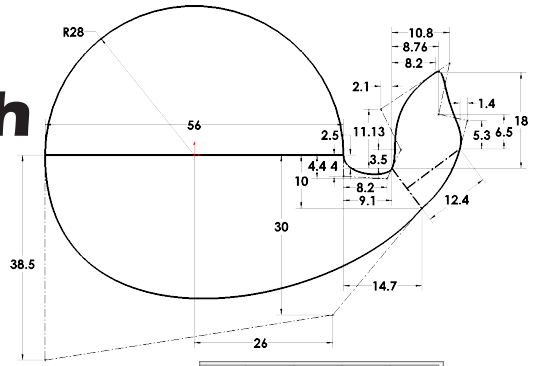







Whale Master Sketch



A. Lid Geometry.

- Step 1. Click File Menu > New, click **Part Metric** and OK.
- Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.
- Step 3. Click **Midpoint Line**  in the **Line flyout**  on the Sketch toolbar.
- Step 4. Sketch **horizontal midpoint line** starting from Origin , **Fig. 2**.

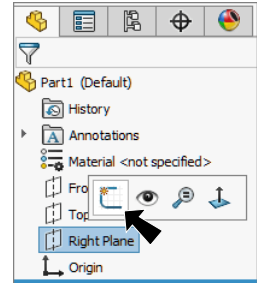


Fig. 1


- Step 5. Click **3 Point Arc**  (S) in the **Arc flyout**  on the Sketch toolbar.



Fig. 2

- Step 4. Sketch **3 point arc across endpoints of line**, **Fig. 3**.

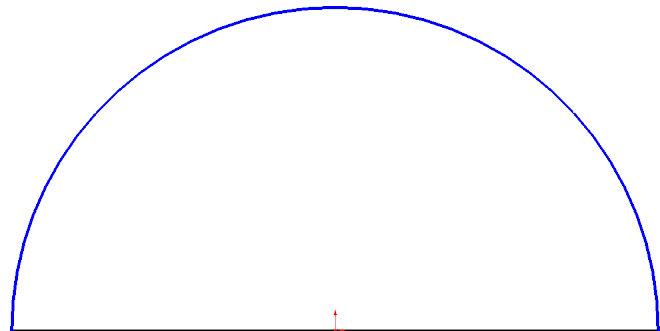



Fig. 3

- Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

- Step 6. Add dimensions, **Fig. 4**.

B. Save as "WHALE".

- Step 1. Click File Menu > Save As.
- Step 2. Key-in **WHALE** for the filename and press ENTER.

