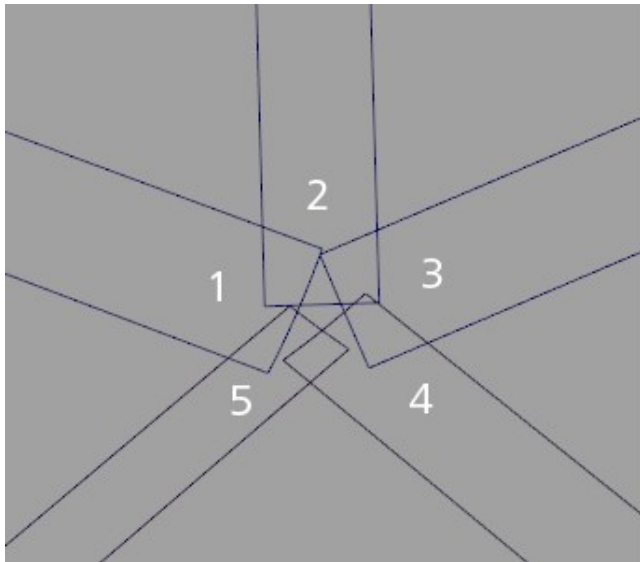# A4.18 : Five Corner Blend

This tutorial addresses a typically difficult blending situation – where 5 fillets meet at one corner. The fillets are tangent and so the corner solution is built to tangent only, but all the principals could be applied in a situation where curvature continuity is required.

These five linear fillet surfaces were created with the Round tool, which failed to create a successful blend between them.
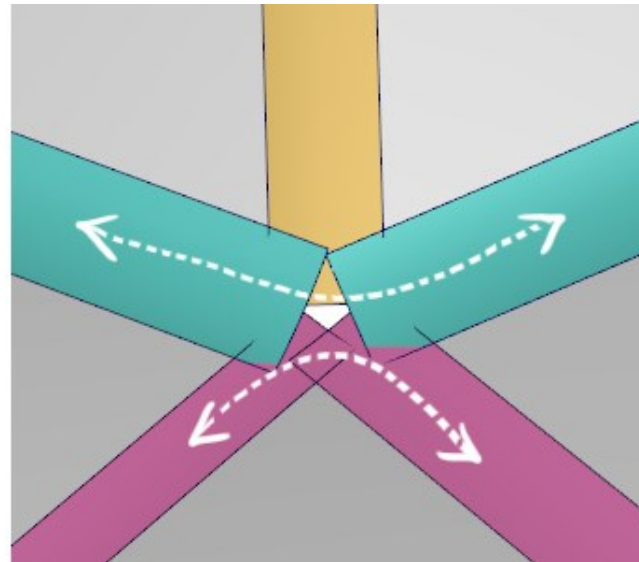
The first step is to identify how blend surface would best 'flow', based on the size of the original fillets and their orientation to each other.
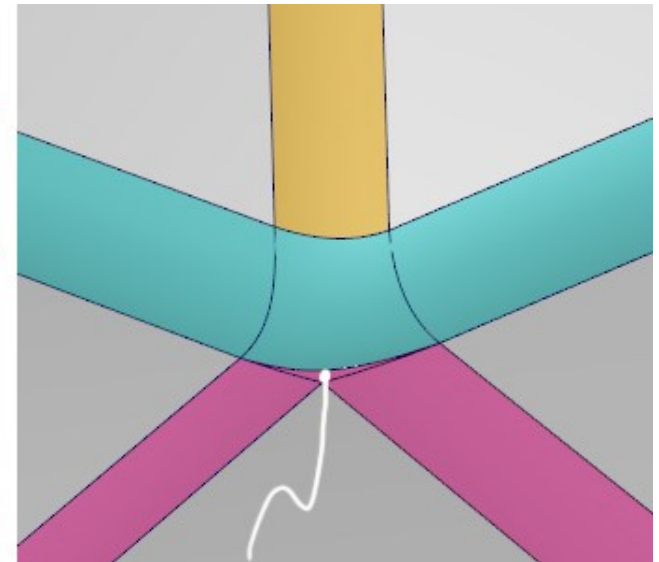
A 'fill-in' surface is required. Only a small, angular piece of surface is needed, it is built as a 4-sided surface which is then trimmed.

NOTE

At 10.06 Barry uses Curve Duplicate to create a curve to use for the Xform CV > Move > Projected tool. Another option would be to turn on the hulls for the fillet surface and align to the edge hull, and this could be used in situations where the surfaces are more curved.

At 7.30 and 8.40 Barry takes time to align the CVs of the curves to the hulls of the surface they will be projected onto. This is a good habit that gives you more predictability, and is really helpful when you will be building another surface directly from that curve. In these examples however, it is less essential as the projected (normal) curve is hardly affected by adjusting the CV positions. Similarly, at 14.30 the resultant projected curve won't inherit the carefully crafted CV layout.

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6.55	Creating Blend Curves – G1 Degree 3 – for trimming the main fillets	Curve > Blend Curve Toolbox	**Create Blend Curve**	
7.57	Using Trim Convert to create 'natural' surface edges (Edges 1,2,3)	Surface Edit > Trim	**Trim Convert**	*3D Trimming*
9.39	Extending (with snapping) Edges 4 and 5 to align to corner point	Object Edit	**Extend**	*Merge On*
10.06	Aligning edges by snapping CV positions to Hulls/curves	Xform CV > Move	**Projected**	
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10.46	Explaining how co-linear edges help to create better surfaces			
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12.36	Using Blend Control in Square	Surfaces > Boundary Surfaces	**Square**	*Blend Control*
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17.36	Continuity errors caused by the original Round surfaces			
17.56	Interpreting the surface continuity locator			
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