



SUKHOI CY-35/CY-37

Conversion Guide



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SUKHOI СУ-35/СУ-37

Conversion Guide

This conversion guide is intended to be used as a supplement to the Su-27 construction guide as you build the model. If the step number(s) in this guide is the same as the step in the Su-27 guide, then this guide's step replaces the Su-27 step. If the step(s) are supposed to be performed between steps in the Su-27 guide, then this guide's step(s) will use a sub-step number, such as 25-1, 25-2, 25-3, etc.

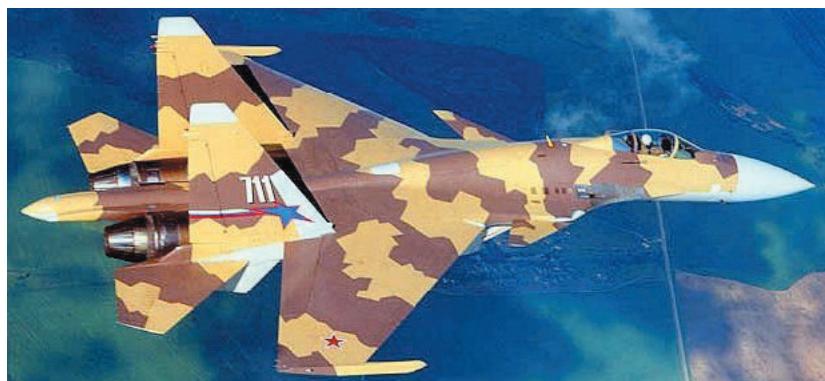
You should read the Su-27 construction guide and plans and this conversion guide completely to become familiar with all of the steps before you begin construction of the model. There may be some differences between what can be seen in the photos and what is seen on the plans and in the kit pieces. The plans and parts set contain the most recent revisions.

Before beginning construction, you should decide which version you want to build. The tail cone on the Su-35 Super Flanker was changed to a shorter, more blunt ogive. The tail cone on the Su-37 Terminator was the same as the original Su-27 tail cone. If you plan to build the Su-37, then you can skip the steps in this guide that involve modifying the tail cone and instead use the stock Su-27 parts.

Although there were 15 Su-35 Super Flankers produced including the prototypes, only two examples, #703 (third prototype) and #709 (ninth prototype), were flown at airshows and public demonstrations. #703 is painted with the blue/grey splinter paint scheme and #709 has the olive/clay splinter scheme.



When Sukhoi created the Su-37 Terminator they used Su-35 #711 (11th prototype) and added thrust-vectoring engines. Sukhoi created only one Su-37, which was lost in a crash during a ferry flight in Russia on December 12, 2002. It was painted in a brown/tan camouflage.



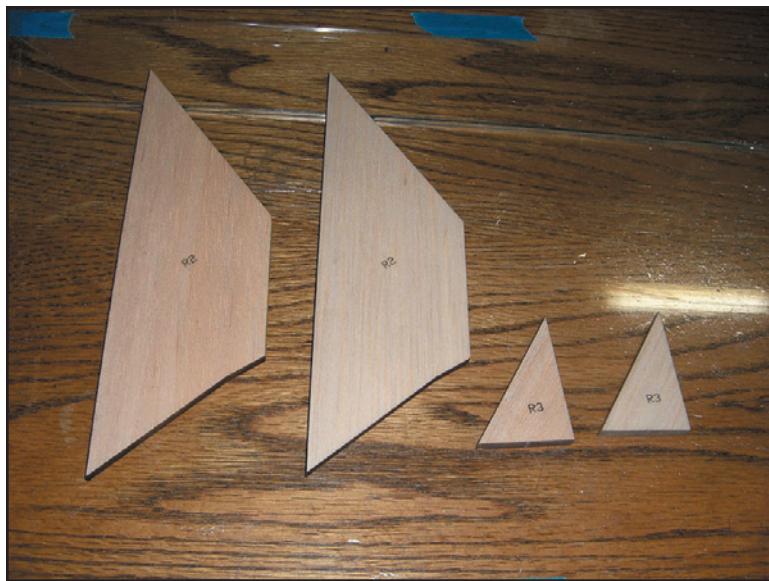


Photo 1

- 9. Cut from the Su-27 kit two R2 and two R3. (3/16" balsa) and from the Su-35/Su-37 kit two R1, two R4 and one R5 (3/16" balsa). Lightly sand the edges, then glue together the pieces over sandwich wrap to make an the vertical fin. Repeat for the other side. (Photo 1)

NOTE: Continue the model's construction with step 10 in the Su-27 construction guide.

