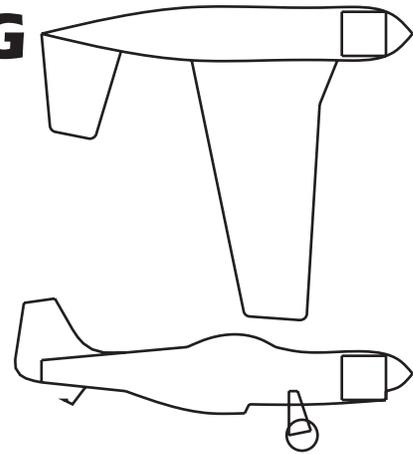


## Chapter 17

# P-51 MUSTANG



### A. Draw Rectangle.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Rectangle.

Step 4. 1 Point.

Step 5. Set: Width **9** and Height **1.8**.

Step 6. For the Placement Point, click the bottom left gray rectangle and click OK, **Fig. 1**.

Step 7. Origin.

Step 8. Use **ALT-F1** or  to fit drawing on the screen.

Step 9. Save the drawing. Use: File, Save and **p51** for a filename.

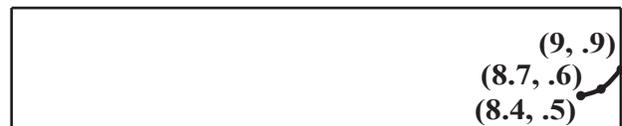
### B. Draw Splines for Fuselage in Side View.

Step 1. Draw the fuselage a different color. Change the color to **yellow**. Click the color swatch in the Secondary Menu. Click yellow, number 14 and click OK (**ALT-1**).

Step 2. Change the Grid and Snap to **.1**. Use **ALT-G**. Hold down ALT and press G. Set: X and Y Spacing to **.1** and click OK, **Fig. 1**.

Step 3. MAIN MENU.

Step 4. Create.



**Fig. 1**

Step 5. Spline.

Step 6. Manual.

Step 7. Click the 3 points in **Fig. 2**. Start with **(9, .9)** then **(8.7, .6)** finish with **(8.4, .5)**. Use the Cursor Tracking Window located in the top right corner of the display to view the coordinates. Position the cursor as close as possible then click.

Step 8. Press Escape to end the spline.

Step 9. Use **F3** to Repaint display and clear temporary markers.

Step 10. Save your drawing. Use **Alt-A** and press ENTER.

Step 11. Continue drawing the splines in each **Fig.** Remember, click the points in **each Fig.**, then press ESC.

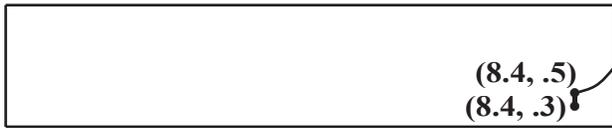


Fig. 2

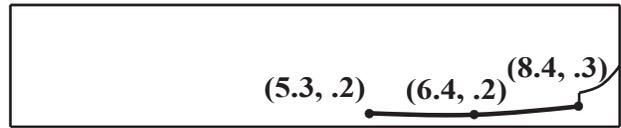


Fig. 3

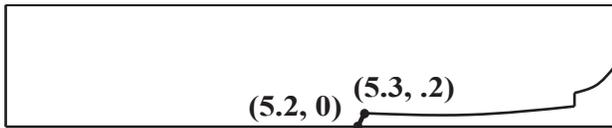


Fig. 4

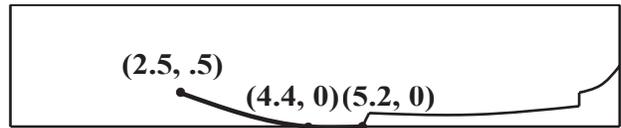


Fig. 5

### C. Draw Line For Fuselage In Side View.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Line.

Step 4. Multi.

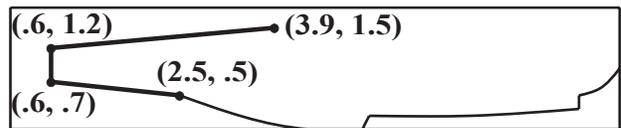


Fig. 6

Step 5. Draw lines between the 4 points in **Fig. 6**. Press ESC to stop the line.

### D. Finish Spline For Fuselage.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Spline.

Step 4. Manual.

