

A4.20: Feature Washout

This tutorial describes the patch layout to 'fade out' a sharp feature on a wheelarch/fender model.

Patch Layout Analysis

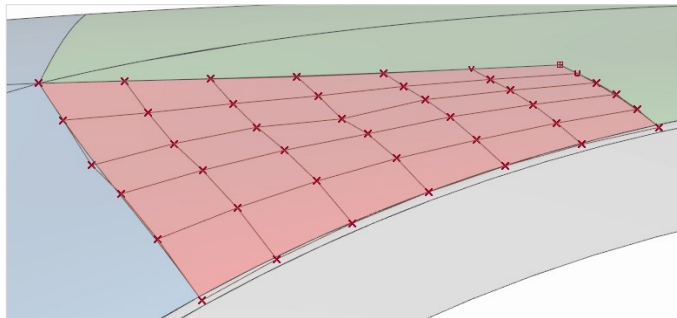
In the first part of the tutorial Barry discusses his approach to working out a patch layout.

Model Provided

You are given the base set of surfaces, with G2 continuity created to create the smooth transitions either side of the sharp edge. This leaves a discrepancy around the wheelarch that needs to be fixed.

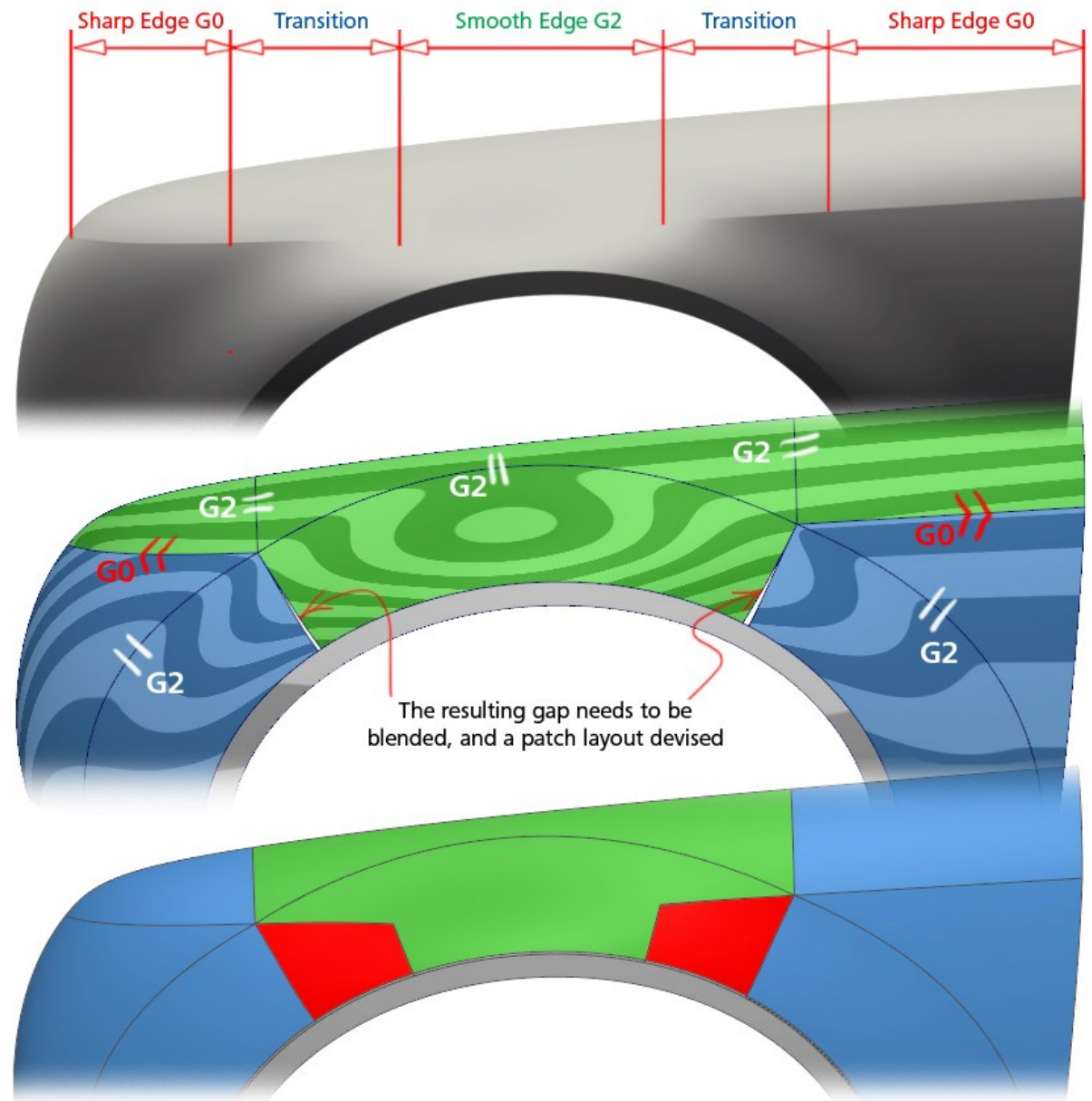
Close Attention to CV Layout

Building with a simple Square surface fills the gap, but more attention is paid to fine-tuning the CV layout to create the best quality result.



Note: Definition of an Ogee

An 'ogee' is a verbal version of 'zero curvature' ('o' for zero and 'g' for curvature). It simply refers to an inflection, where a curve or surface goes from positive to negative.



INDEX

Time	Topic	Menu/Palette	Tool	Options
0.34	Analysing a scan to work out the patch layout			
1.37	Using the Curvature Evaluation shader to analyse the mesh	Diagnostic Shading	Curvature Evaluation	<i>Principal Max</i>
2.02	Sketching the patch layout			
5.38	Discussing the 'fade out' transition area			
6.36	Analysis of the fade-out feature from a different view			
8.06	Working on the surfaces – Laying out the patches with curves	Curves > New Curves	New Edit Point Curve	<i>Degree 1</i>
9.16	Splitting up the curves to create a patch outline	Curve Edit	Curve Section	
9.33	Project the curves onto the central blend surface	Surface Edit > Create New CoS	Project	<i>Normal</i>
9.49	Create the first Square surface to blend out the wheel arch	Surfaces > Boundary Surfaces	Square	
10.34	Using Explicit Control to create a Bezier surface	Surfaces > Boundary Surfaces	Square	<i>Explicit Control</i>
10.51	Increasing to degree 6 to achieve continuity			
11.00	Analysing CV flow and discussing the 'free' row of CVs not controlled by the G2 constraints at the boundaries			
11.18	Analysing CV flow with viewing	View Cube menu	Non-Proportional View	
11.26	Analysing surface with curvature combs	Control Panel > Display	Curvature U	
11.49	Adjusting the central, 'free' row of CVs using boundary blend in Square	Surfaces > Boundary Surfaces	Square	<i>Boundary Blend</i>
12.44	Using Curvature evaluation shader to check the surface quality	Diagnostic Shading	Curvature Evaluation	<i>Mean</i>
14.39	Create the second Square surface	Surfaces > Boundary Surfaces	Square	
15.23	Deleting the CoS and using Align > Project to fix continuity	Object Edit > Align	Align	<i>Project</i>
16.05	Final diagnostics	Diagnostic Shading	Iso Angle	
17.25	Final refinements of CV positions on the first square surface			
18.42	Using Tangency G1 to evaluate a G0 positional edge	Evaluation > Continuity	Surface Continuity	<i>G1</i>