



# Curso de Treinamento no Solid Edge

Versão 17.0

## *Módulo 11 - Solid Edge Surfacing*

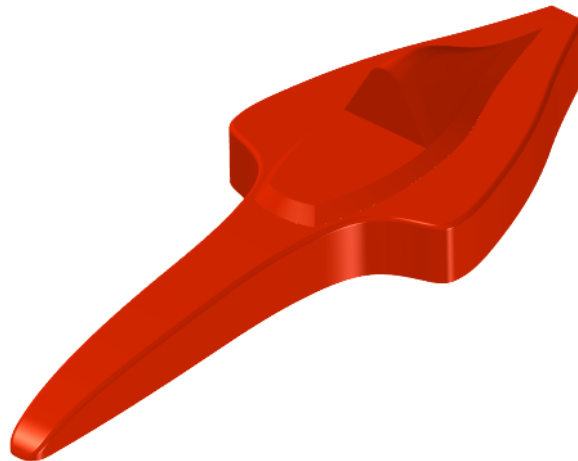
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Laboratório de Sistemas Computacionais para Projeto e Manufatura  
Faculdade de Engenharia Arquitetura e Urbanismo  
Universidade Metodista de Piracicaba



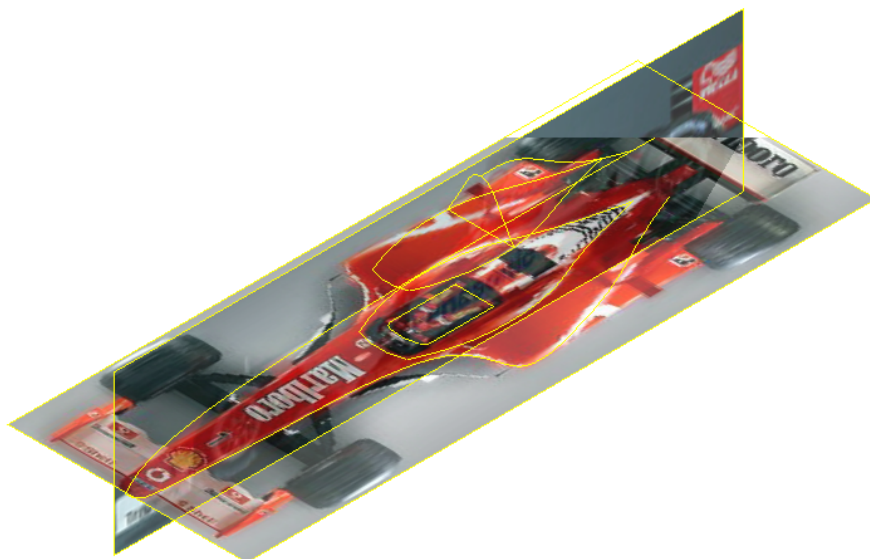
## 22 Construindo uma carenagem simplificada utilizando superfícies (Construa uma Ferroyota).

Neste exemplo você utilizará os comandos da barra de ferramentas **Surfacing** no ambiente **Solid Part** e construirá uma carenagem simplificada a partir de croquis gerados tendo como referência duas imagens previamente inseridas.

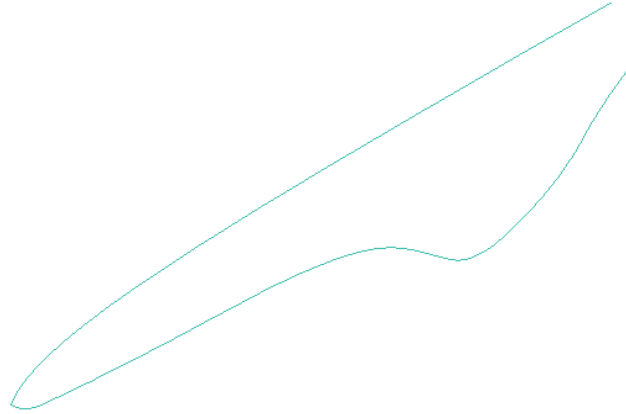
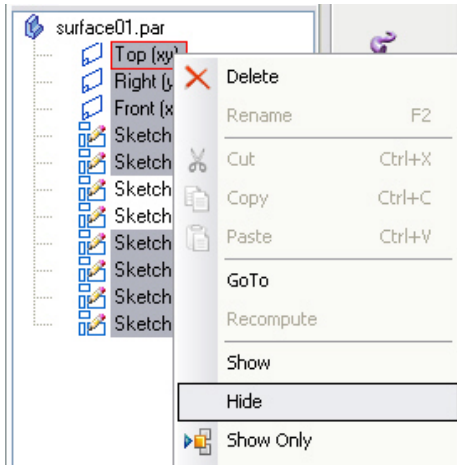


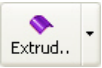
1. Inicialize o ambiente **Solid Part**.
2. Abra o arquivo *Surface01.par* localizado no diretório *p:\SolidEdge* e salve na sua área de trabalho.
3. Familiarize-se com o documento aberto. Observe que ele possui oito *Sketches*. Os dois primeiros *Sketches* contêm duas imagens que serviram como referência para o traçado dos demais *Sketches*.

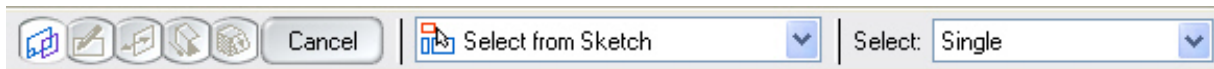
**Nota:** As cores default foram alteradas para uma melhor visualização.



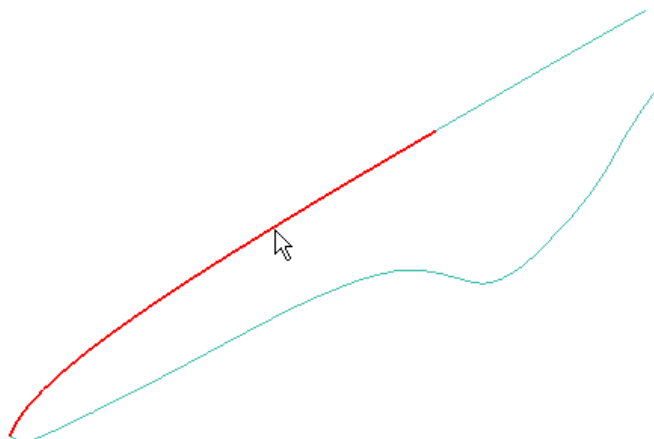
- Fazendo uso do *Edge Bar*, esconda todos os *Sketches* e *Planos de Referências* exceto o *Sketch 3* e o *Sketch 4*.



- Na *Barra Surfacing* selecione o comando **Extruded Surface** .
- Na *Barra de Fita* selecione a opção **Select From Sketch**.
- Na *Barra de Fita* altere a opção *Select* para **Single**.



- Selecione a curva mostrada abaixo.

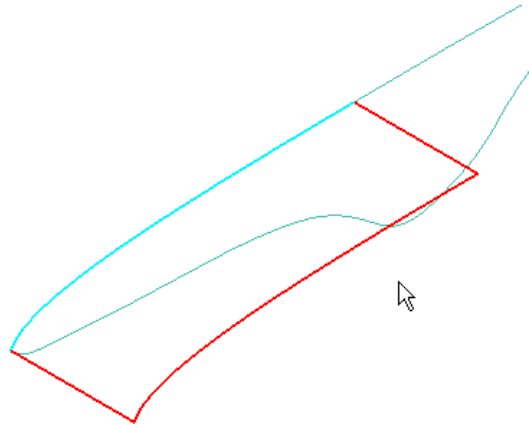


- Na *Barra de Fita* confirme em **Accept** .

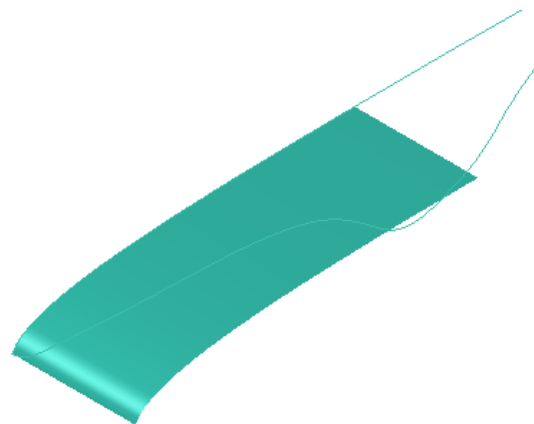
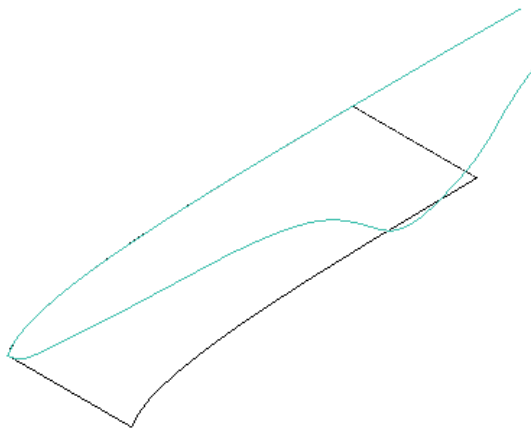
- Na *Barra de Fita* no campo **Distance** digite 30mm para o comprimento da extrusão.



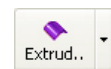
11. Mova o cursor conforme indicado na figura e confirme com o botão esquerdo.



12. Complete a operação com **Finish**



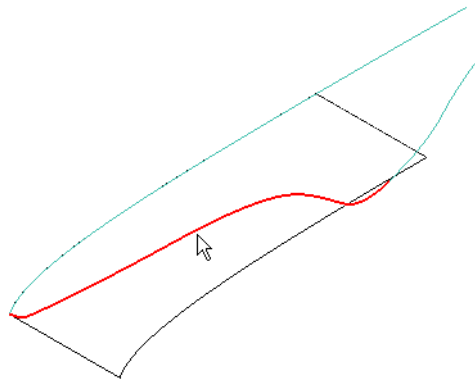
13. Na *Barra Surfacing* selecione o comando **Extruded Surface**



14. Na *Barra de Fita* selecione a opção **Select From Sketch**.

15. Na *Barra de Fita* altere a opção *Select* para **Single Element**.

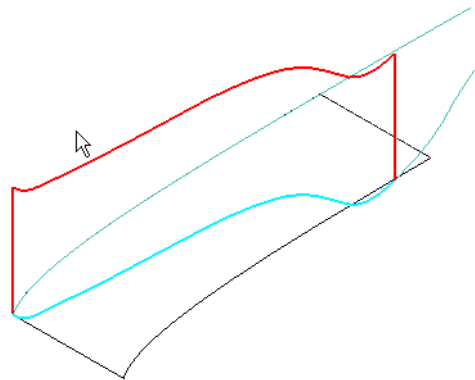
16. Selecione a curva mostrada abaixo.