Step 5. Draw the spline in **Fig. 7** and **Fig. 8**. Press Escape to end the spline.

Step 6. Save your drawing. Use **Alt-A** and press ENTER.

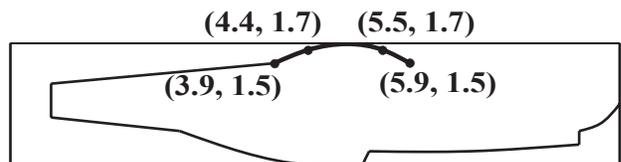


Fig. 7

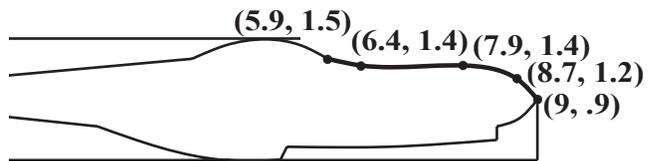


Fig. 8

## E. Create Rectangle For Fuselage In Top View.

Step 1. MAIN MENU.



Step 2. Create.

Step 3. Rectangle.

Step 4. 1 Point.

Step 5. Set: Width 9 and Height 1.2.

Step 6. For the Placement Point, click the bottom left gray rectangle and click OK.



Step 7. Key-in 0, 8 and press ENTER. You can not see the rectangle until you fit the drawing on the screen. Use ALT-F1 or

Fig. 9



## F. Draw Spline For Fuselage In Top View.

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Spline.

Step 4. Manual.

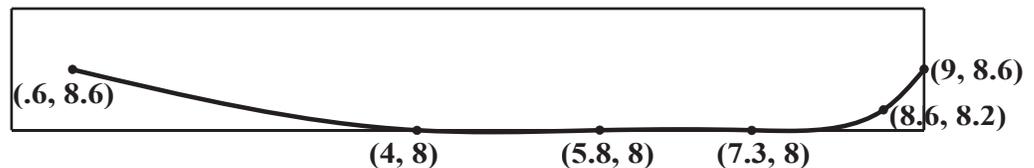


Fig. 10

Step 5. Draw a spline using the points in Fig. 10. Press Escape to end the spline.

Step 6. Save your drawing. Use Alt-A and press ENTER.

## G. Mirror The Fuselage Spline.

Step 1. MAIN MENU.

Step 2. Xform.

Step 3. Mirror.

Step 4. Click the spline, Fig. 11.

Step 5. Done.

Step 6. 2 Points.

Step 7. Click both ends of the spline, Fig. 11.

Step 8. Click Copy and OK. Click the Clear Screen Colors Tool

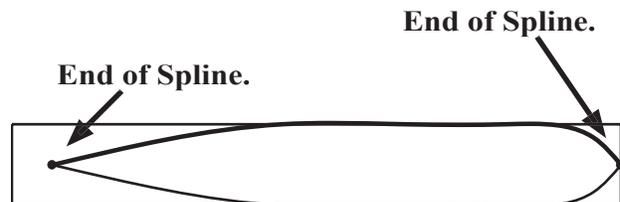


Fig. 11



## H. Draw Lines For Wing In Top View.

Step 1. Draw the next lines a different color. Change the color to **green**. Click the color swatch in the Secondary Menu. Click green, number 10 and click OK.

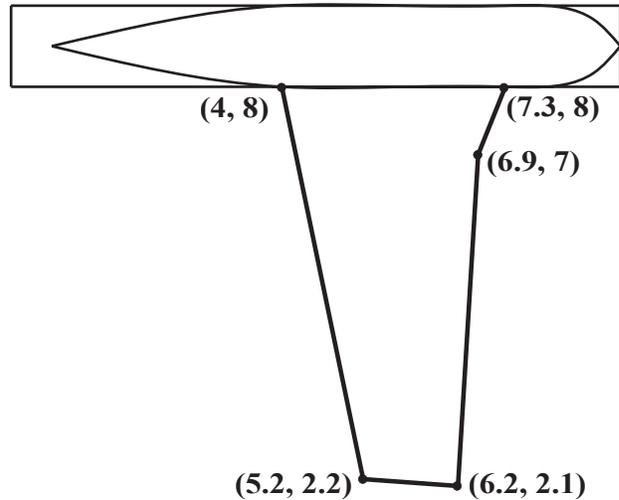


Fig. 12

Step 2. MAIN MENU.