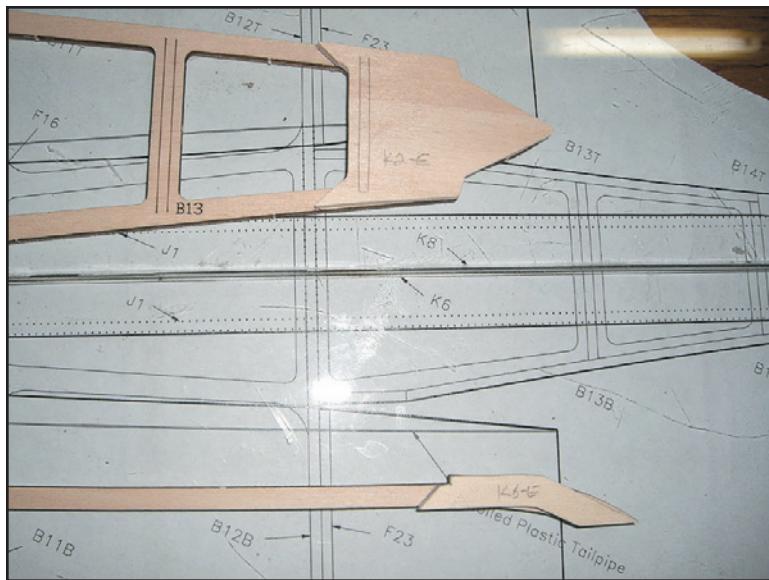


Photo 2

NOTE: If you're building the Su-37 Terminator, you can skip to step 18-3.

- 18. Cut from their sheets two J1, two J2, two J3, one J4 and one J5. (1/8" lite ply) Cut from their sheets one K1, one K2, two K4 one K2-E and K6-E. (1/8" lite ply) Remove K1A from K1. Place K2-E on top of K2 and align it to K2. Use a pencil and trace a cut line on each of the side rails of K2. Place K6-E on top of K6 and trace a cut line on K6. (Photo 2)

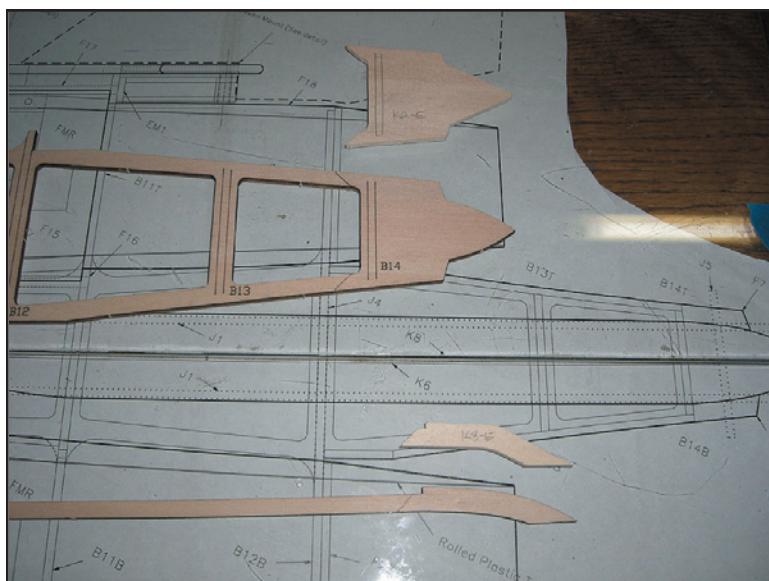


Photo 3

- 18-1. Carefully cut along the pencil lines you just drew. You want to cut up to the line, but not across it. When you're done, you still want to see the pencil line on K2 and K6. Set K6-E aside for now. (Photo 3)