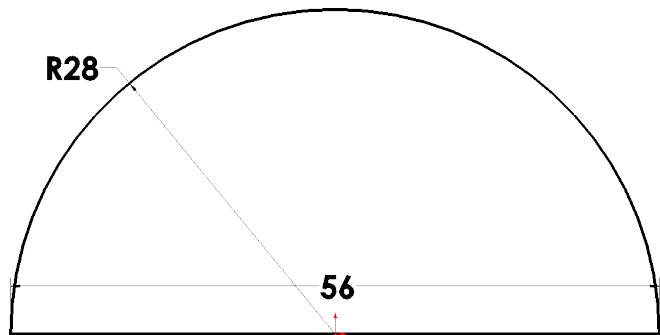






Fig. 4

C. Base Geometry - Splines 1.

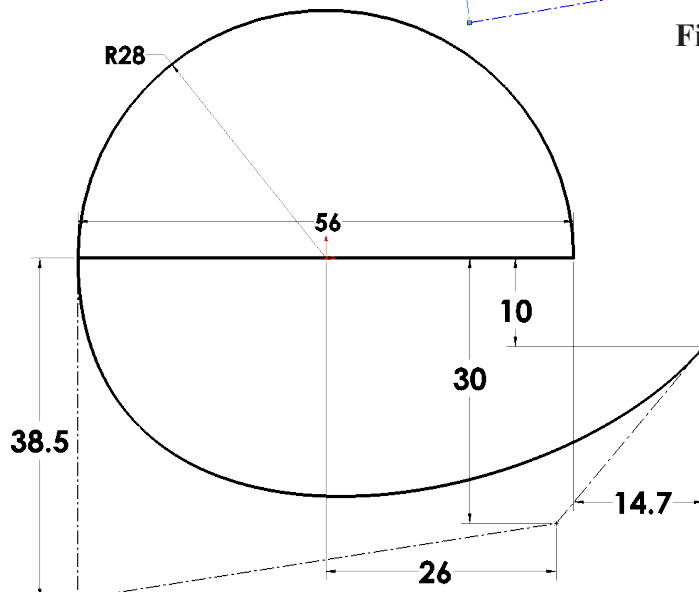
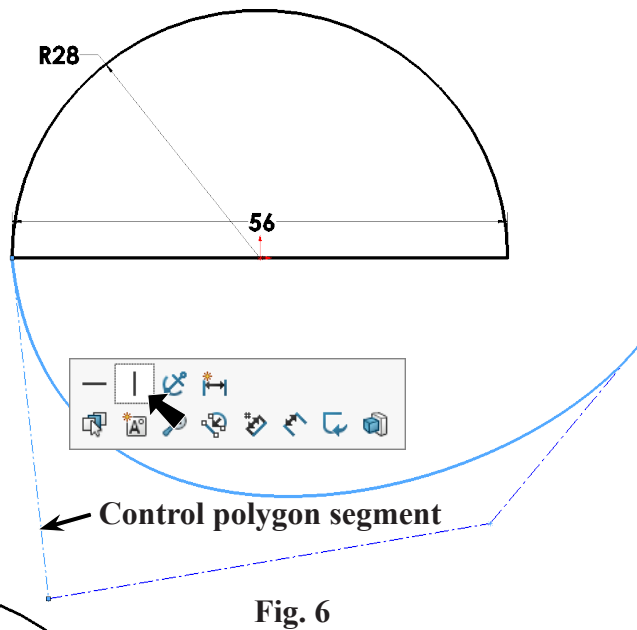
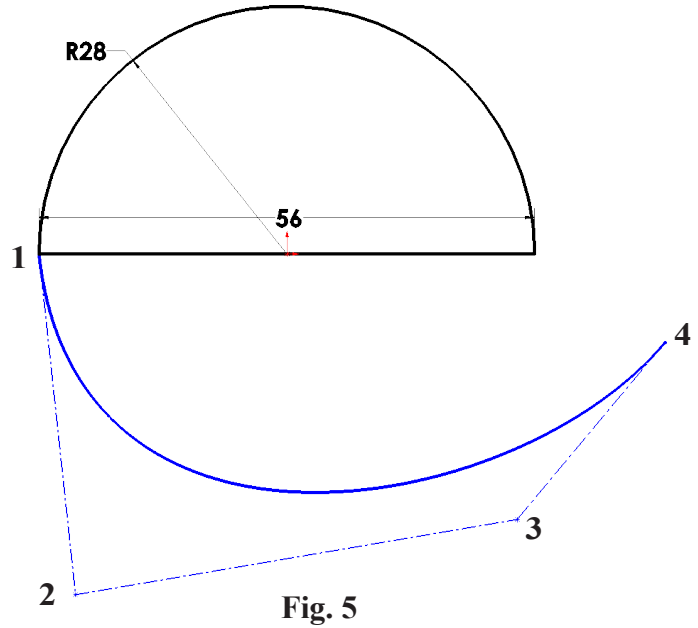
Step 1. Click **Style Spline**  in the **Spline flyout**  on the Sketch toolbar.

Step 2. Sketch a **4 control vertex point Spline** start at left endpoint of arc, **Fig. 5**. Press Escape to end spline.

Step 3. Click **left control polygon segment**  and click **Make Vertical**  on the context toolbar, **Fig. 6**.

Step 4. Click **Smart Dimension** (S) on the Sketch toolbar.

Step 5. Add dimensions, **Fig. 7**.



D. Base Geometry - Splines 2.

Step 1. Zoom in around **Tail Flukes** area, **Fig. 8**. To zoom, place the cursor over the flukes area and spin the wheel on mouse back. While spinning the wheel keep cursor on the area.

