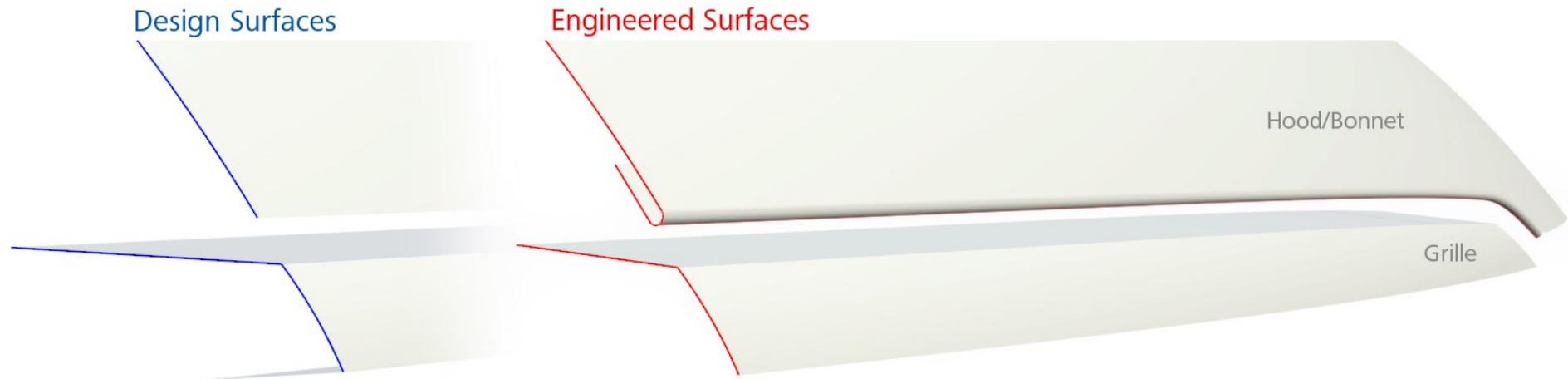


A5.23 : Hood Edge - Modelling an Accurate Gap

This tutorial takes a set of design surfaces and applies engineering criteria to build an accurate gap between the hood and the front grille.



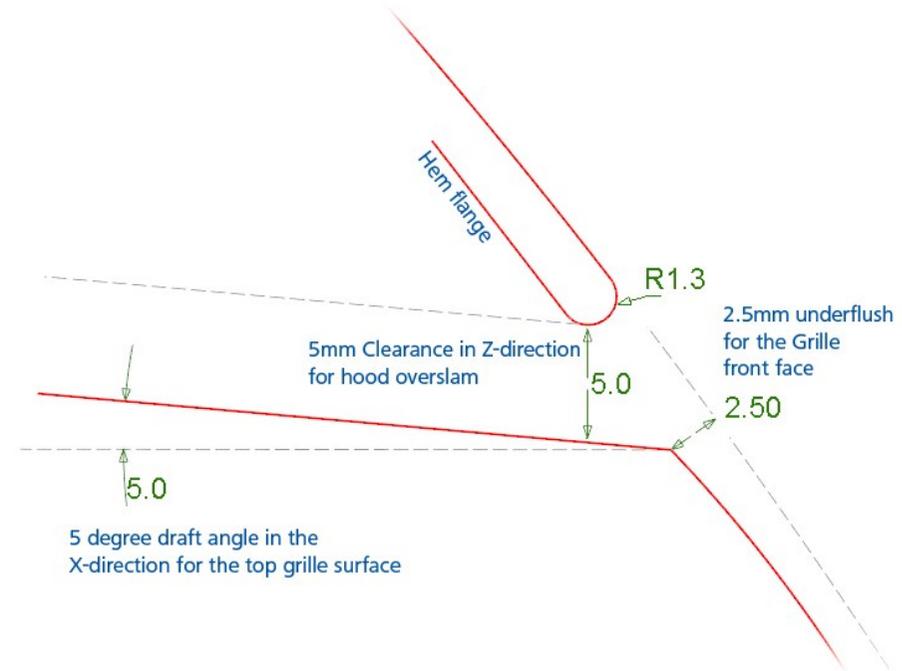
The design surfaces typically don't take into account the manufacturing details, in this case a 'hem flange' at the edge of the hood.

Engineering details such as making an allowance for the 'overslam' of the hood as it closes also need to be designed in.