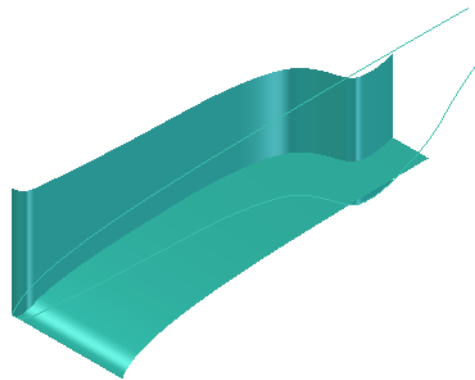
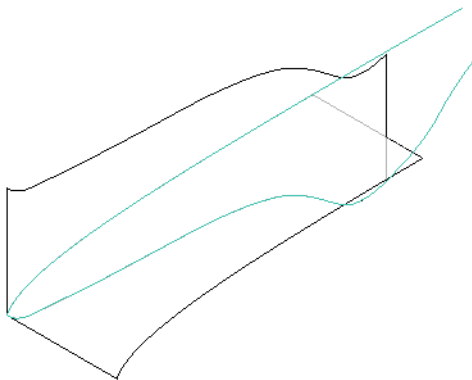
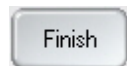
17. Na *Barra de Fita* no campo **Distance** digite 30mm para o comprimento da extrusão.



18. Mova o cursor conforme indicado na figura e confirme com o botão esquerdo.



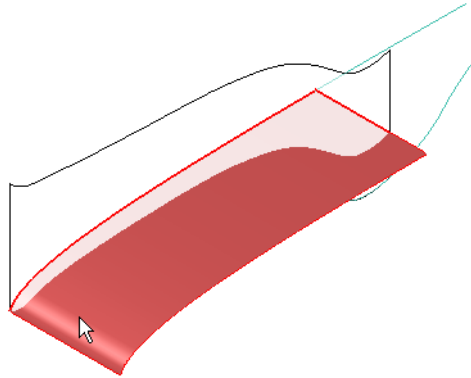
19. Complete a operação com **Finish**



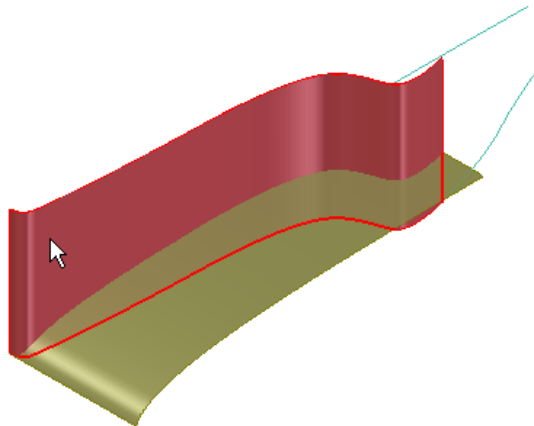
20. Na *Barra Surfacing* selecione o comando **Intersection Curve**




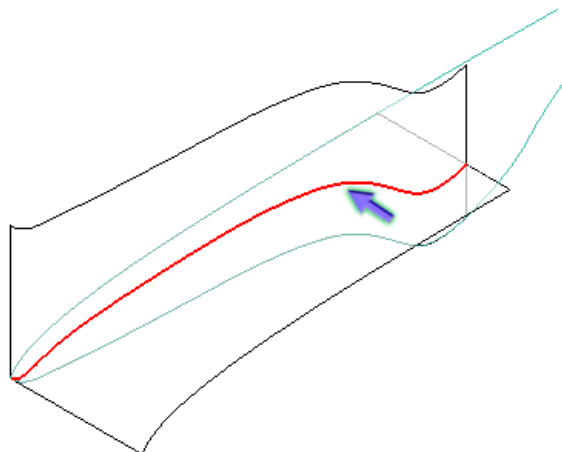
21. Selecione a primeira superfície conforme figura abaixo.



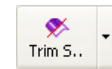
22. Selecione em seguida a próxima superfície.



23. Complete a operação com **Finish**  e observe que uma curva foi criada na intersecção entre as duas superfícies seleccionadas.

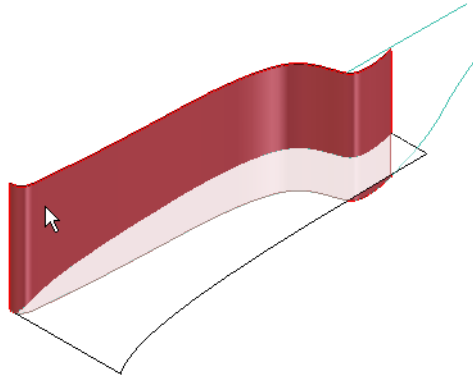


24. Na *Barra Surfacing* selecione o comando **Trim Surface**

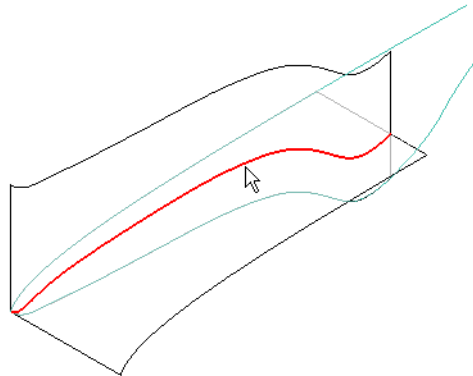


25. Selecione a superfície indicada abaixo e confirme a seleção com o comando

**Accept**



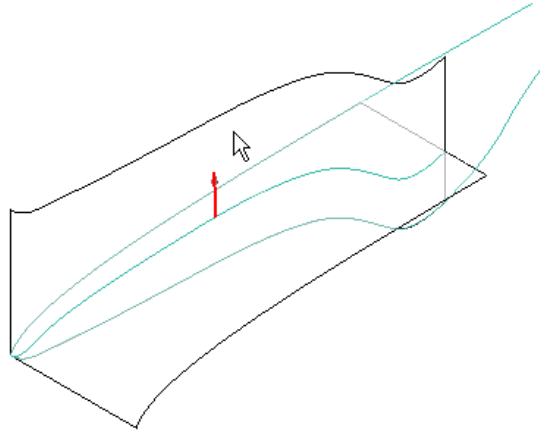
26. Selecione em seguida a curva criada na intersecção entre as duas superfícies.



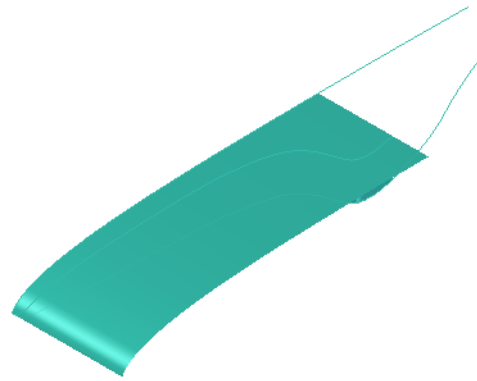
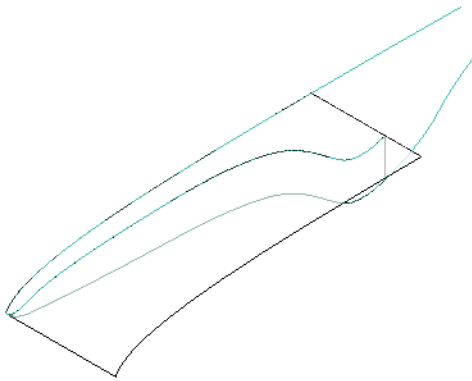
27. Na *Barra de Fita* confirme a seleção com o comando **Accept**



28. Posicione a seta indicando-a para cima informando a porção da superfície que deseja recortar.



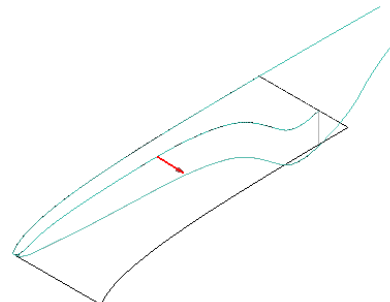
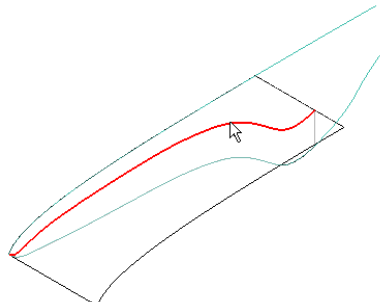
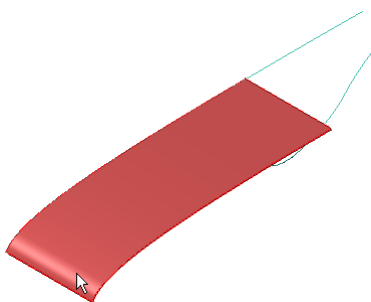
29. Complete a operação com **Finish**



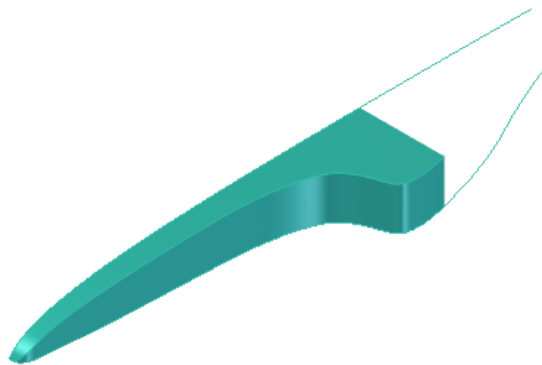
30. Repita o comando **Trim Surface**



e utilize a mesma curva usada anteriormente para recortar a superfície mostrada abaixo.



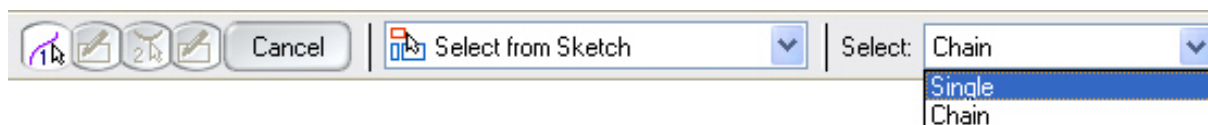




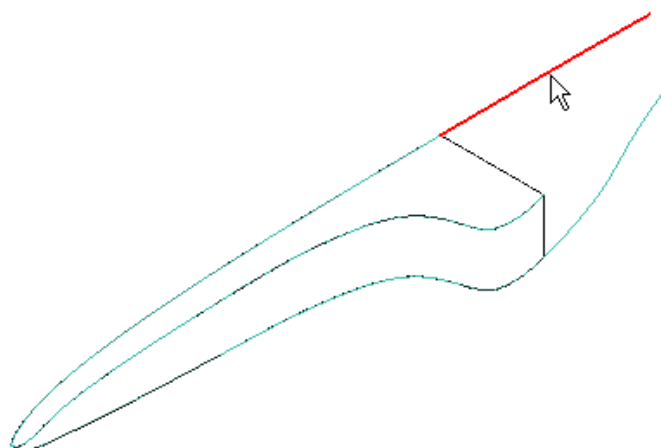
31. Na *Barra Surfacing* no menu *Flyout* acesse o comando **Cross Curve**



32. Na *Barra de Fita* altere a opção *Select* para **Single Element**.



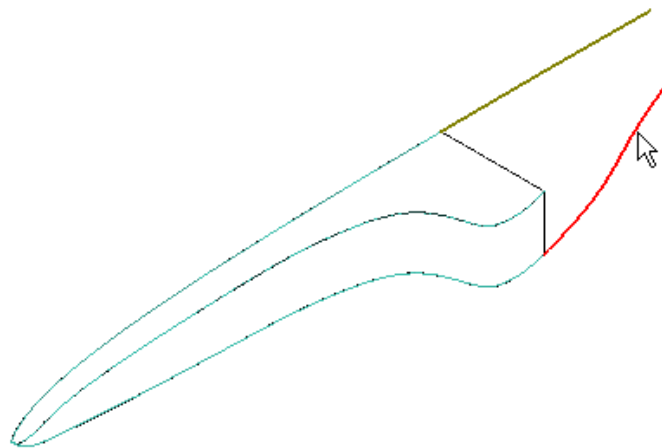
33. Selecione a primeira curva.




