hit the ENTER Key three times to place the block at the origin.

Click on the CONSTANT RADIUS BLEND Icon.
A Dialog Box appears.
Type 0.375 for the Radius and hit the ENTER Key.



Click on the four vertical corners and hit the ENTER Key.
Click on the BACKUP Button.
Type 0.25 for the Radius and make sure the Blend Along Smooth Edges Option is selected. Hit the ENTER Key.

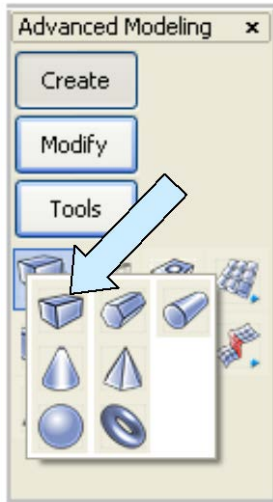


Click on a top edge of the block and hit the ENTER Key.

Your finished block should look like this:

Save this file and call it "SampleThreeIs."

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Now, start with another new file in View 7. (The Isometric View.) The construction plane should be set to View 1.

Click on the BLOCK Icon. A Dialog Box appears. Use the KeyIn Option and type 4 for the Width, 2 for the Length, and 1 for the Height. Hit the ENTER Key.

Using the KeyIn Option, hit the ENTER Key three times to place the block at the origin.

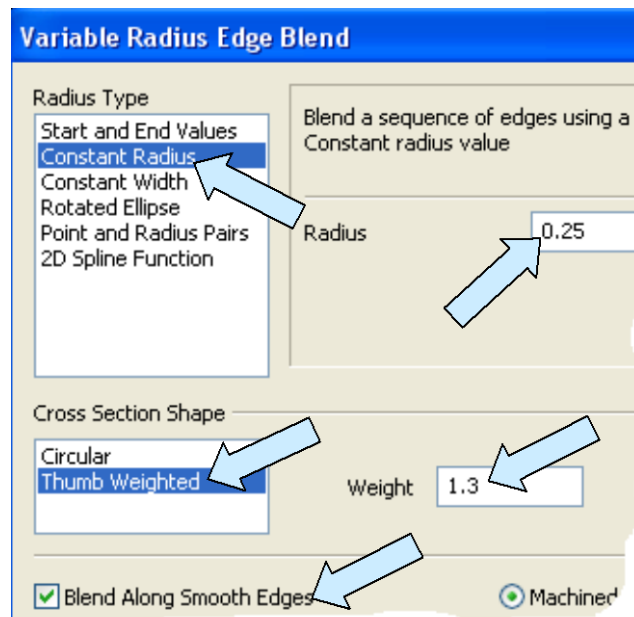


Click on the CONSTANT RADIUS BLEND Icon. A Dialog Box appears. Type 0.375 for the Radius and hit the ENTER Key.

Click on the four vertical corners and hit the ENTER Key.



Now, click on the VARIABLE RADIUS EDGE BLEND Icon.



A Dialog Box appears.

Select the Constant Radius Option. Let's use Thumb Weighting with a weight of 1.3 and a radius of 0.25 inches.

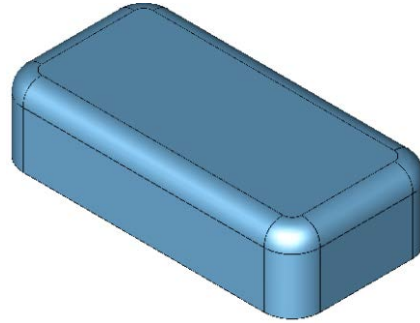
(If you are not familiar with Thumb-Weighted Blending, check out KeyLesson KC3102 in the KeyCreator college.)

Make sure the Blend Along Smooth Edges Option is checked and hit the ENTER Key. Click on a top edge of the block and hit the ENTER Key.

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Your part should look like this:

Take a moment to save the file. Let's call this one "SampleThreeWas."



