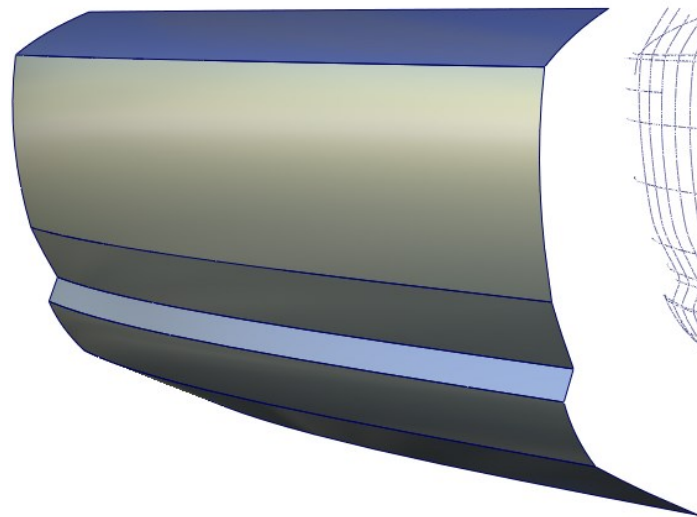


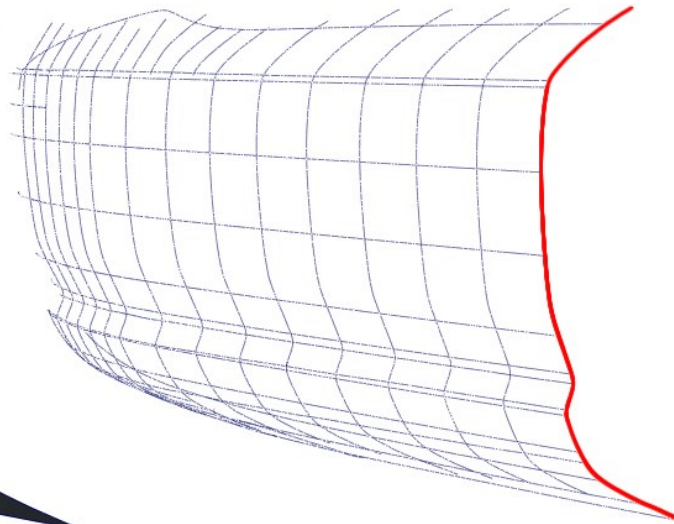
A1.2 Fitting Primary Curves to Scan Lines

OVERVIEW

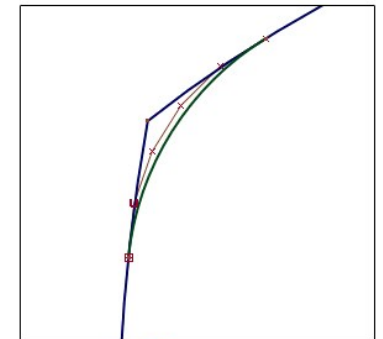
The example is of a portion of an interior fascia...



A set of scan lines are provided, only the centre-line one is used for fitting curves



Primary 'slab' curves are fitted to the scan data



Secondary fillet curves are built to evaluate and refine the primaries

KEY CONCEPTS

Avoiding inflections by using degree 2 curves. (Inflections are also known as 'ogees' – '0' 'G' for zero curvature)

Finding the Theoretical Intersections for the primary curves.

Interpreting scan data – how to distinguish between a design feature and a scan error.

Using Fillets with construction history to refine the primaries. Focussing on finding the correct theoreticals.

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Time	Topic	Menu/Palette	Tool	Options
0.24	Create a single scan curve from separate parts using Attach > Connect	Object Edit	Attach	<i>Connect</i>
		Object Display	Hide Unselected	
1.03	Using Fit Curve to match NURBS curves onto a portion of the scan	Curve Edit	Fit Curve	
1.15	Fitting Primary curve 1 – Identifying ‘slab’ regions			
1.39	Choosing Degree 2 instead of Degree 3 to avoid Ogee			
1.52	Fitting Primary curve 2			
2.32	Fitting Primary curve 3			
2.51	Fitting Primary curve 4			
3.35	Fitting Primary curve 5			
4.01	Fitting Primary curve 6			
4.10	Interpreting glitches in the scan data			
5.30	Problems with too much acceleration in a curve			
5.47	Manually fitting a curve			
6.42	Extending the fitted primary curves to find the Theoretical Intersections	Object Edit	Extend	
7.28	Fixing an Extend problem			
7.45	Extending by sliding one CV	Control Panel > Xform CV > Move	Slide	
8.28	Extending with curve snap and curve section	Curve Edit	Curve Section	
10.18	Applying curve fillets – secondary curves			
10.45	Using the curve fillet tool	Curve Edit > Create	Curve Fillet	
11.11	The purpose of the fillets is to refine the primary curves			
12.24	Fixing a problem fillet that fails to build	Curve Edit > Create	Curve Fillet	<i>Radius and Chord</i>
13.36	Moving two CVs on different curves together using Xform CV > parallel	Control Panel > Xform CV > Move	Parallel	