34. Na *Barra de Fita* confirme a seleção com o comando **Accept**

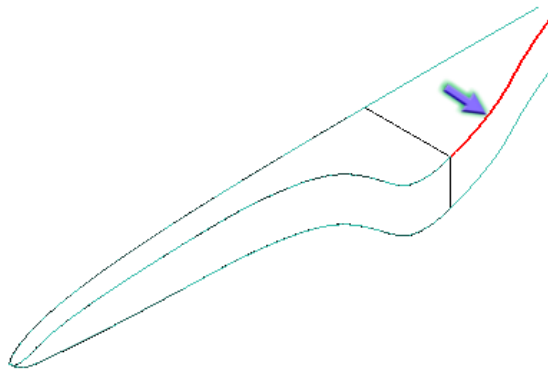



35. Selecione a segunda curva.



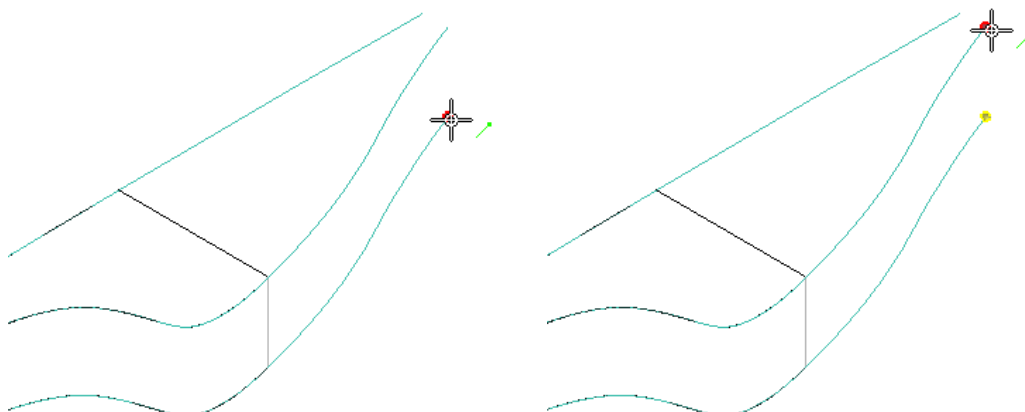
36. Na *Barra de Fita* confirme a seleção com o comando **Accept** .

37. Complete a operação com **Finish**  e observe a nova curva criada no cruzamento das duas curvas selecionadas.

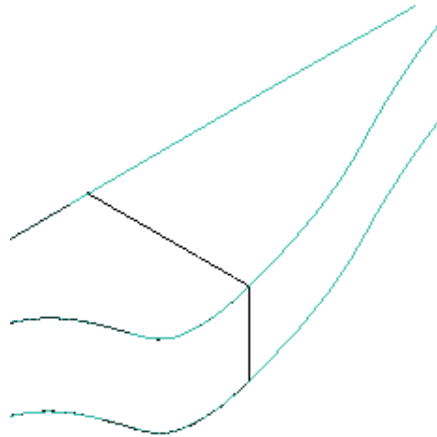


38. Na *Barra Surfacing* acesse o comando **Keypoint Curve** .

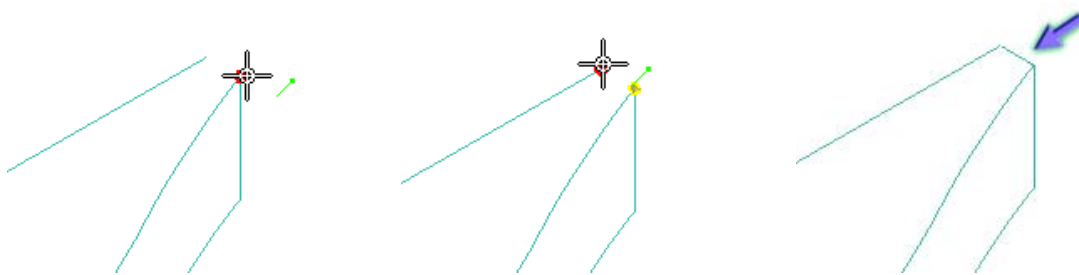
39. Selecione os pontos finais das duas curvas mostradas abaixo.




40. Na *Barra de Fita* confirme com **Accept**  e **Finish** .

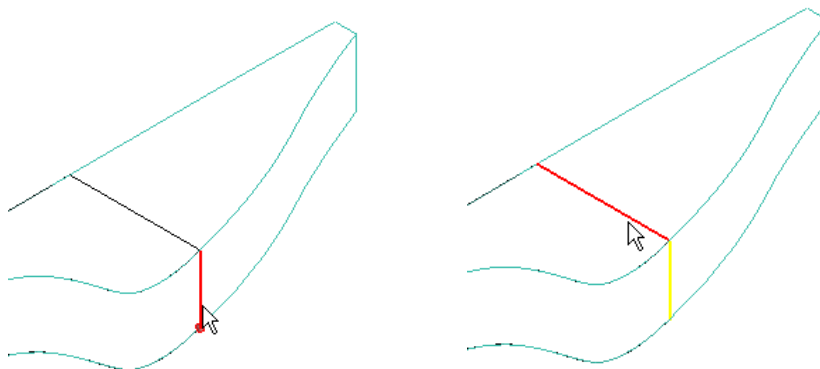



41. Repita o comando **Keypoint Curve** e construa a curva abaixo.



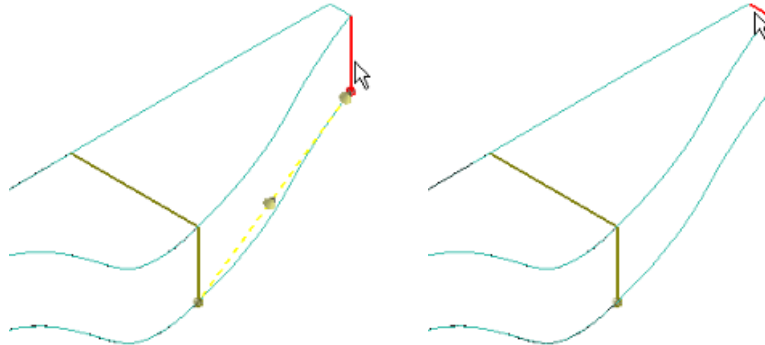
42. Na *Barra Surfacing* acesse o comando **BlueSurf** .


43. Selecione as duas arestas na seqüência mostrada para formar a primeira secção transversal (**Cross Section**).

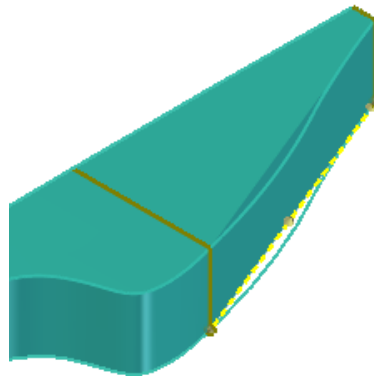


44. Na *Barra de Fita* confirme com **Accept** .

45. Selecione, conforme indicado na figura, as duas próximas curvas para formar a segunda secção transversal (**Cross Section**).



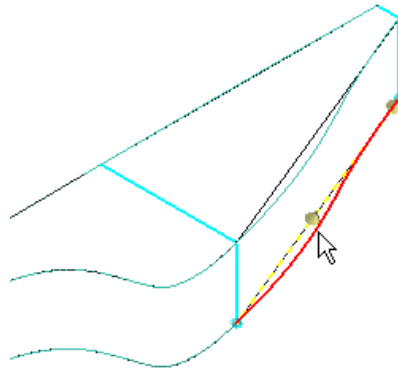
46. Na *Barra de Fita* confirme com **Accept**  e observe que foi criada uma superfície ligando a primeira com a segunda secção transversal.



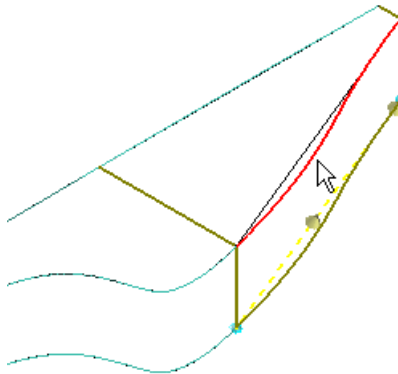
47. Na *Barra de Fita* selecione o passo **Guide Curve Step** e altere a opção *Select* para *Single*.



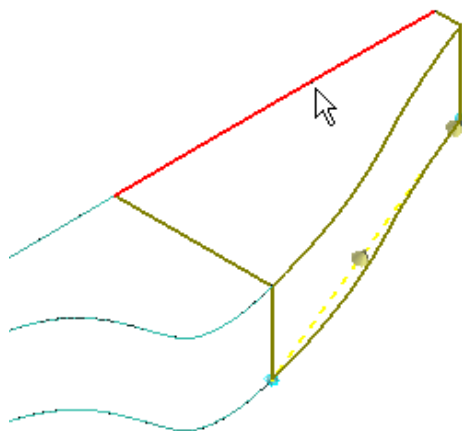
48. Selecione a primeira curva guia. Na *Barra de Fita* confirme com **Accept** .