Comparing the Models

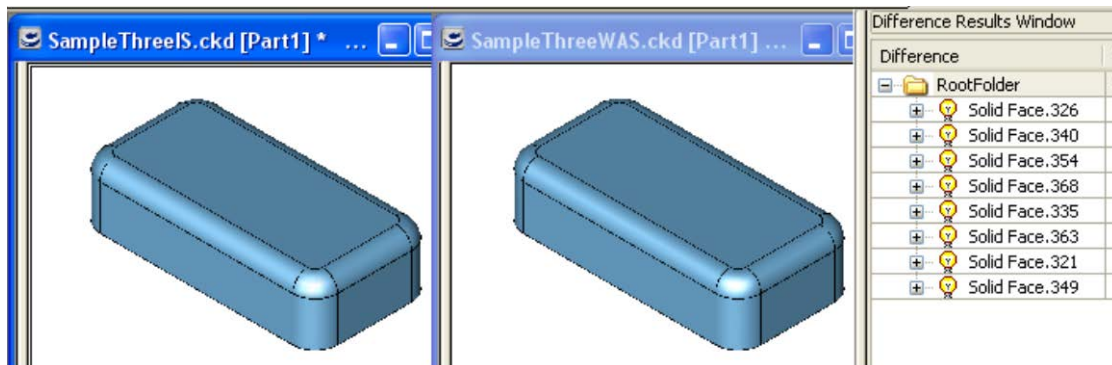
If the Difference Results Window is not visible, click on the TOGGLE DIFFERENCE RESULTS Icon to display it.



Then, click on the VALIDATE PARTS Icon.

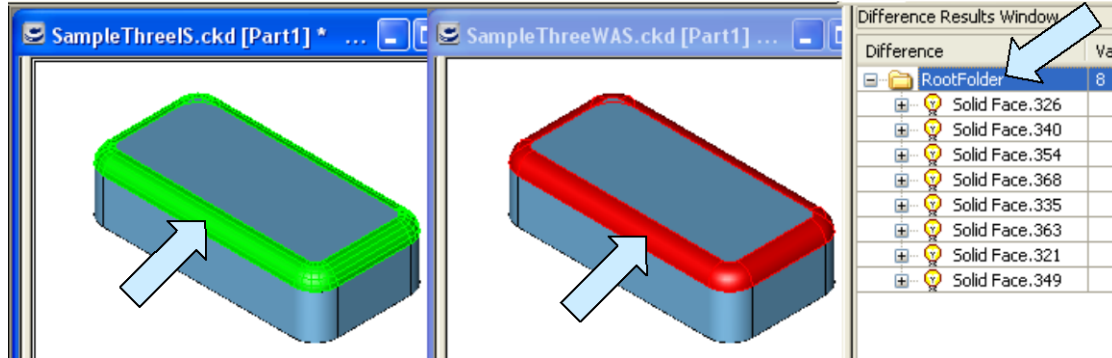
We'll want the "SampleThreeIs" file for our IS file and the "SampleThreeWas" file for our WAS file.

When you are done loading the files, your screen should look like this:



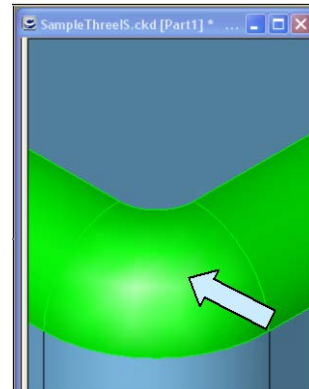
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If you click on the RootFolder Row in the Difference Results Window, the cosmetic blends on the top of the two parts highlight.



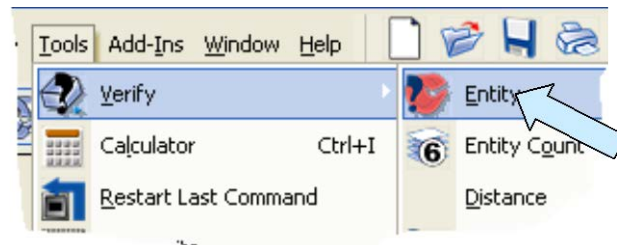
Now in most part designs like this, a branch of blends like the eight on the top of this part will all be the same radius. (The exception would be a sculpted edge like a bicycle seat where the PointRadiusPair function was used to create a variational edge treatment.)

So let's zoom in on one of the corners in the IS part.



Then, click on the SYNCHRONIZE VIEWS Icon to make the WAS part match.