Step 3. Create.

Step 4. Line.

Step 5. Multi.

Step 6. Draw lines between the 5 points in **Fig. 12**. Press ESC to stop the line.

## I. Horizontal Stabilizer.

Step 1. Zoom-in on the back end of fuselage in the Top View. Use **F1** and make a zoom window, **Fig. 13**.

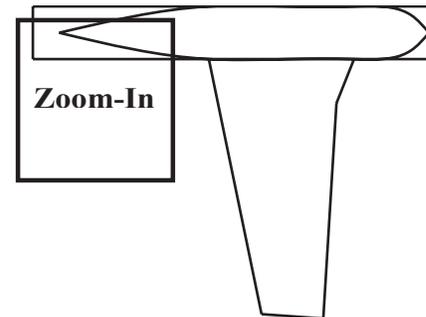


Fig. 13

Step 2. MAIN MENU.

Step 3. Create.

Step 4. Line.

Step 5. Multi.

Step 6. Draw the 3 lines in **Fig. 14**. Press ESC to stop the line.

Step 7. Save your drawing. Use **Alt-A**.

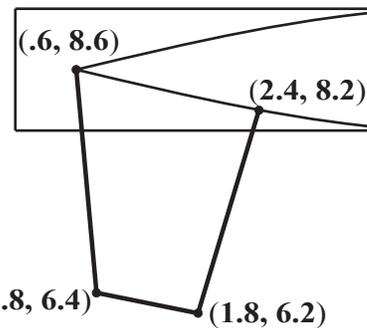


Fig. 14

## J. Fillet Corners.

Step 1. Use **ALT-F1** or  to fit drawing on the screen.

Step 2. MAIN MENU.

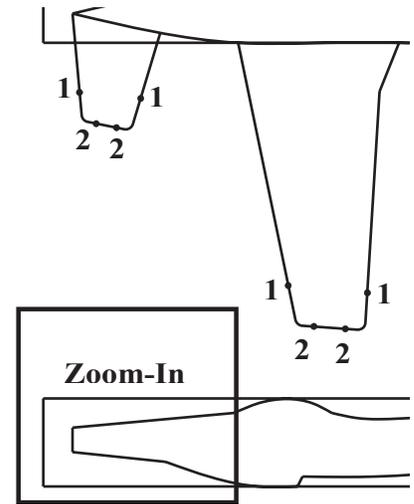
Step 3. Create.

Step 4. Fillet.

Step 5. Radius.

Step 6. Key-in **.15** for the distance and press ENTER.

Step 7. Click Position 1 and Position 2 at two corners on the Wing and Horizontal Stabilizer, **Fig. 15**.



**Fig. 15**

### **K. Draw Lines For Vertical Stabilizer.**

Step 1. Zoom-in on the back end of fuselage in the Side View. Use **F1** and make a zoom window, **Fig. 15**.

Step 2. MAIN MENU.

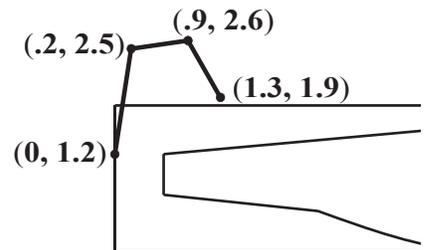
Step 3. Create.

Step 4. Line.

Step 5. Multi.

Step 6. Draw the 3 lines in **Fig. 16**. Press ESC to stop the line.

Step 7. Save your drawing. Use **Alt-A**.



**Fig. 16**

### **L. Draw Splines For Vertical Stabilizer.**

Step 1. MAIN MENU.

Step 2. Create.

Step 3. Spline.

Step 4. Blend.

Step 5. Click Position 1 for curve 1, **Fig. 17**. Slide the arrow to the bottom end of the line and click.

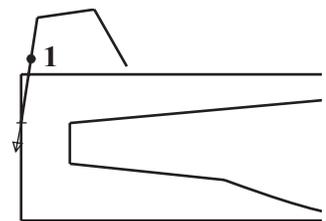
Step 6. Click Position 2 for curve 2, **Fig. 18**. Slide the arrow to the left end of the line and click.

Step 7. Click Trim Curve to No, **Fig. 19**.