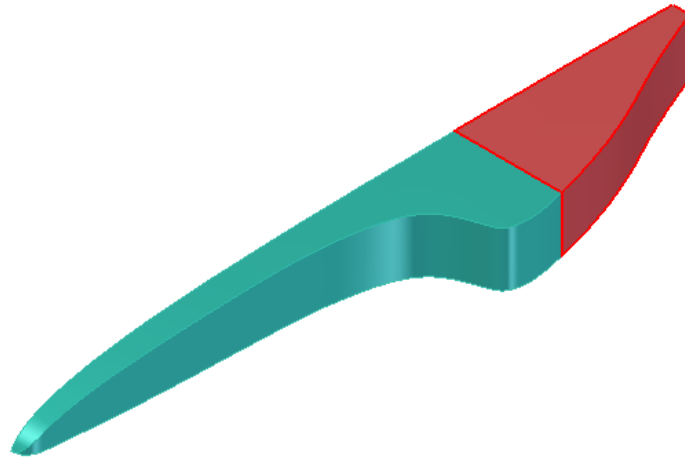
49. Selecione a segunda curva guia. Na *Barra de Fita* confirme com **Accept** .



50. Selecione a terceira curva guia. Na *Barra de Fita* confirme com **Accept** .



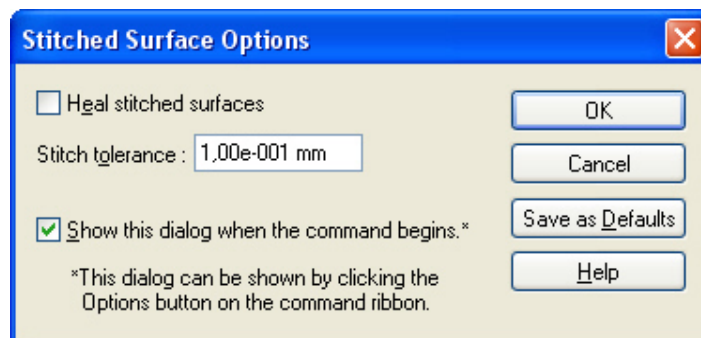
51. Na *Barra de Fita* pressione ,  e observe o resultado.



52. Na *Barra Surfacing* selecione o comando **Stitched Surface**



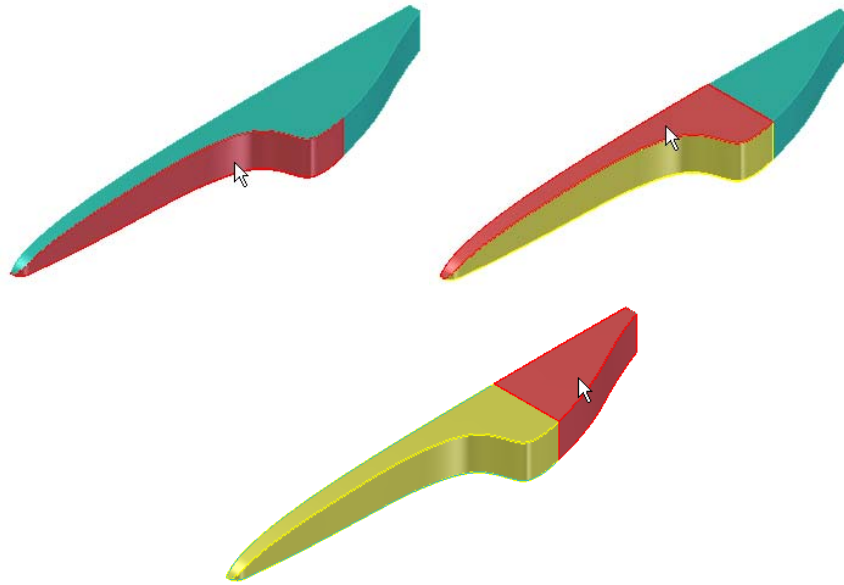
53. Na caixa de diálogo **Stitched Surface Options** altere o campo **Stitch tolerance** para 1,0e-001 e confirme com **OK**.



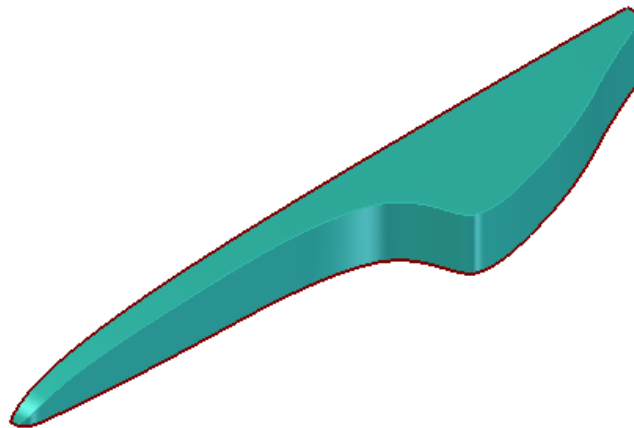
54. Selecione as três superfícies criadas até então. Na *Barra de Fita* confirme com

**Accept**

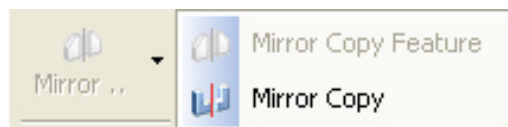





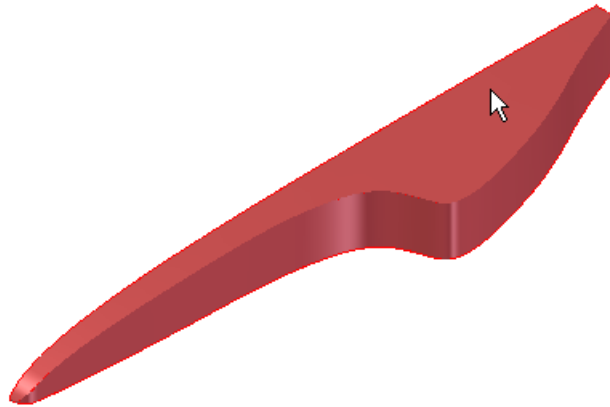
55. As três superfícies selecionadas foram “costuradas” com uma tolerância de 0,001 formando uma única entidade.



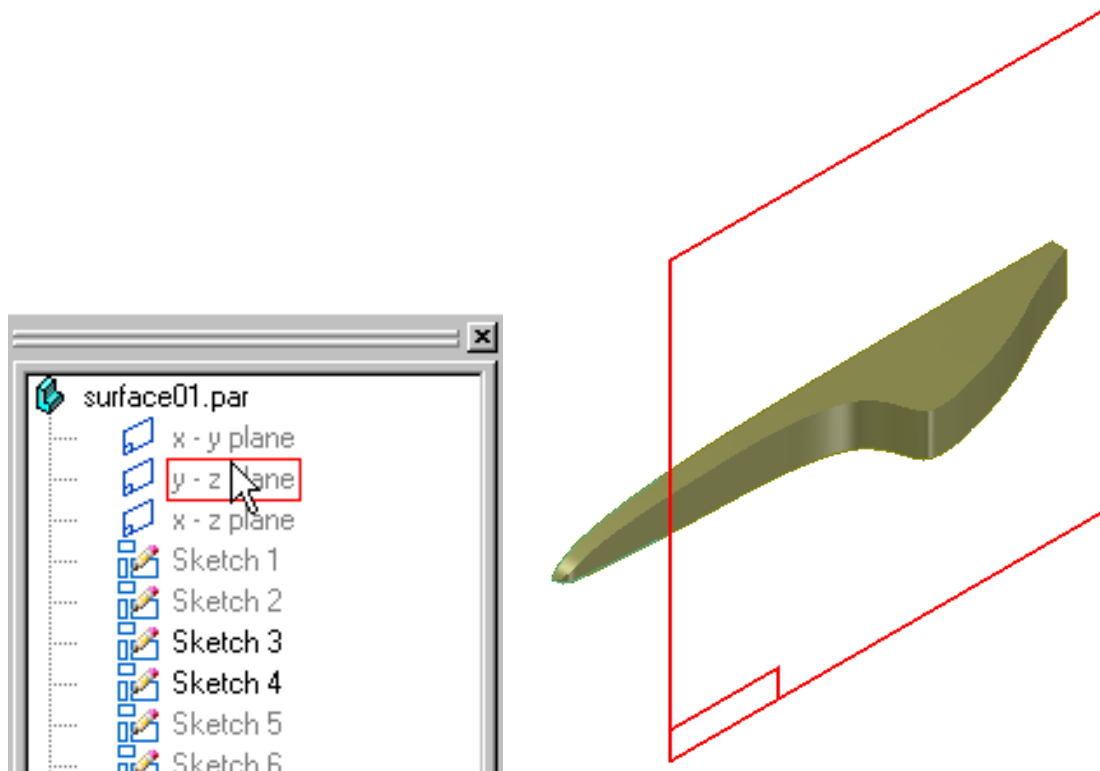
56. Na *Barra Principal* no meu *Flyout* selecione o comando **Myrror Copy**