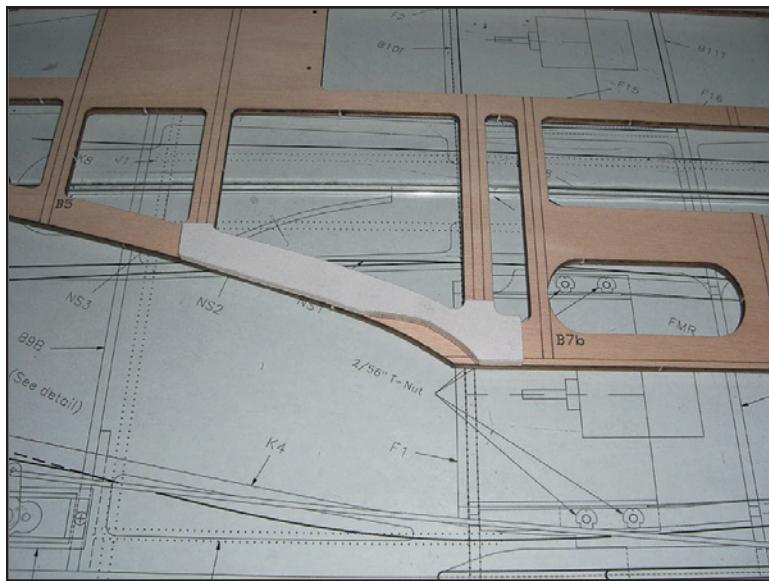


Photo 4

- 18-3. Cut the Keel Template (1/8" lite ply) free and place it on top of K2 at the wing root and align it to K2. Trace a cut line with a pencil. Repeat for the other side. (Photo 4)

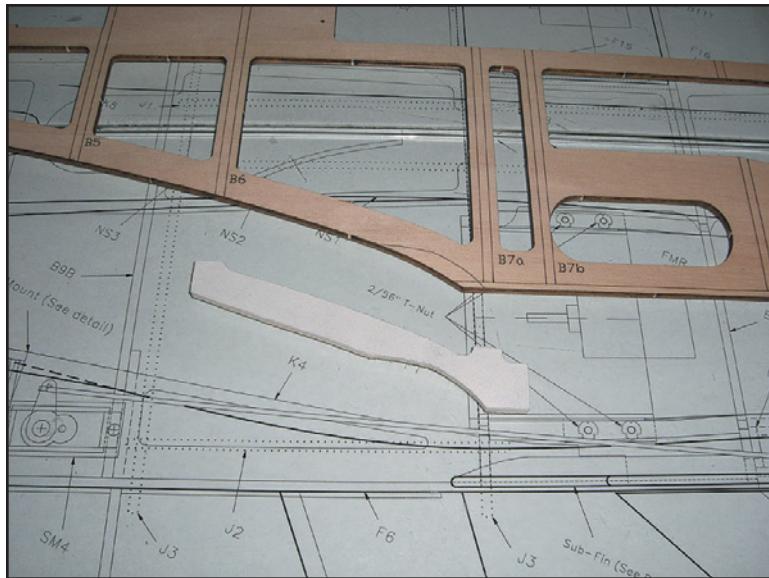


Photo 5

- 18-3. Carefully cut K2 along the pencil lines you just drew. You want to cut up to the line, but not across it. When you're done, you still want to see the pencil line on K2. Repeat for the other side. (Photo 5)

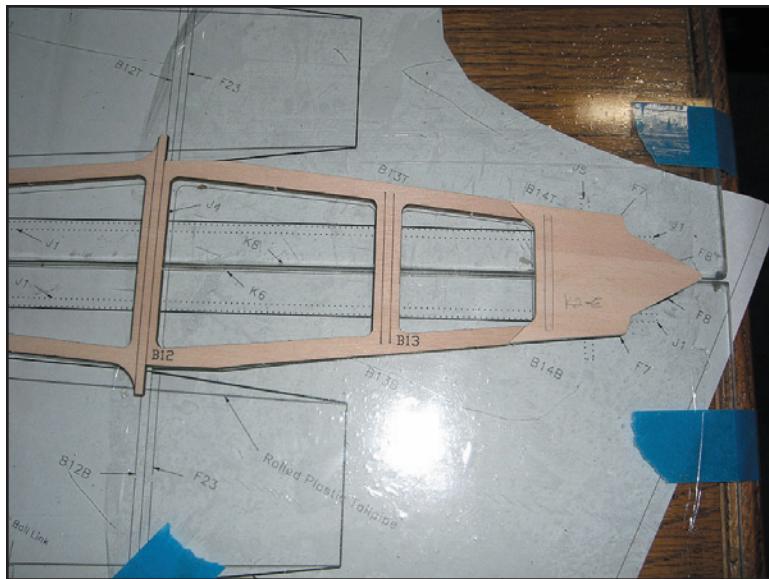


Photo 6

NOTE: If you're building the Su-37 Terminator, you can skip to step 18-5.

