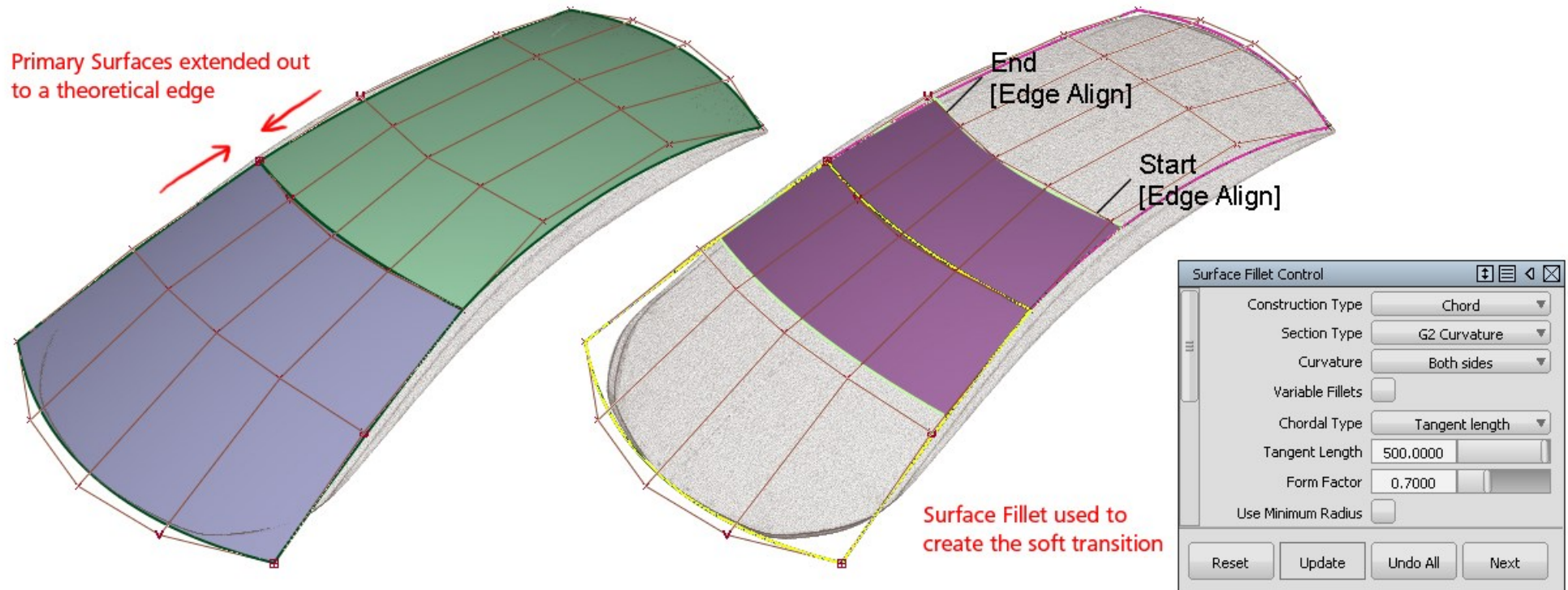


A1.7 Fitting the Roof Scan to Theoretical

This tutorial takes the surfaces from the previous model and continues to work with them, aiming for more control over the surfaces by building the Primaries out to a theoretical edge:



Creating a fillet on such a shallow edge can be tricky, and care needs to be taken to get a good relationship between the Primary Surfaces. Extra CVs will typically be needed to control the acceleration at the ends of the Primaries, as this has a strong influence on the behaviour of the Fillet.

INDEX

Time	Topic	Menu/Palette	Tool	Options
0.23	Understanding the limitations of Freeform Blend			
1.15	Discuss the need to build out to the Theoretical intersection			
1.26	Match the parameterisation of all the surfaces by increasing the roof to degree 4.			
1.45	Extend the roof and windscreen surfaces	Object Edit	Extend	<i>Merge</i>
2.41	Aligning to a single theoretical edge	Object Edit > Align	Align	<i>Pos. Influence</i>
3.08	Adjusting the theoretical based on the cross-sections	Control Panel > Transform CV	Move	<i>NUV</i>
3.44	Re-adjusting the interior hulls of the roof surface following adjustment of the edge			
4.09	Re-adjusting the interior hulls of the windscreen surface			
5.02	Assessing the fit of the roof surface and choosing to increase the degree			
5.18	Biasing the roof hulls to achieve acceleration at the forward and rear edges			
5.51	Checking the fit to the scan with a Deviation Map	Evaluate	Deviation Map	
6.20	Checking the windscreen surface with the Deviation Map			
6.36	Applying a Surface Fillet to the two Primary Slabs	Surfaces > Multi Surface Fillet	Surface Fillet	<i>Chord</i>
7.41	Re-applying symmetric modelling which was lost after the Align operation	Object Edit > Align	Symmetric Modelling	
8.15	Increasing the Fillet size to try to match the blend scan lines			
8.39	Checking the highlight tracking with Zebra stripes	Diagnostic Shading	Horizontal/Vertical	
9.18	Checking the curvature in Y with cross section combs			
9.41	Refining the Surface Fillet fit by modifying the Form Factor setting			
10.19	Increasing the Surface Fillet size further...			
10.32	Going back to the Primary Surfaces and adding more acceleration			
10.43	Checking the tangency between the Primaries, to see if they are too flat	Evaluate > Continuity	Surface Continuity	<i>G1</i>
11.13	Final adjustment to the Hull on the theoretical boundary	Control Panel > Transform CV	Move	<i>NUV</i>
12.18	Final check of curvature combs, highlight tracking and Deviation Map			