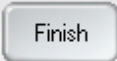


57. Selecione as superfícies que foram previamente “costuradas”. Na *Barra de Fita* confirme com **Accept** .

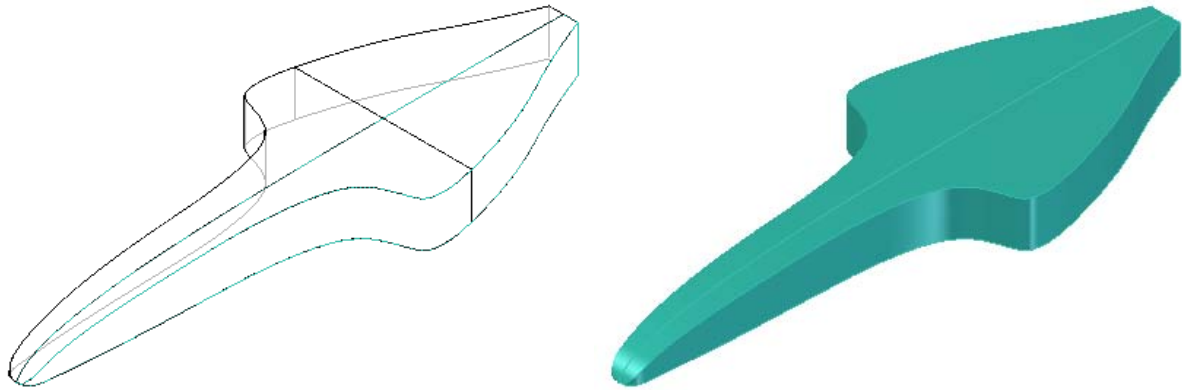


58. No *Edge Bar* selecione o Plano de Referência **y - z plane**.



59. Na *Barra de Fita* complete a operação com **Finish** . O resultado obtido pode ser observado na figura abaixo.

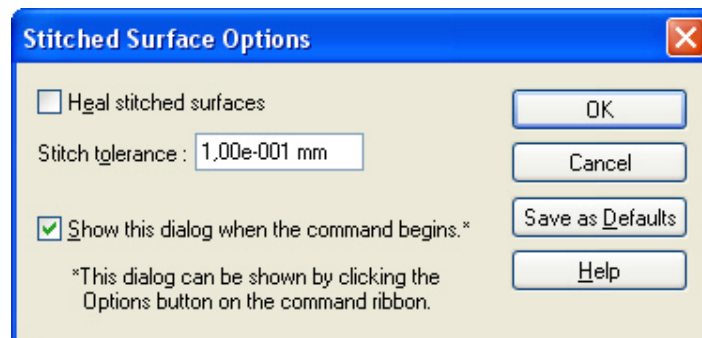




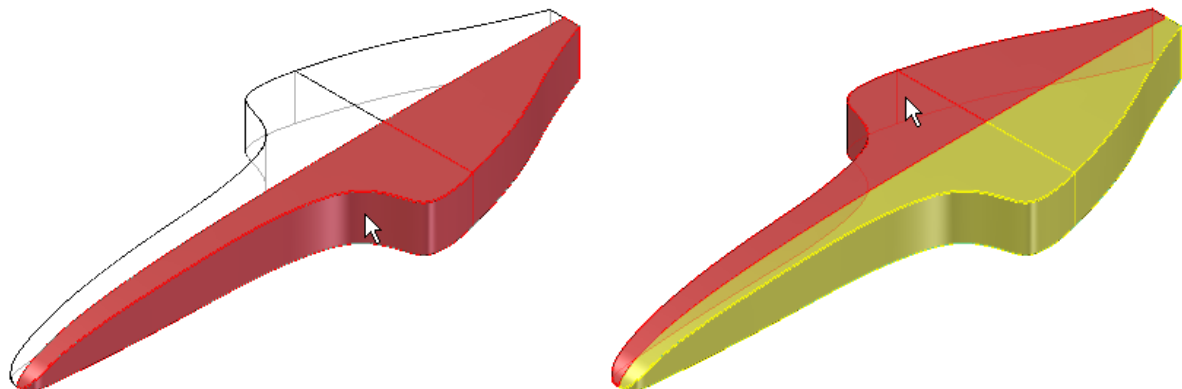
60. Na *Barra Surfacing* selecione novamente o comando **Stitched Surface**



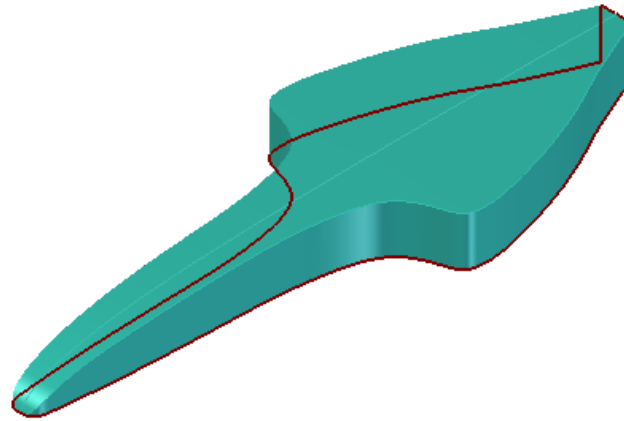
61. Na caixa de diálogo **Stitched Surface Options** altere o campo **Stitch tolerance** para 1,00e-001 e pressione **OK**.



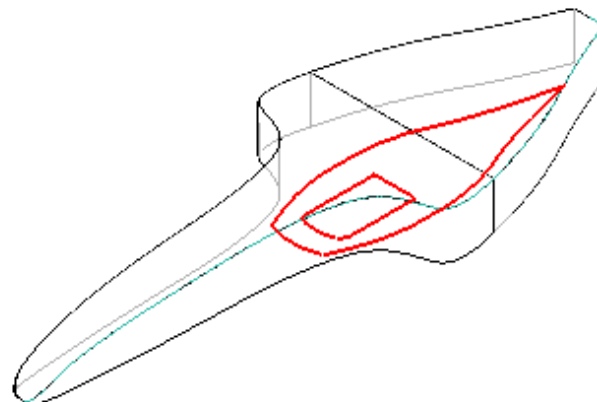
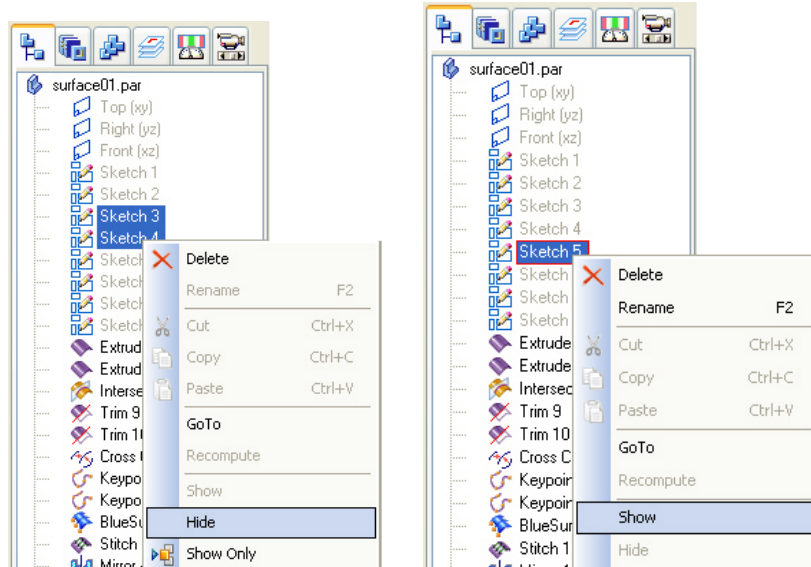
62. Selecione as duas superfícies espelhadas para que estas sejam “costuradas”.



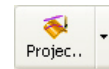
63. Na *Barra de Fita* confirme com **Accept** .



64. No *Edge Bar* esconda os *Sketches* 3 e 4 e exiba o *Sketch* 5.

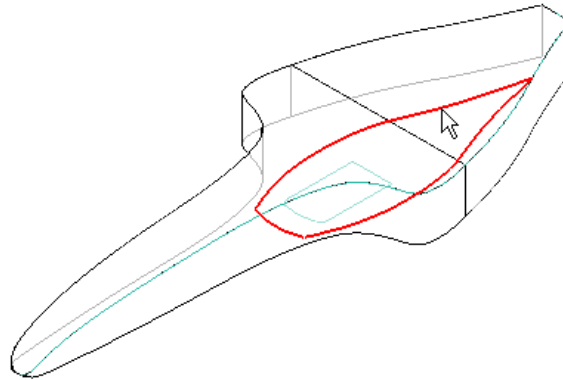


65. Na *Barra Surfacing* seleccione o comando **Project Curve**

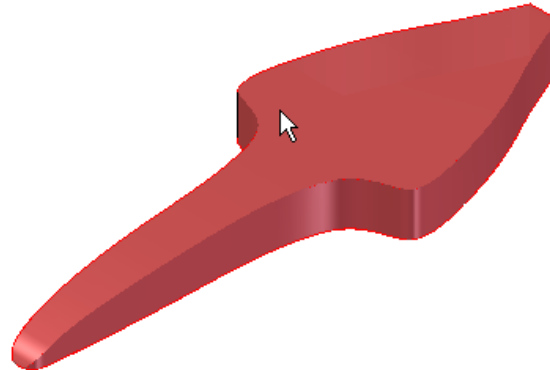


66. Seleccione, conforme a figura abaixo, uma das curvas construídas no *Sketch 5*.

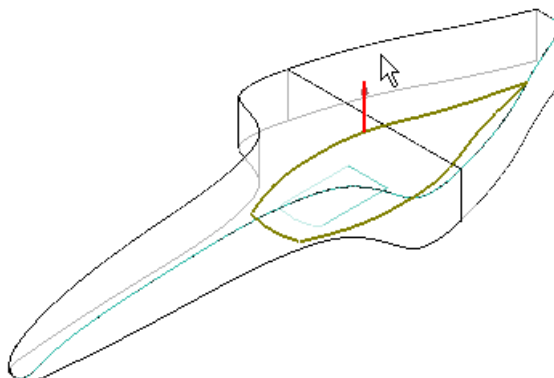
Na *Barra de Fita* confirme com **Accept**

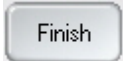


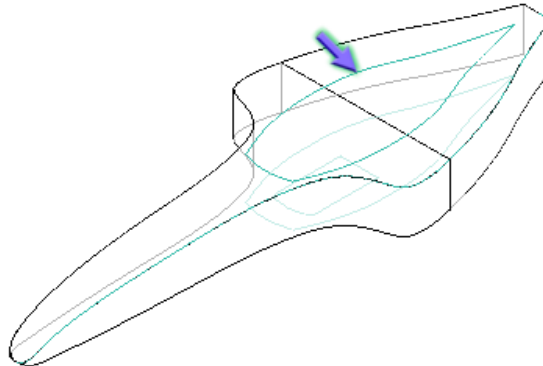
67. Seleccione a superfície na qual a curva selecionada será projetada e confirme com **Accept**

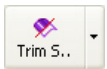


68. Oriente a projeção da curva em direção a superfície selecionada.

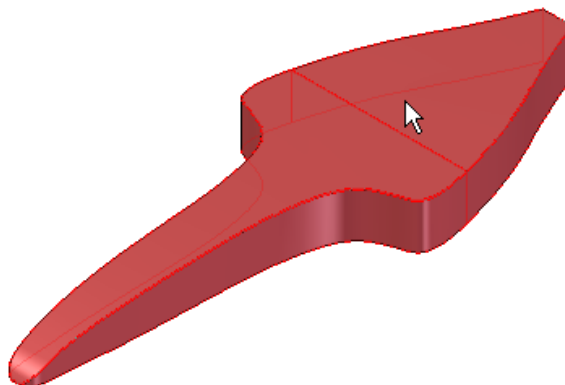



69. Na *Barra de Fita* complete a operação com .

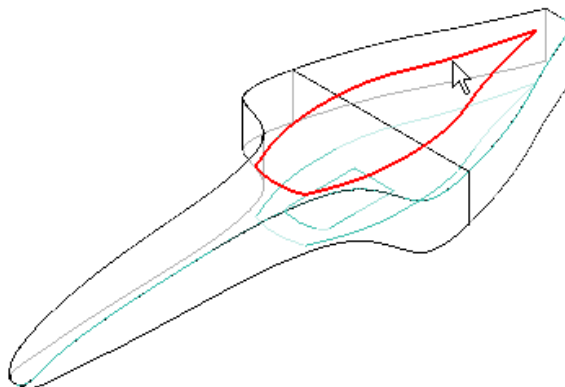


70. Na *Barra Surfacing* selecione o comando **Trim Surface** .

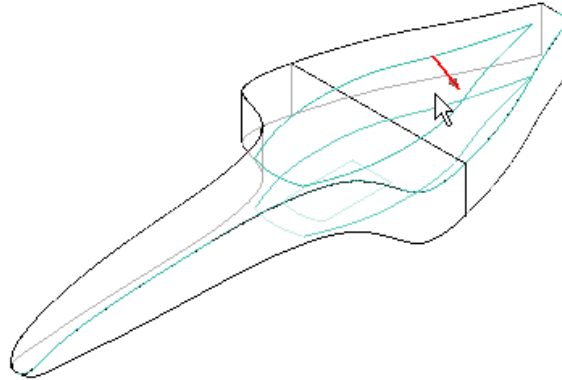
71. Selecione a superfície a ser aparada.