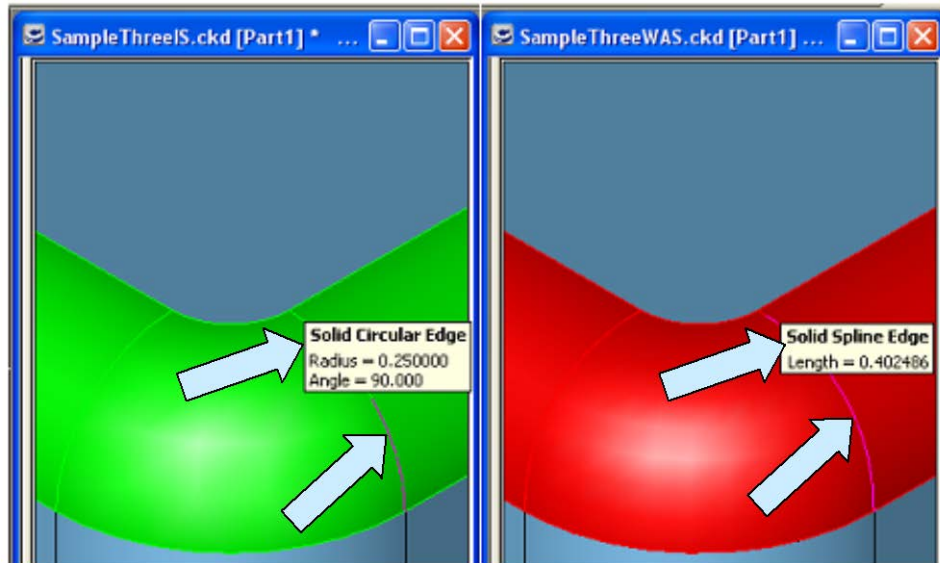
Click on the TOOLS/VERIFY /ENTITY Icon and then click on one of the blend curves in the IS file.



Then, click in the WAS file window to make it active and verify the same curve there.

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As you would suspect, the blend curve in the IS file is a circular edge with 0.25 radius. The blend curve in the WAS file, however, is a spline since the thumb weighting distorts a perfect circular arc.



You can check some of the other blend curves around the perimeter. You'll see that all of the curves in the IS file are 0.25 circular edges.

Correcting the Discrepancy

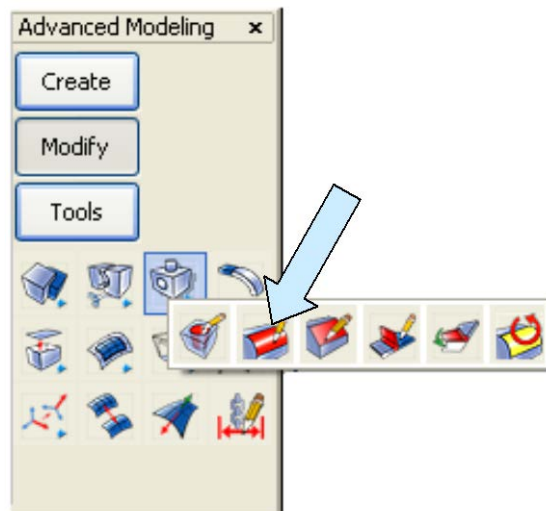
Let's assume that we would like to correct the WAS file so that it also has solid circular edges that are 0.25 radius. To do this, click in the WAS file window to make it active.

Then, click on the EDIT BLEND Icon.

Click on the Feature Option on the Conversation Bar. Next, click on the Blend Option and then on the Constant Option.

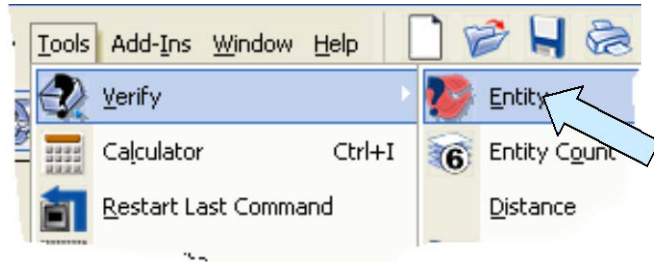
Move the cursor over the top edge of the part and click when all eight blends on the perimeter highlight. Hit the ENTER Key three times.

Type 0.25 for the radius and hit the ENTER Key. The part rebuilds with constant radius blends.



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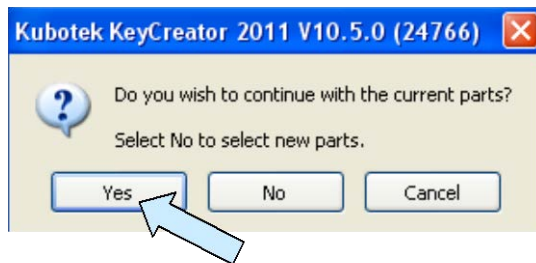
You can click on the Click on the TOOLS/VERIFY /ENTITY Icon and then click on one of the blend curves to confirm this.



Running a New Comparison

Let's run a new comparison to verify that our two parts are now identical.

First, click on the VALIDATE PARTS Icon.



A Dialog Box appears asking if you want to continue with the same parts.

Click on the YES Button.

Notice that all of the discrepant face entries disappear from the Difference Results Window. Also the Status Indicator at the bottom changes from a RED sphere to a GREEN Sphere.