- 18-4. Use some masking tape to stick down some plastic sandwich wrap over the plans. Align K2 over the plans and align K2-E to K2 and to the plans and glue when you're satisfied with the fit. Once the glue is dry, remove the sandwich wrap and tape from the plans. (Photo 6)

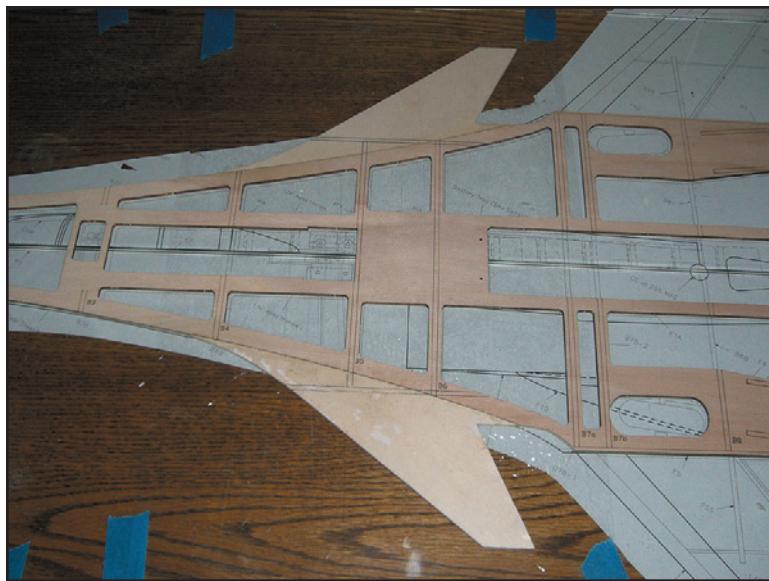


Photo 7

□□ 18-5. Use masking tape to stick down some sandwich wrap over the plans between the leading edge of the wing and B3B. Align K2 over the plans. Cut out the canard/keel exteions. (1/8" lite ply) Align and glue the canard/keel extension to K2 and the plans using the alignment marks etched into K2 and the canard/keel extension. Once the glue is dry, remove the sandwich wrap and tape from the plans. Using a pencil and a ruler, extend the lines on the canard/keel extensions across K2. Repeat for the other side. Using a pencil, extend the lines you just drew across the edges of K2 and the canard/keel extension. Flip K2 over and draw matching lines on the top of K2. (Photo 7)

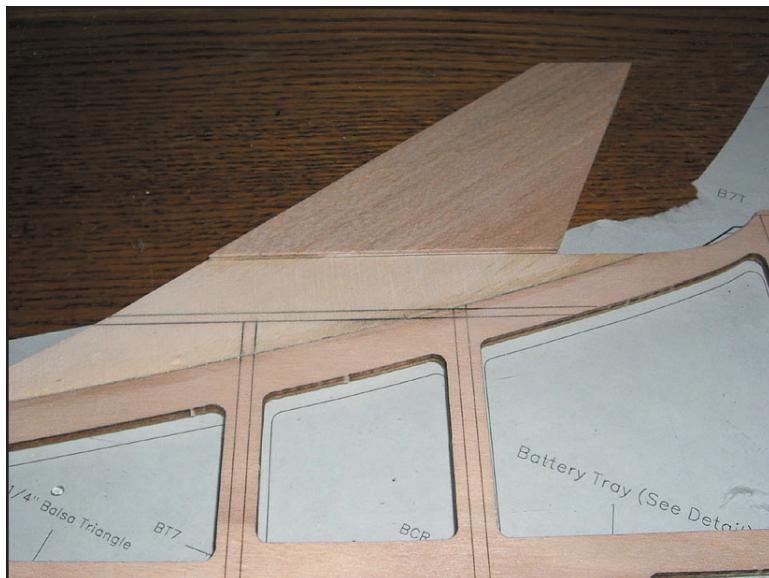


Photo 8

□□ 18-6. Cut out two canard doublers. (1/16" balsa) Align and glue one canard doubler over the canard/keel extension. If you wish to streamline the canard, do so at this time. Repeat for the other side. (Photo 8)

NOTE: Continue the model's construction with step 19 in the Su-27 construction guide.