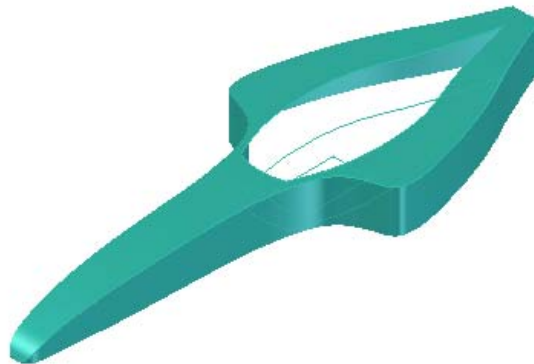
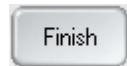
72. Selecione a curva resultante da projeção anterior. Na *Barra de Fita* confirme com **Accept** .



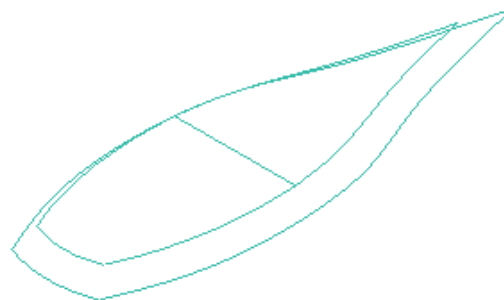
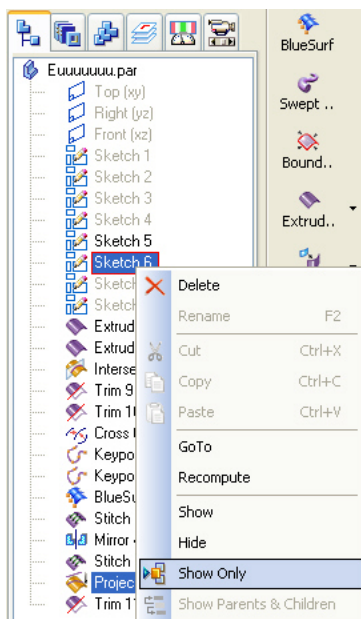
73. Oriente a seta para que a porção interna da superfície delimitada pela curva seja aparada.



74. Complete a operação com **Finish**



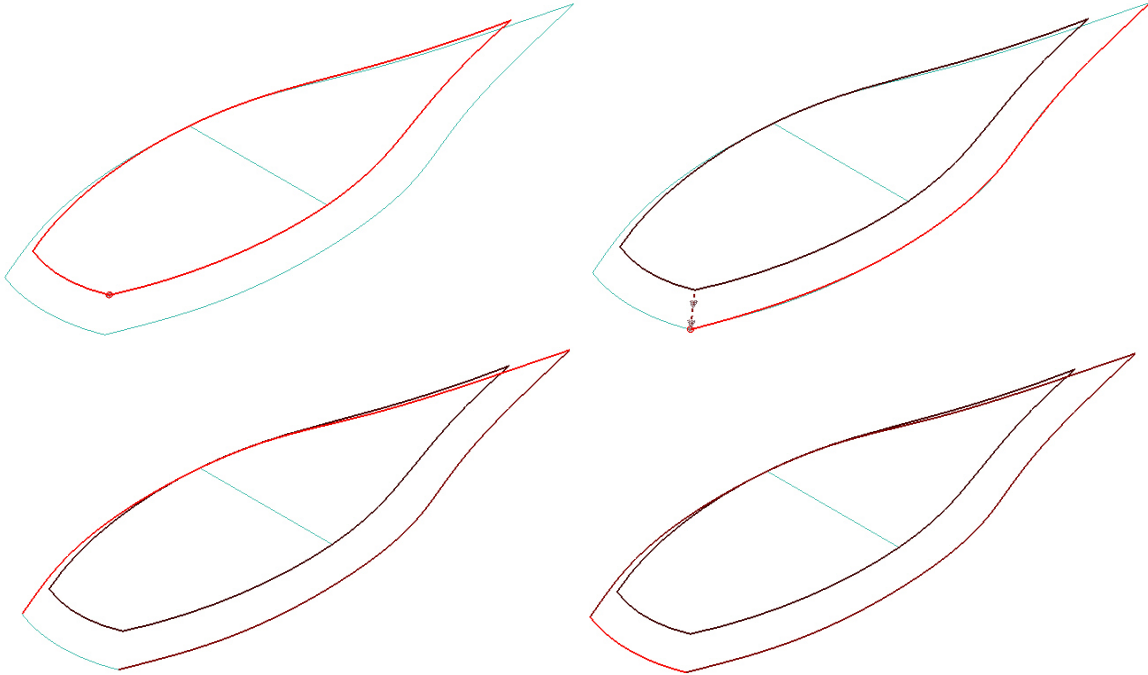
75. No *Edge Bar* exiba apenas o *Sketch 6* e *Projection 5*.



76. Na *Barra Surfacing* selecione o comando **BlueSurf**



77. Selecione as curvas na seqüência mostrada para formar a primeira secção transversal.



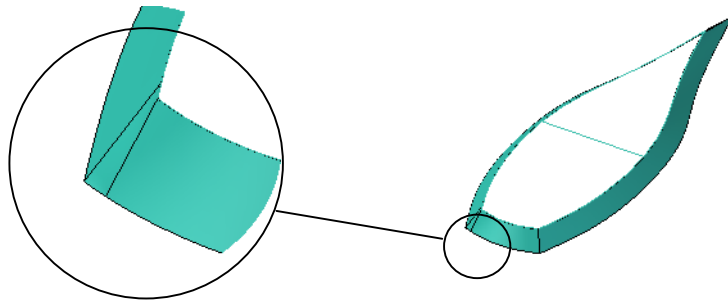
78. As curvas formarão a segunda secção transversal.




79. Na *Barra Principal* altere a visualização para **Shaded with Visible Edges**



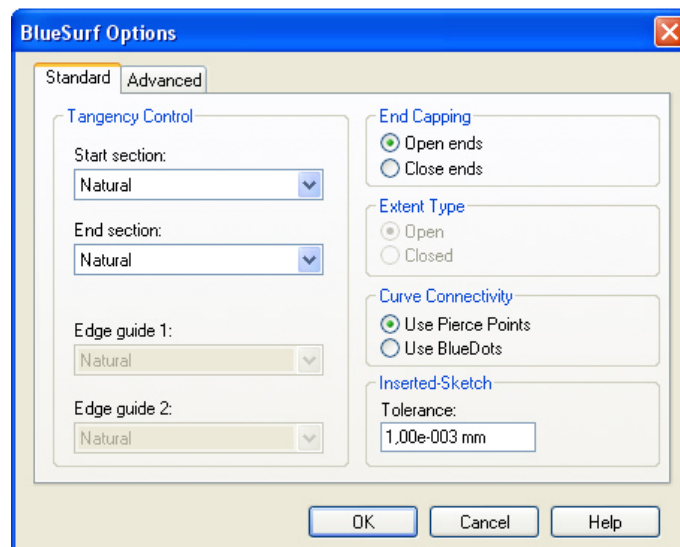
80. Observe que o número de vértices de ligação entre as duas secções transversais são diferentes.



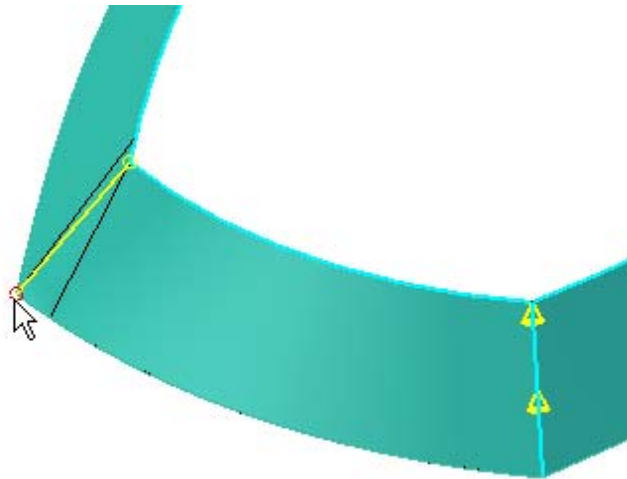
81. Na *Barra de Fita BlueSurf* selecione o botão **BlueSurf Option** .



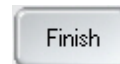
82. Na caixa de diálogo *BlueSurf Options* selecione a guia **Advanced**.



83. Selecione a aba **Advanced** e em seguida **Add** e selecione os dois vértices mostrados para forçar a ligação entre eles.



84. Confirme com **OK** e complete a operação com **Finish**



85. Na *Barra Surfacing* selecione o comando **Derived Curve**

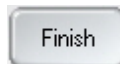


86. Selecione as duas curvas indicadas, confirme com **Accept**

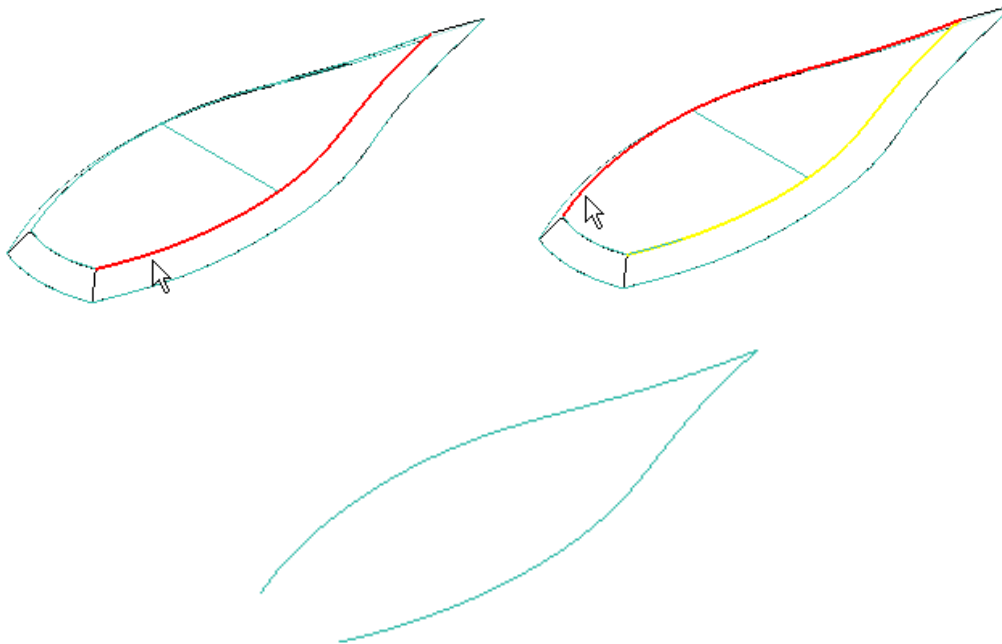


e complete

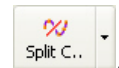
a operação com **Finish**



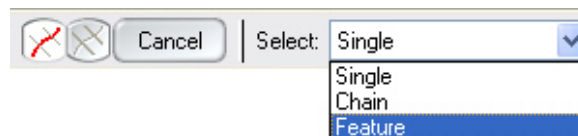




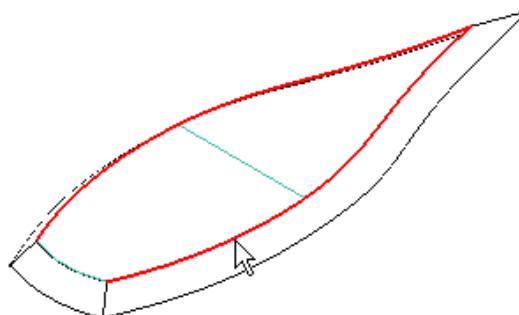
87. Na *Barra Surfacing* no menu *Flyout* acesse o comando **Split Curve**