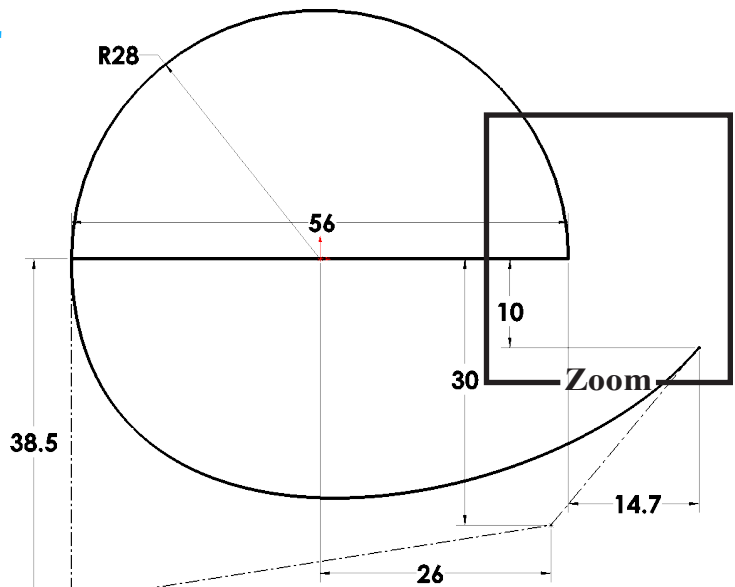




Fig. 8

Step 2. Click **Style Spline**  in the **Spline flyout**  on the Sketch toolbar.

Step 3. Sketch a **4 control vertex point Spline** to left of Sketches, **Fig. 9**. Press Escape to end spline.

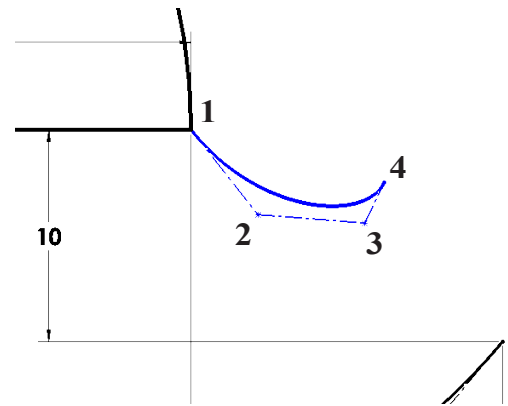



Fig. 9

Step 4. Click **left control polygon segment** and click **Make Vertical**  on the context toolbar, **Fig. 10**.

Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Add dimensions, **Fig. 11**.

Step 7. Click **Centerline**  in the **Line flyout**  on the Sketch toolbar.

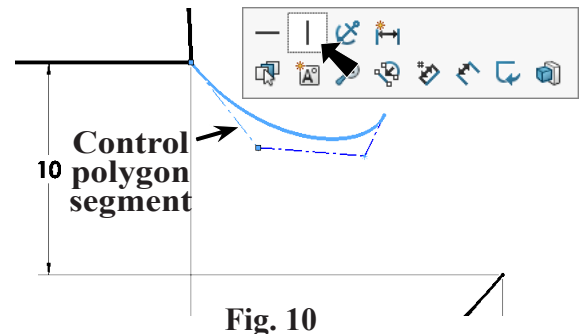





Fig. 10

Step 8. Sketch **two centerlines**, **Fig. 12**. Sketch a construction line **between the endpoints of the splines**. Sketch a centerline line out from **Midpoint**  of construction line **perpendicular**  to construction line. Be sure to use the inferred Perpendicular icon .