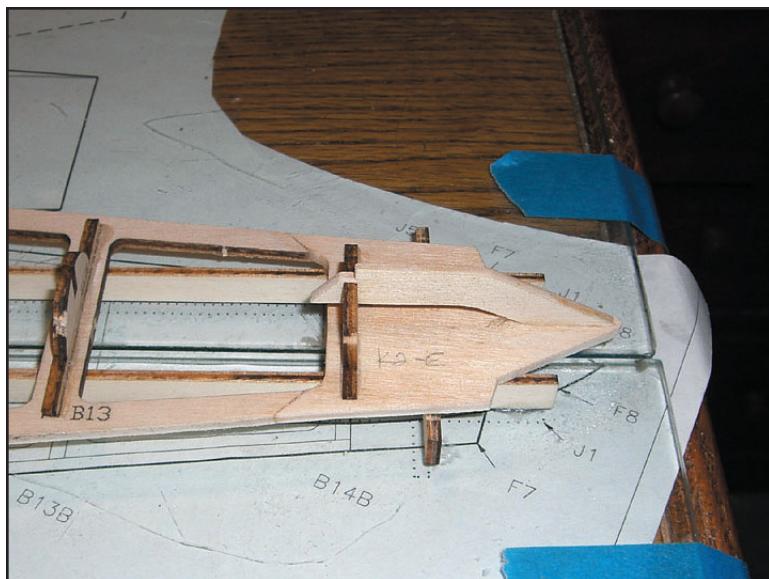


Photo 9

NOTE: If you're building the Su-37 Terminator, you can skip steps 28-1 & 28-2.

□ 28-1. Insert and glue K6-E into the centerslot of B12B and to K2-E. (Photo 9)

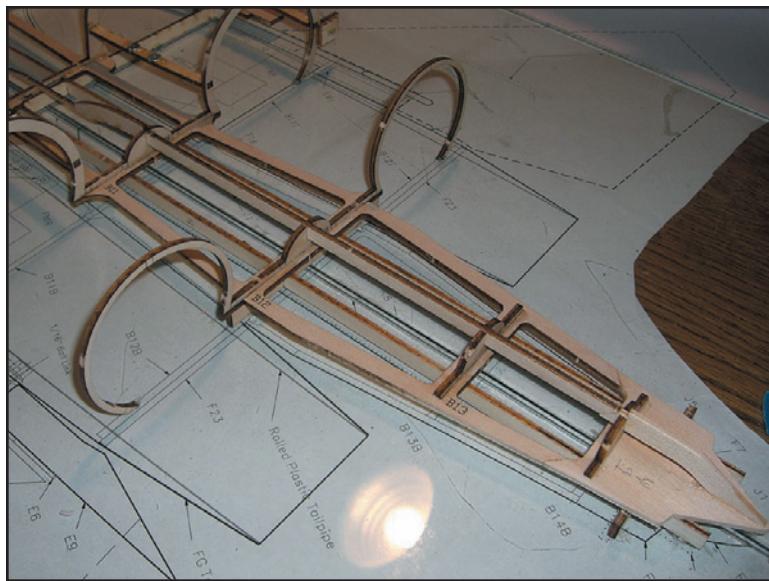


Photo 10

- 28-2. Insert K6 into the center slots of the bulkheads B10B, B11B, B12B, B13B and B14B. Align and glue the back of K6 to the front of K6-E. Glue K6 to B10B, B11B, B12B, B13B and B14B. Insert and glue K5 into the center slots of B1B, B2B, B3B, B4B, B5B, B6B, B7B-1, B7B-2, B8B, B9B. Glue the joint between K5 and K6 (Photo 10)

NOTE: Continue the model's construction with step 29 in the Su-27 construction guide.