88. Na *Barra de Fita* altere a opção *Select* para **Feature**.

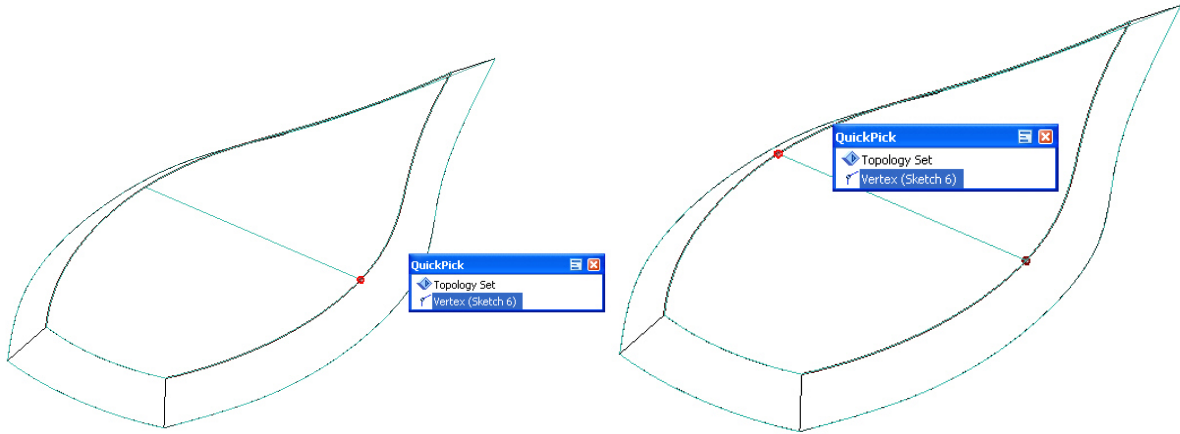


89. Selecione a curva derivada criada no passo anterior.



90. Na *Barra de Fita* use a opção **Body**.

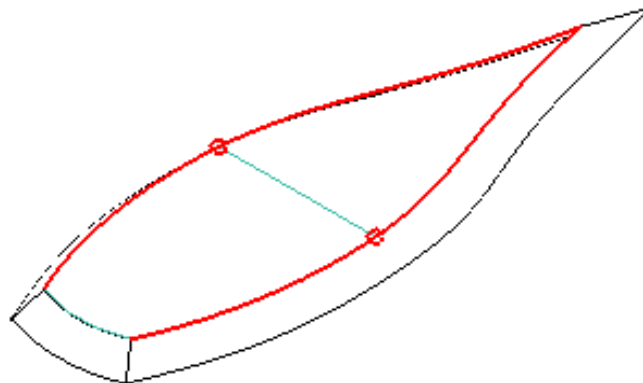
91. Selecione com o **QuickPick** conforme mostrado e selecione os dois pontos que dividirão a curva.



92. Confirme com **Accept**



e complete a operação com **Finish**



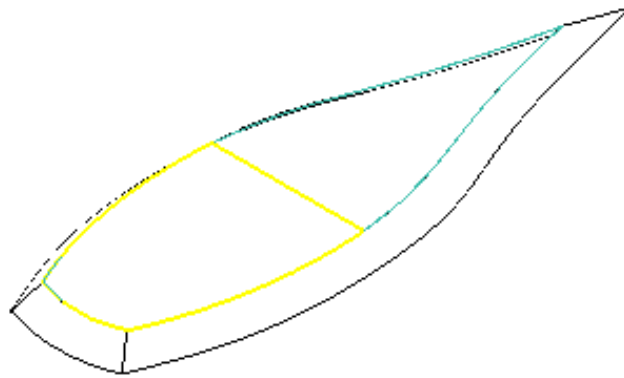
93. Na *Barra Surfacing* selecione o comando **Bounded Surface**



, a seguir

selecione as quatro curvas indicadas abaixo e confirme com **Accept**

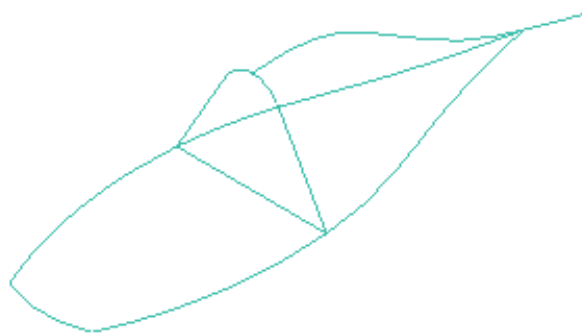
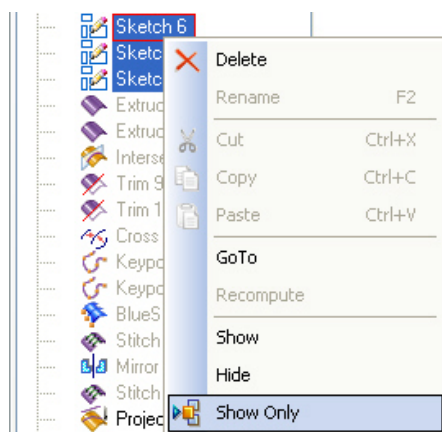




94. Na *Barra de Fita* pressione **Preview**  e complete a operação com **Finish** .




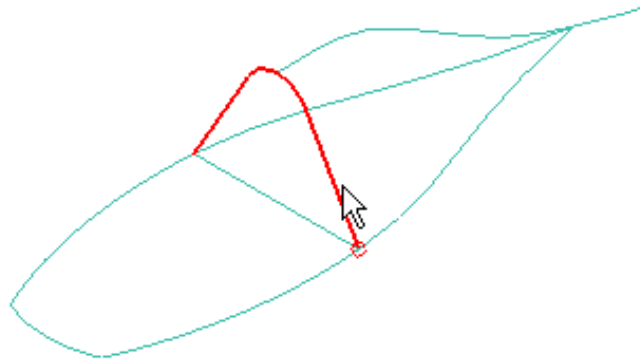
95. No *Edge Bar* exiba apenas os **Sketches 6, 7 e 8**.



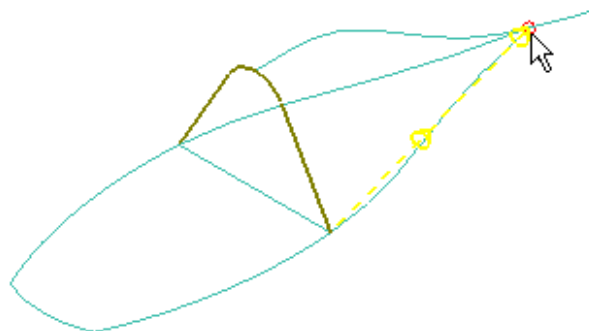
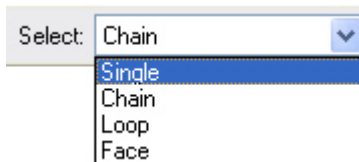
96. Na *Barra Surfacing* selecione o comando **BlueSurf**



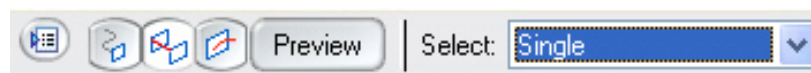
97. Selecione a curva mostrada para definir a primeira secção transversal e confirme com **Accept** .



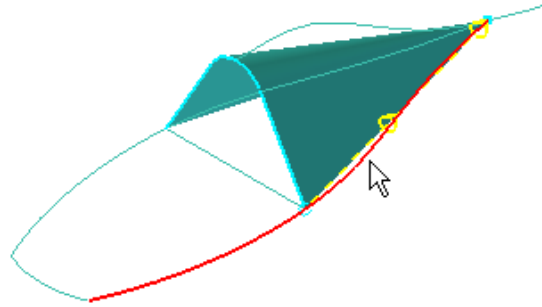
98. Como segunda secção transversal, selecione somente o ponto indicado abaixo mudando a opção *Select* para **Single**.



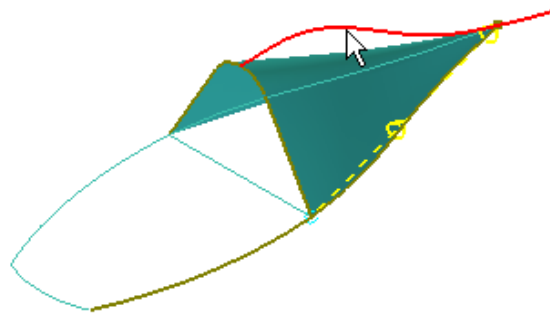
99. Na *Barra de Fita* selecione o passo **Guide Curve Step** e altere a opção *Select* para **Single**.



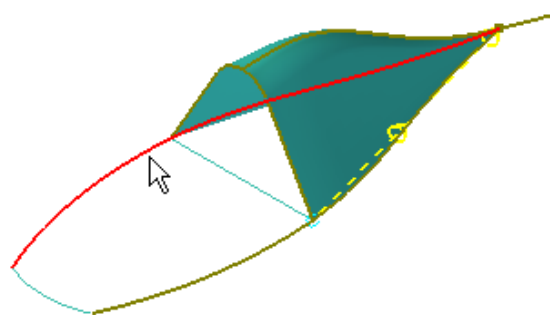
100. Selecione a primeira curva guia e confirme com **Accept** .