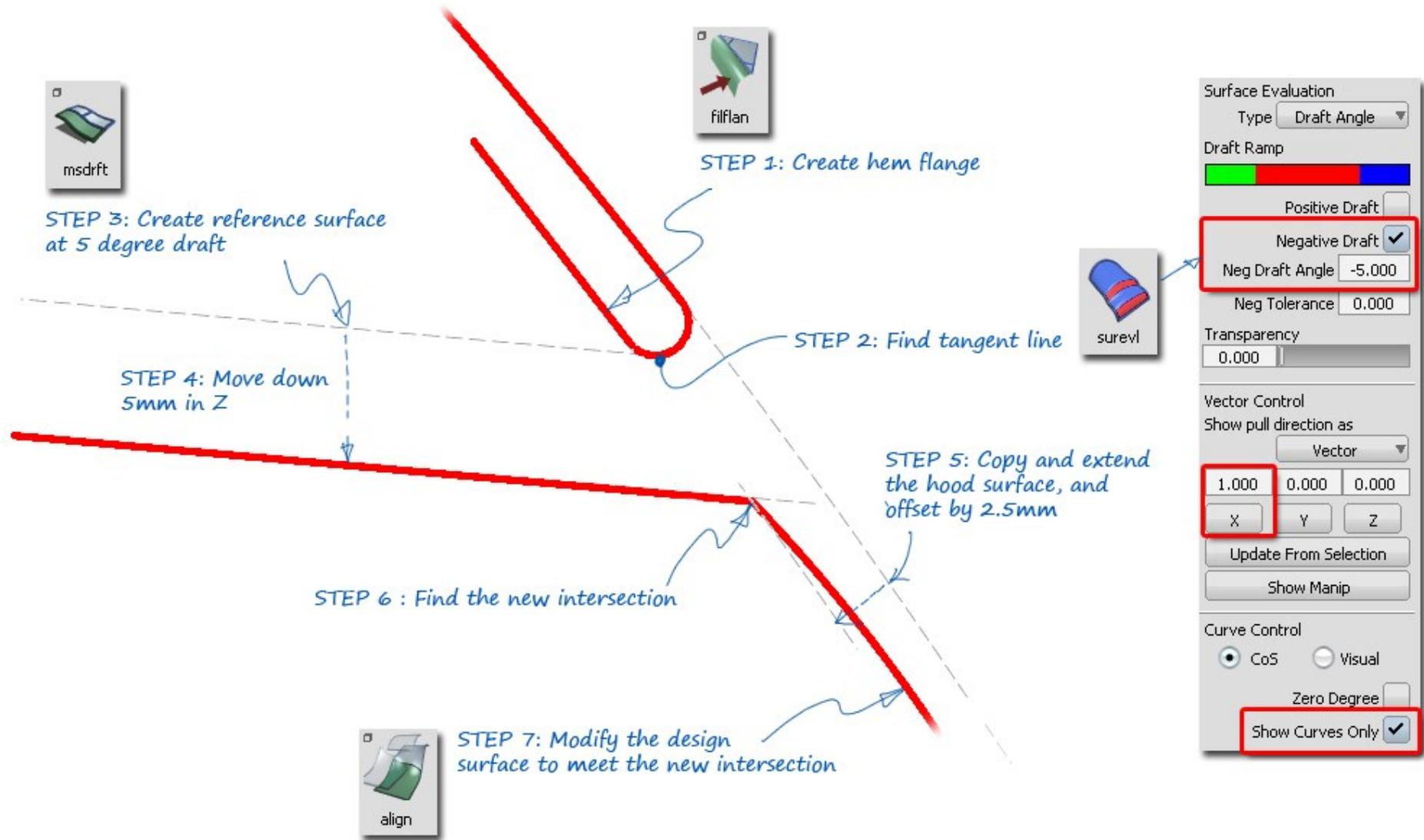
There will typically be some 'underflush' relationships between panel to maintain the aesthetics and to allow for manufacturing tolerances.

As always, draft angles need to be built in.

The engineering criteria used for this tutorial are illustrated here, and the key methods used outlined overleaf.



PROCESS:



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Time	Topic	Menu/Palette	Tool	Options
0.22	Analysing the Design Model			
1.04	Evaluating the gap in the design model numerically	Locators > Deviation	Curve-to-Curve	
1.37	Evaluating the gap in the design model visually	View Cube Menu	Non-Proportional View	
2.08	Explanation of the Engineering criteria for the Hood overslam			
3.49	Building the Hem flange on the hood edge	Surfaces > Rolled Edge	Fillet Flange	
4.36	Copying the Rolled Edge surfaces onto the overslam layer			
4.52	Working out the Draft Angle direction for the grille	Diagnostic Shade	Surface Evaluation	<i>Draft Angle</i>
6.00	Creating the Draft surfaces for the top of the grille	Surfaces	MS Draft	
6.54	Adjusting the top grille surface for the 5mm overslam	Transform	Move	
7.25	Creating the grille underflush by offsetting the hood surface	Object Edit	Offset	<i>Geometry Average</i>
8.03	Intersect the overslam and the underflush surface to find the edge	Surface Edit > Create CoS	Intersect	
8.28	Combining two CoS curves for the next Align action	Object Edit > Attach	Attach	<i>Connect</i>
9.04	Aligning the design surface to the new hood edge line	Object Edit > Align	Align	<i>G0</i>
9.28	Using Blending in Align to maintain the design shape	Object Edit > Align	Align	<i>Blending</i>