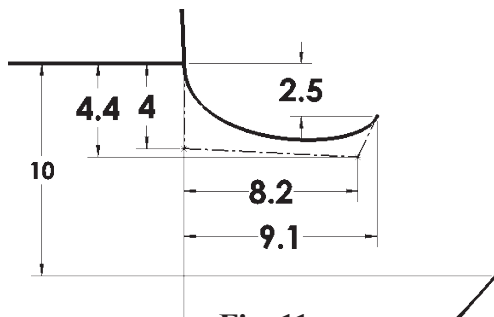


Fig. 11

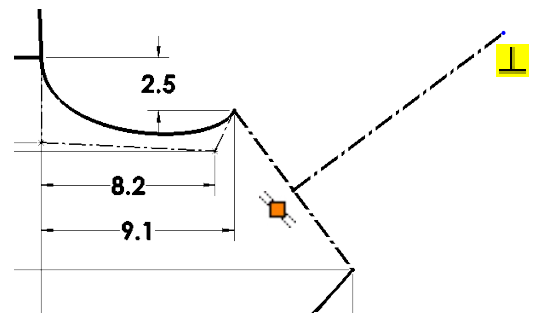



Fig. 12

E. Flukes Geometry - Spline 3.

Step 1. Click **Style Spline**  in the **Spline flyout**  on the Sketch toolbar.

Step 2. Sketch a **4 control vertex point Spline** to left of Sketches, **Fig. 13**. Press Escape to end spline.

Step 3. **Ctrl click bottom Spline2 and Spline3** to select both. Release Ctrl key and click **Make Tangent**  on the context toolbar, **Fig. 14**.

Step 4. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 5. Add dimensions, **Fig. 15**.