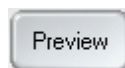
101. Selecione a segunda curva guia e confirme com **Accept**



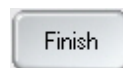
102. Selecione a terceira curva guia e confirme com **Accept**

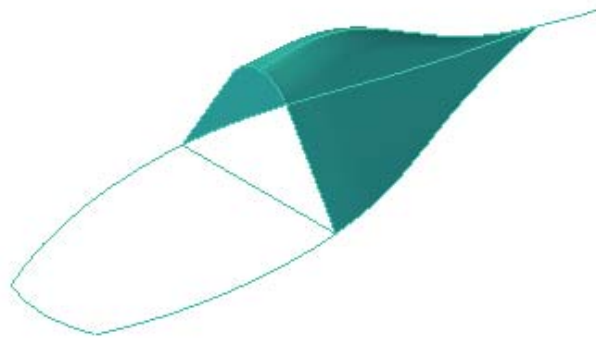


103. Complete a operação com

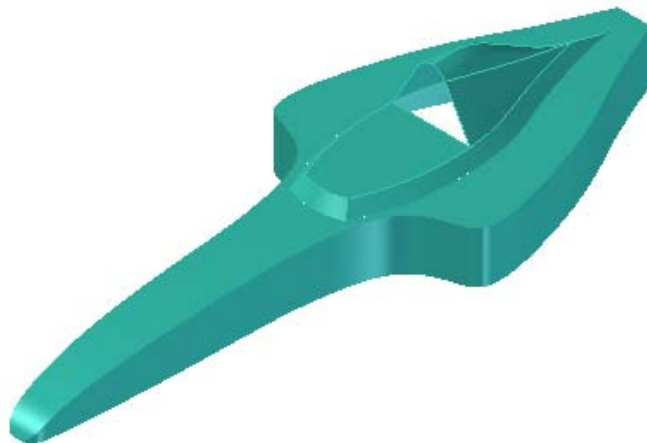
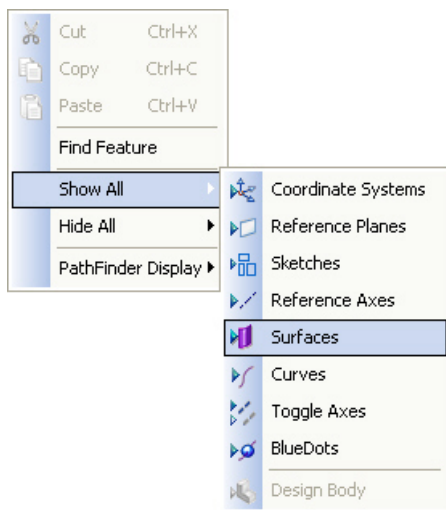


e

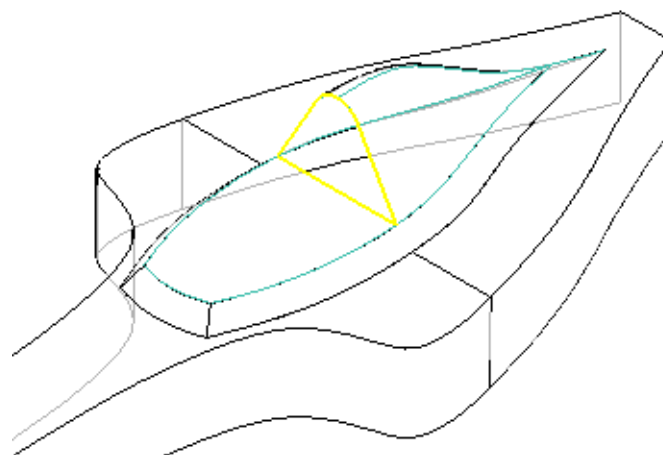
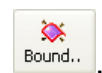



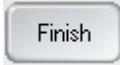


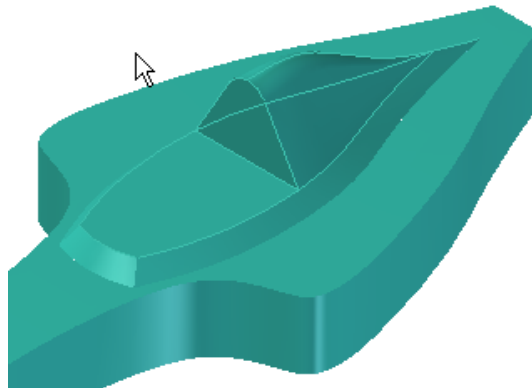
104. Pressione o botão direito do mouse sobre o *Edge Bar* e exiba todas as superfícies construídas até então.




105. Na *Barra Surfacing* selecione o comando **Bounded Surface** seleccione as duas curvas indicadas abaixo e confirme com **Accept**

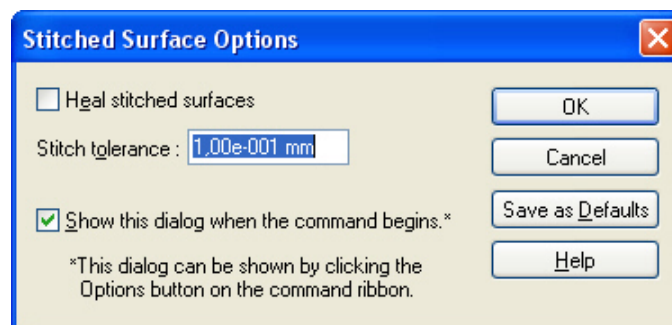


106. Complete a operação com  e .

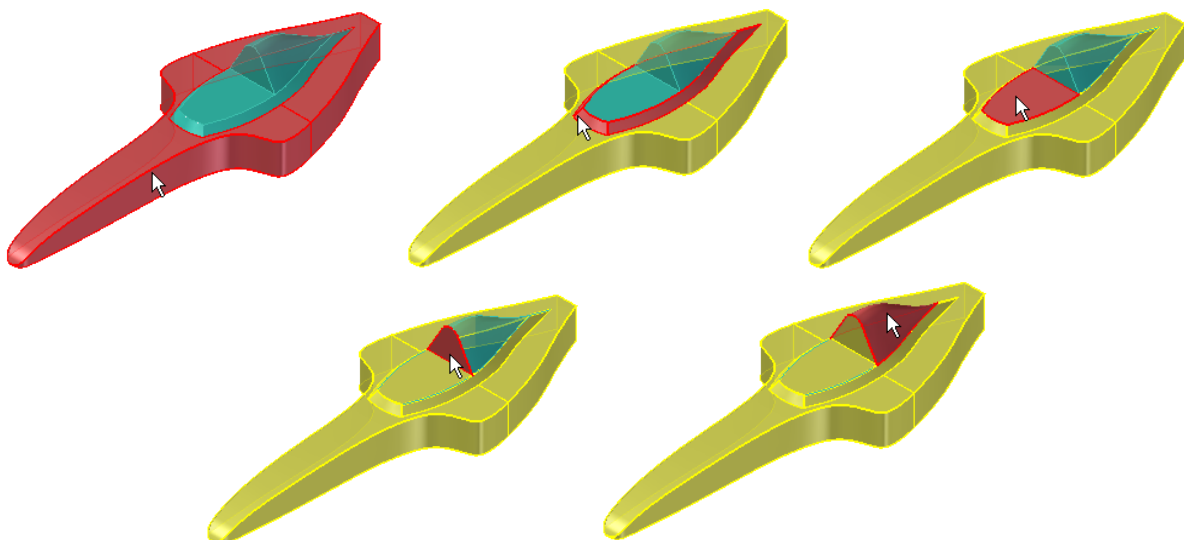


107. Na *Barra Surfacing* selecione o comando **Stitched Surface** .

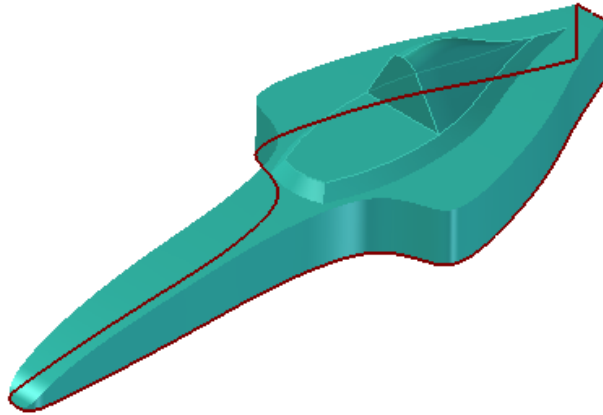
108. Na caixa de diálogo **Stitched Surface Options** altere o campo **Stitch tolerance** para 1,0e-001 e confirme com **OK**.




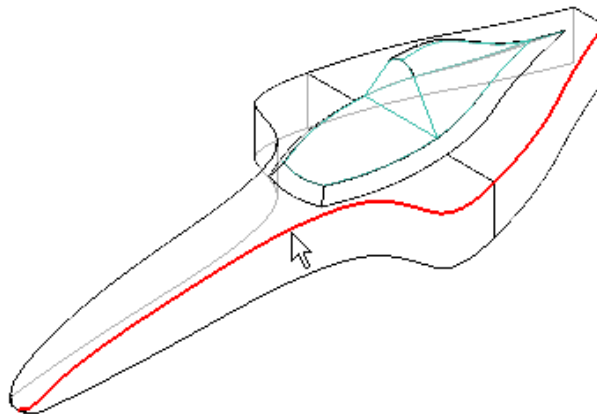
109. Selecione todas as superfícies contidas no modelo para que estas sejam “costuradas”.



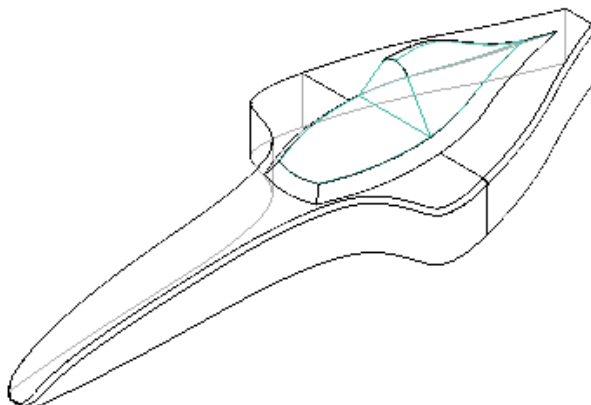
110. Complete a operação com **Accept**  e **Finish** .



111. Na *Barra Principal* selecione o comando **Round**  e a seguir a aresta indicada na figura.

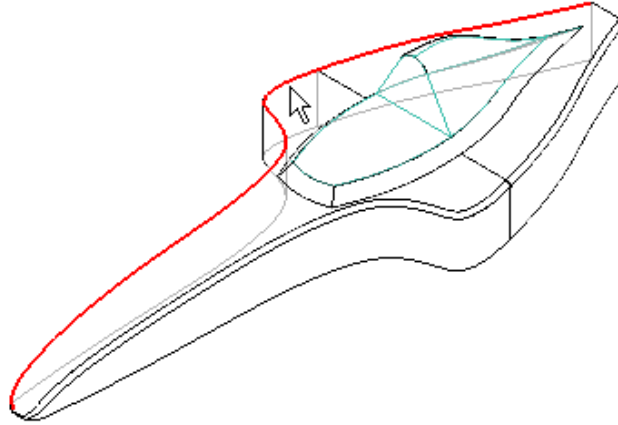


112. Na *Barra de Fita* no campo **Radius** digite 0,8 mm. Complete a operação com **Accept**  e **Preview** .





113. Repita a operação anterior e inclua um arredondamento com 0,8mm na aresta oposta.



114. O exercício está completo.



115. Observe que o resultado é apenas uma superfície e não um sólido.