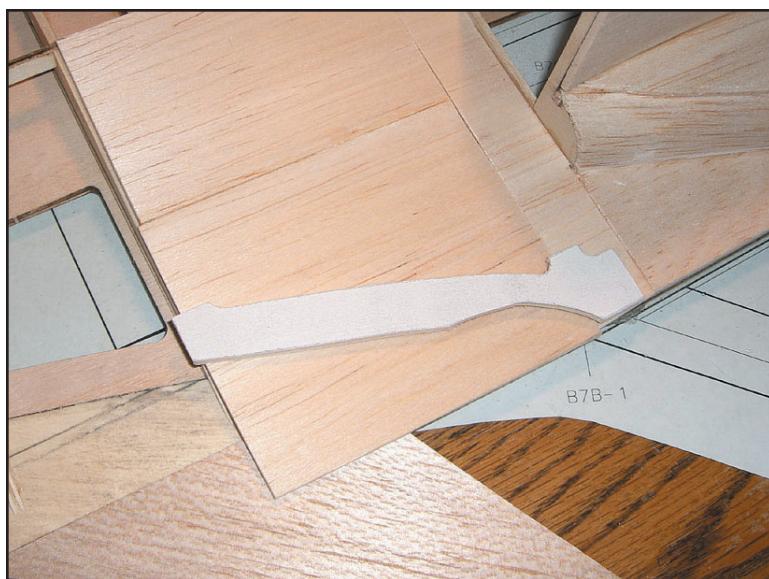


Photo 11

- 56. Using 3/32" balsa, make up a sheet that will fit between B7B-1 and B6B. Make sure the sheet is long enough to reach to the outer edge of K2. Place the Keel Template on the sheet and align it to K2. Use a pencil and trace a cut line for the curved portion only. (Photo 11)



Photo 12

- 56-1. Use a ruler to draw a straight line between the curved line you drew in step 56-1 and the inboard edge of the canard doubler. (Photo 12)

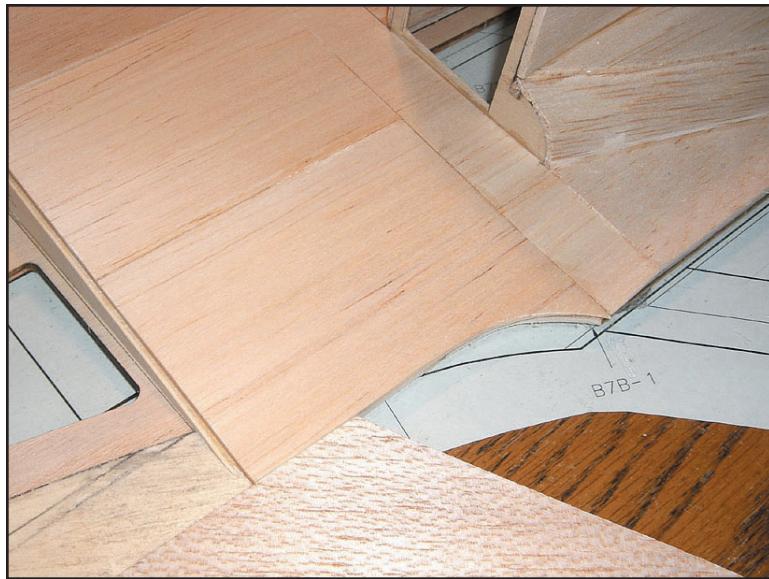


Photo 13

- 56-2. Cut along the line to fit the sheet into place. Glue it down when you're satisfied with the fit. Only taper the rear half of the sheet. (Photo 13)



Photo 14

- 56-3. Using 3/32" balsa sheet the fuselage between B6B and B5B. Only apply a half-taper so the sheeting is thicker than the canard doubler. (Photo 14)



Photo 15

- 56-4. Using 3/32" balsa sheet the fuselage between B5B and B4B. Taper the bottom of the sheeting as shown in step 55. Repeat steps 56 through 56-4 for the other side of the fuselage. Using 3/32" balsa, finish sheeting the rest of the underside of the forward fuselage. (Photo 15)

NOTE: Continue the model's construction with step 57 in the Su-27 construction guide.