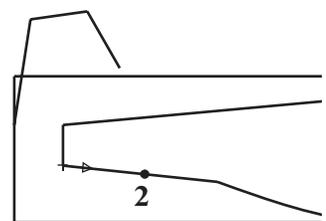
Step 8. Magnitude 1.

Step 9. Key-in **1.5** and press ENTER.

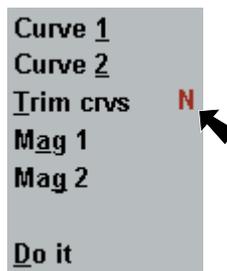
Step 10. Do it, **Fig. 20**.



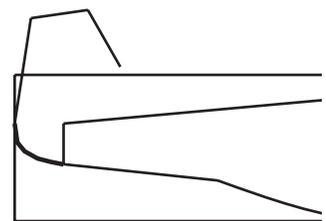
**Fig. 17**



**Fig. 18**

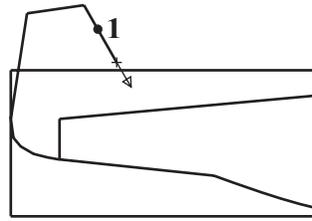


**Fig. 19**



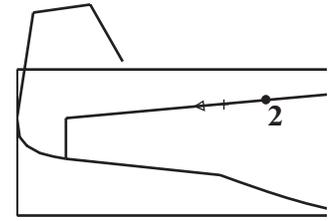
**Fig. 20**

Step 11. Click Position 1 for curve 1, **Fig. 21**. Slide the arrow to the bottom end of the line and click.



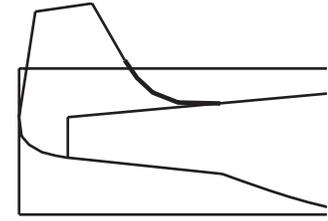
**Fig. 21**

Step 12. Click Position 2 for curve 2, **Fig. 22**. Slide the arrow to the middle of the line and click.



**Fig. 22**

Step 13. Do it, **Fig. 23**.



**Fig. 23**

## M. Motor.

Step 1. Use **ALT-F1** or  to fit drawing on the screen.

Step 2. Draw the motor a different color. Change the color to **red**. Click the color swatch in the Secondary Menu. Click red, number 12 and click OK.

Step 3. MAIN MENU.

Step 4. Create.

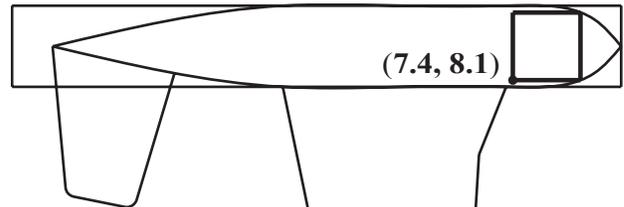
Step 5. Rectangle.

Step 6. 1 Point.

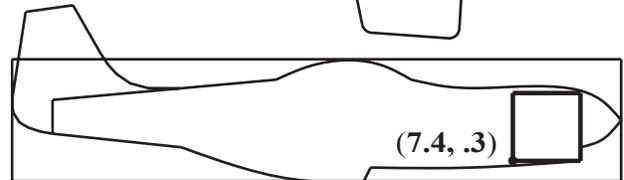
Step 7. Set: Width **1** and Height **1**.

Step 8. For the Placement Point, click the bottom left gray rectangle and click OK.

Step 9. In the Top View, click **(7.4, 8.1)**, **Fig. 24**.



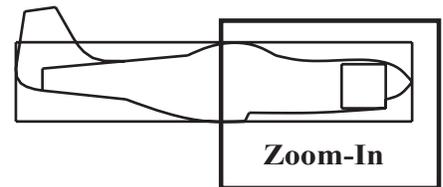
Step 10. In the Side View, click **(7.4, .3)**, **Fig. 24**.



**Fig. 24**

## N. Wheel.

Step 1. Zoom-in on the lower front end of fuselage in the Side View. Use **F1** and make a zoom window, **Fig. 25**. Use the Page Down key several times to create room at the bottom of the fuselage for the wheel.



**Fig. 25**

Step 2. MAIN MENU.