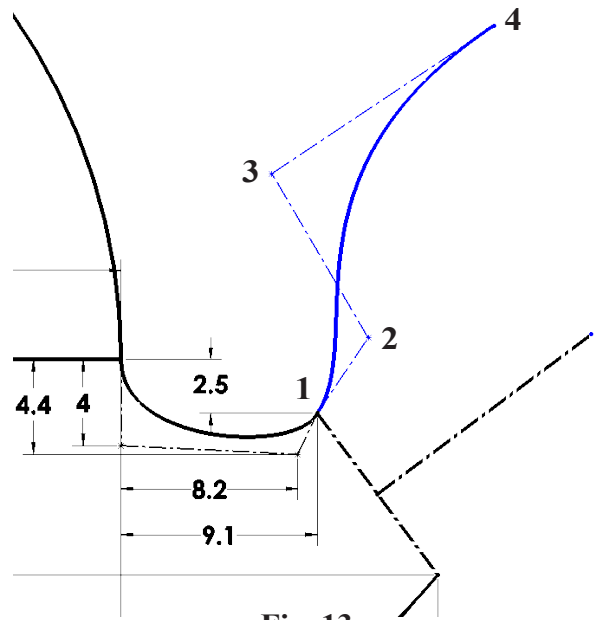


Fig. 13

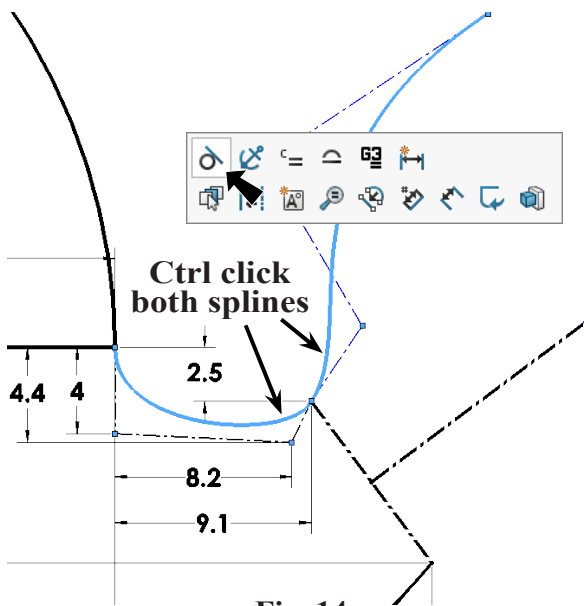


Fig. 14

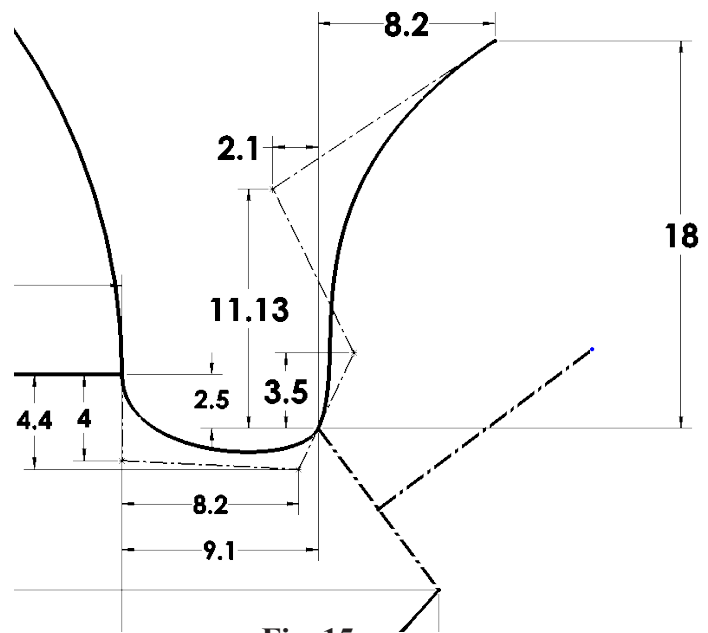





Fig. 15

F. Flukes Geometry - Spline 4.

Step 1. Click **Style Spline**  in the **Spline flyout**  on the Sketch toolbar.

Step 2. Sketch a **5 control vertex point Spline** starting from endpoint of Spline3, **Fig. 16**. Press Escape to end spline.

Step 3. **Ctrl click Spline 3 control polygon segment at right endpoint and Spline 4 control polygon segment at top endpoint** to select both. Release Ctrl key and click **Make Collinear**  on the context toolbar, **Fig. 17**.

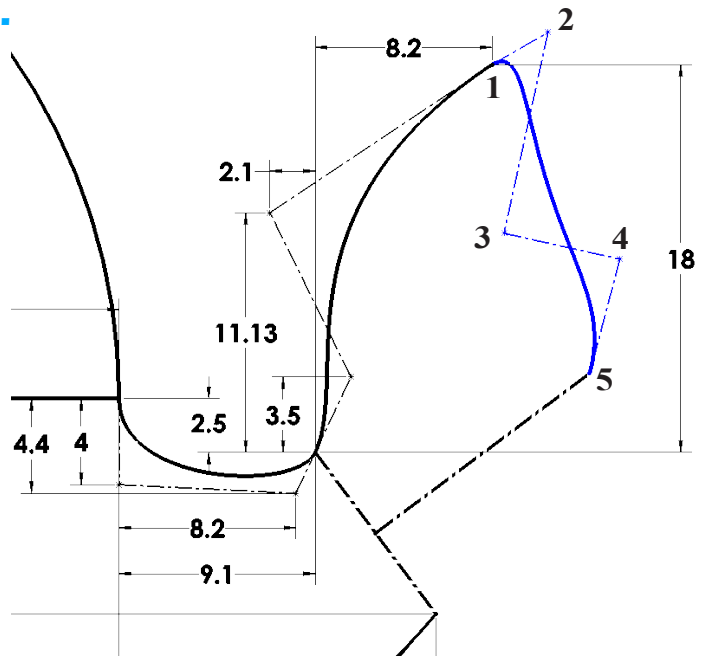


Fig. 16

Step 4. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 5. Add dimensions, **Fig. 18**.