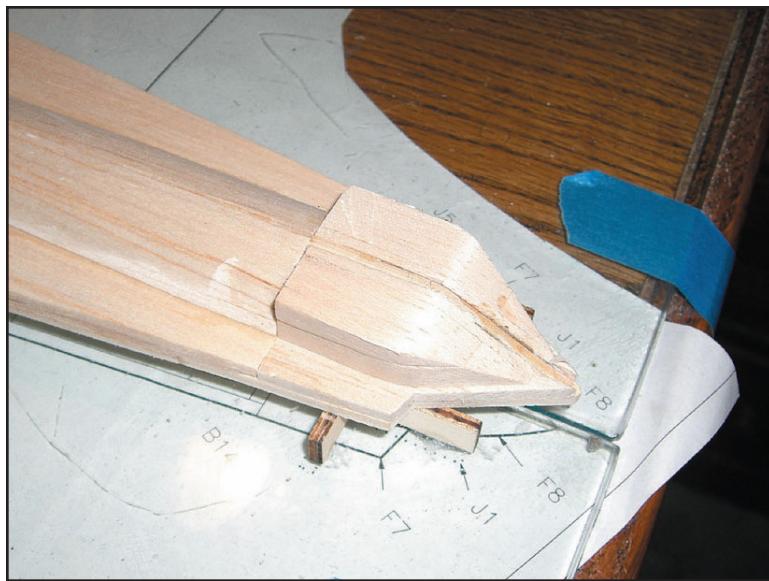


Photo 16

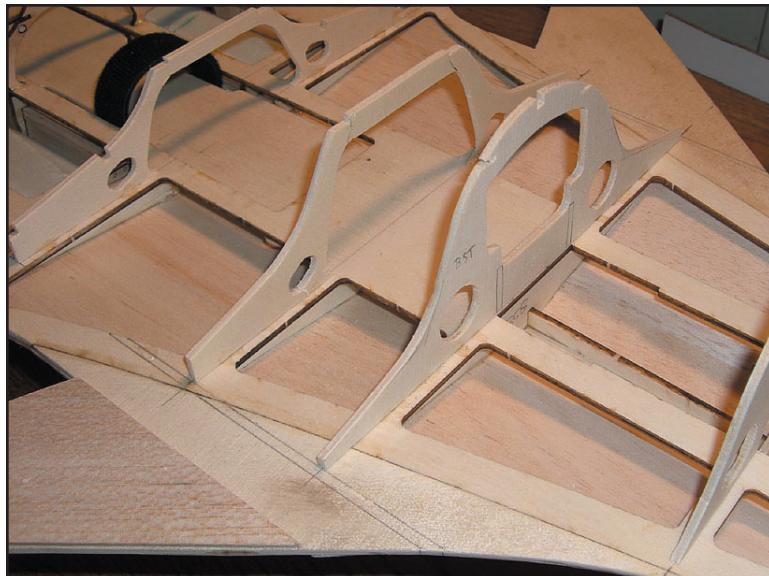


Photo 17



Photo 18

NOTE: If you're building the Su-37 Terminator, you should use the stock Su-27 pieces.

57. Use the Su-35 conversion kit pieces for steps 57, 58 and 59 in the Su-27 construction guide. (Photo 16)

NOTE: Continue the model's construction with step 58 in the Su-27 construction guide.

76. Cut from their Su-27 sheets, bulkheads B3T, B8T, B9T, B11T, B13T and B14T. (1/8" lite ply) Cut from the Su-35/Su-37 sheets, bulkheads B4T, B5T, B6T and B7T. Center, align and square each bulkhead then glue each one to the keel piece on which it's resting. Make sure that B7T is glued over B7B-1. Also make sure that B5T, B6T, B7T, B8T and B9T all touch the pencil lines you drew in Step 75. (Photo 17)

NOTE: Continue the model's construction with step 77 in the Su-27 construction guide.

NOTE: If you're building the Su-37 Terminator, you should use the stock K8, then skip to step 79-2.

79. Insert and glue keel K8-E into the center slot in B12T and to the top of K2. (Photo 18)



Photo 19

- 79-1. Insert K8 into the center slots of B8T, B9T, B10T, B11T, B12T, B13T and B14T. Align K8 to K8E and glue them together when you're satisfied. Glue K8 to B8T, B9T, B10T, B11T. (Photo 19)



Photo 20

- 79-2. Cut from their sheets, two K9 and two K9-A. (1/8" lite ply) Align and glue K9 to K2 and B4T, B5T and B6T. Align and glue K9-A to K2 and K9. (Photo 20)



Photo 21

- 79-3. Cut from their sheets, two canard doublers (1/16" balsa) Align and glue the canard doubler to the canard/keel extension. If you wish to streamline the canard, do so at this time. Repeat steps 79 through 79-2 for the other side. (Photo 21)

NOTE: Continue the model's construction with step 80 in the Su-27 construction guide.