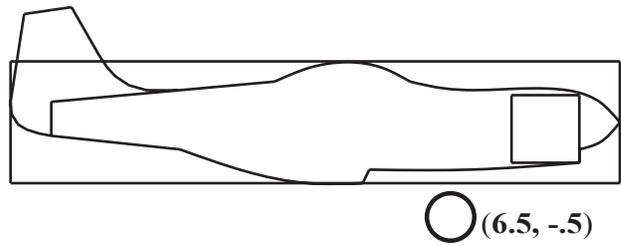
Step 3. Create.

Step 4. Arc.

Step 5. Circle Point and Diameter.

Step 6. Key-in .7 for diameter and press ENTER.

Step 7. In the Side View, click (6.5, -5) for the center of the circle, **Fig. 26**.



**Fig. 26**

### O. Draw Landing Gear.

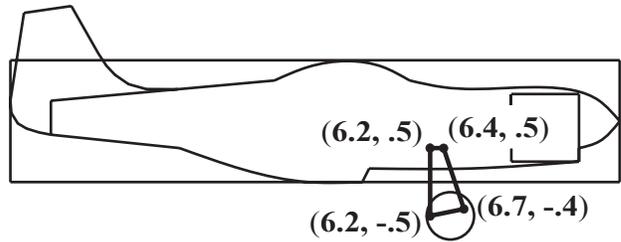
Step 1. Draw the landing gear a different color. Change the color to **light gray**. Click the color swatch in the Secondary Menu. Click light gray, number 7 and click OK.

Step 2. MAIN MENU.

Step 3. Create.

Step 4. Line.

Step 5. Multi.



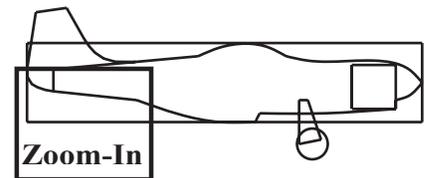
**Fig. 27**

Step 6. In the Side View, draw lines between the points in **Fig. 27**.

### P. Draw Spline For Tail Hook.

Step 1. Use ALT-F1 or  to fit drawing on the screen.

Step 2. Zoom-in on the lower back end of fuselage in the Side View. Use F1 and make a zoom window, **Fig. 28**.



**Fig. 28**

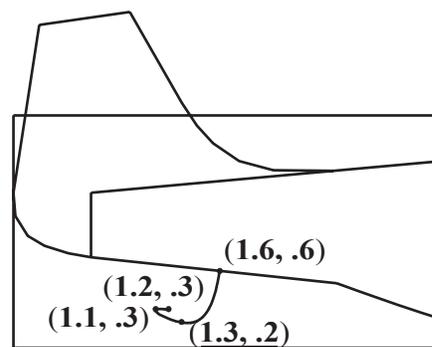
Step 3. MAIN MENU.

Step 2. Create.

Step 3. Spline.

Step 4. Manual.

Step 5. Draw a spline using the points in **Fig. 29**. Press Escape to end the spline.



**Fig. 29**

Step 7. Save your drawing. Use **Alt-A** and press ENTER.

## Q. Delete Rectangle Lines.

Step 1. Use **ALT-F1** or  to fit drawing on the screen.

Step 2. MAIN MENU.

Step 3. Delete **Lines 1 through 8** that make up the rectangle, **Fig. 30**. Use **F5** to delete. Press ESC to exit delete.

Step 4. Use **F3** to Repaint display.

Step 5. Save your drawing. Use **Alt-A**.

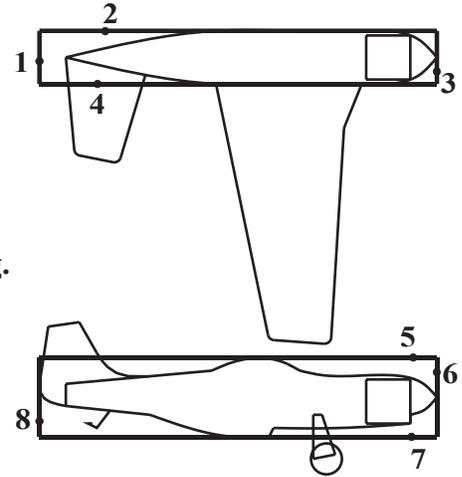


Fig. 30

## R. Add Your Name And The Period To The Drawing.

Step 1. Use **Page Down** to reduce the drawing. Use: **Create, Drafting, Note** commands to add your names and period to the drawing.

Step 2. Save your drawing. Use **Alt-A**.