Ctrl click both control polygon segments

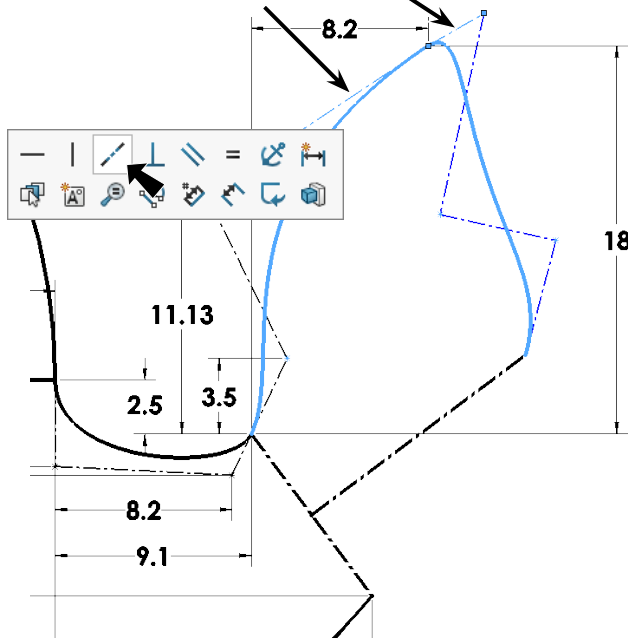


Fig. 17

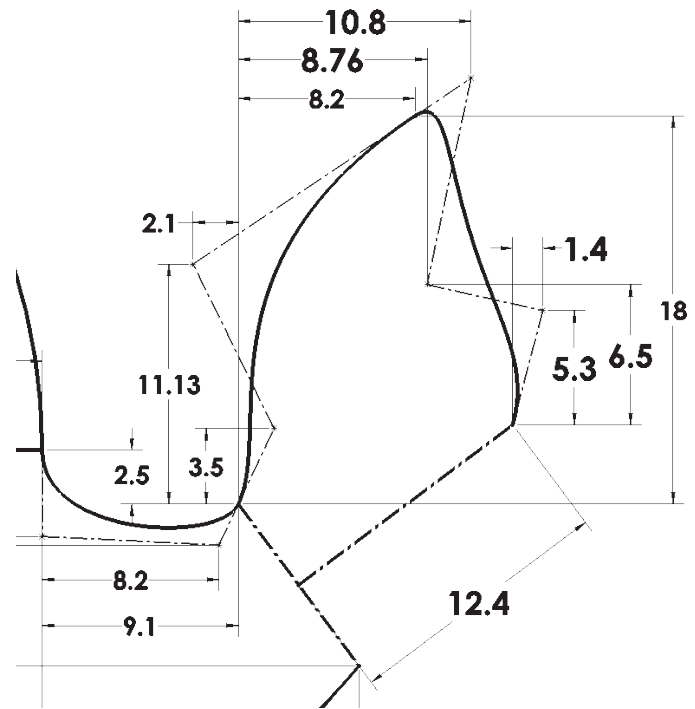





Fig. 18

Step 6. Click **3 Point Arc**  (S) in the **Arc flyout**  on the Sketch toolbar.

Step 7. Sketch **3 point arc between Spline 4 and Spline 1, Fig. 19.**

Step 8. **Right click graphics area and click Select** from menu to unselect Arc tool.

Step 9. **Ctrl click Spline4 and Arc** to select both. Release Ctrl key and click **Make Tangent**  on the context toolbar, **Fig. 20.**

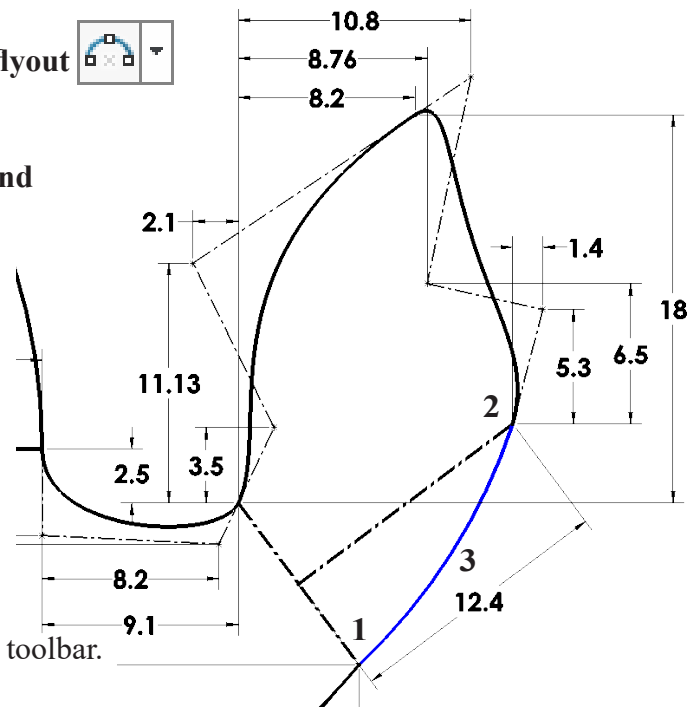


Fig. 19

Step 10. Click **Exit Sketch**  on the Sketch toolbar.

Step 11. Save. Use **Ctrl-S.**

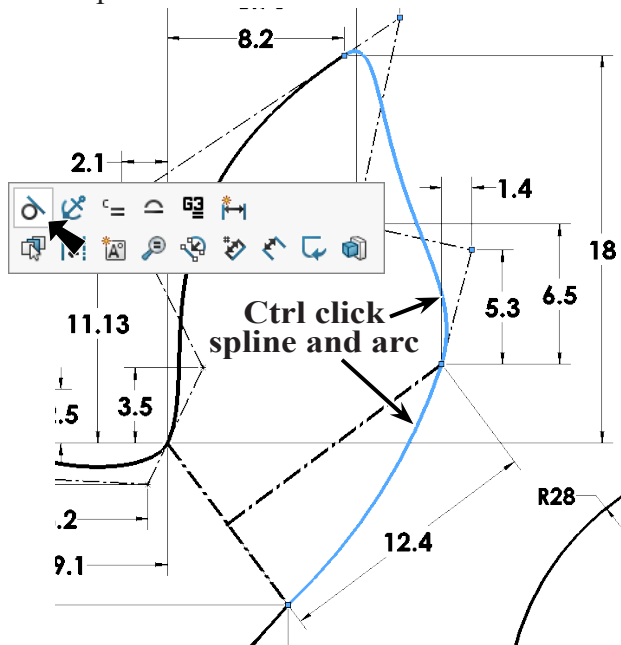


Fig. 20

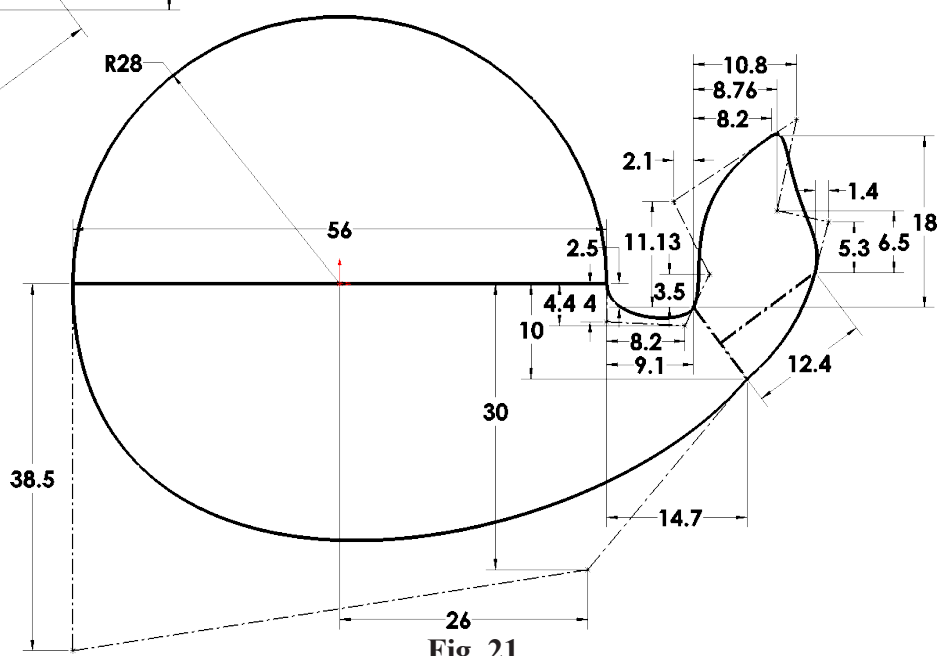


Fig. 21