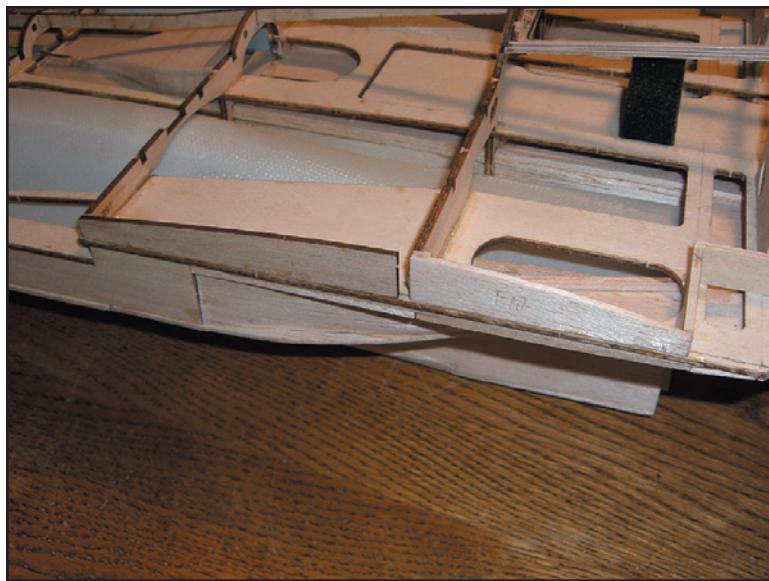


Photo 22

- 86-1. Cut from their Su-35/Su-37 sheets, two F10 (1/8" lite ply) and from their Su-27 sheets, two F-9 (3/32" balsa) Align and glue F9 to K2, K9-A and B8T. Align and glue F10 to K2 and B9T. (Photo 22)

NOTE: Continue the model's construction with step 87 in the Su-27 construction guide.

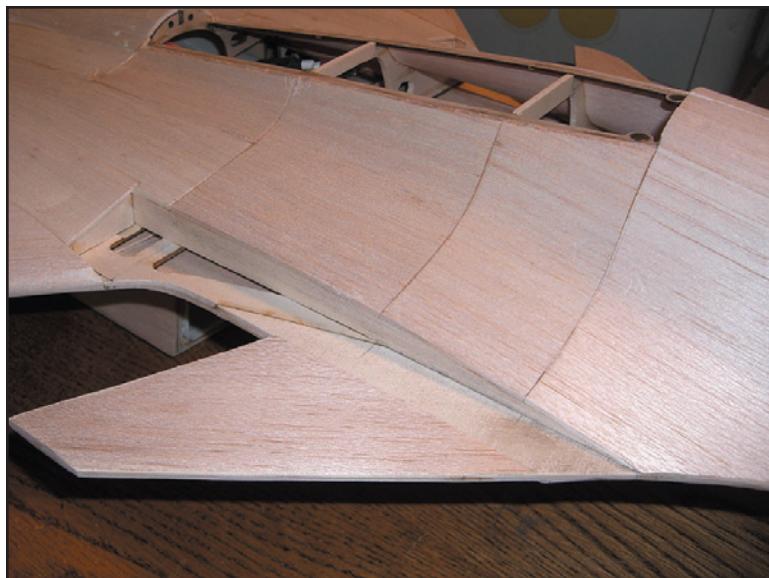


Photo 23

- 129-1. Trim the 3/32" fuselage sheeting so it is flush with the edge of K9 and K9-A. (Photo 23)

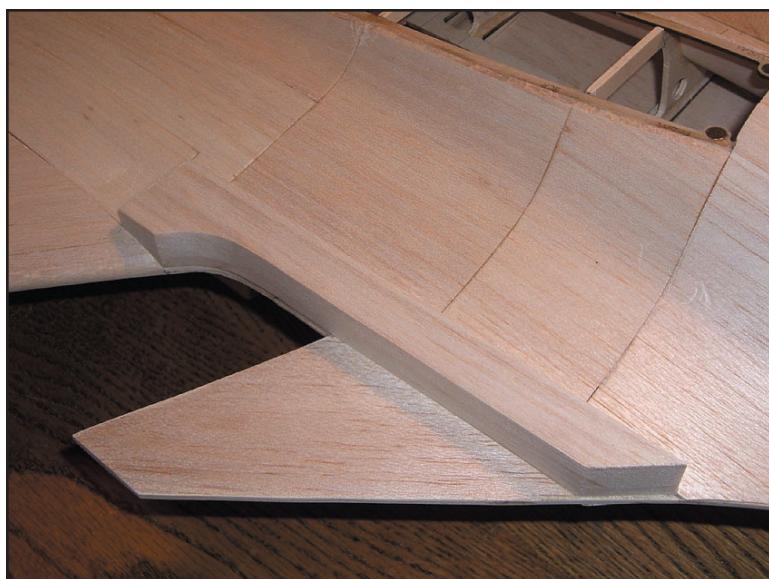


Photo 24

- 129-2. Cut from their sheets, six F-22 (1/4" balsa) Glue three pieces together to form a 3/4" filler block. Fit it into place between K9, K9-A and the inboard edge of the canard doubler. Use a pencil to trace the outline of the fuselage onto F-22. (Photo 24 & 25)

NOTE: Do not be careless like this builder. Make sure the F-22 filler block extends all the way to the forward edge of K2.

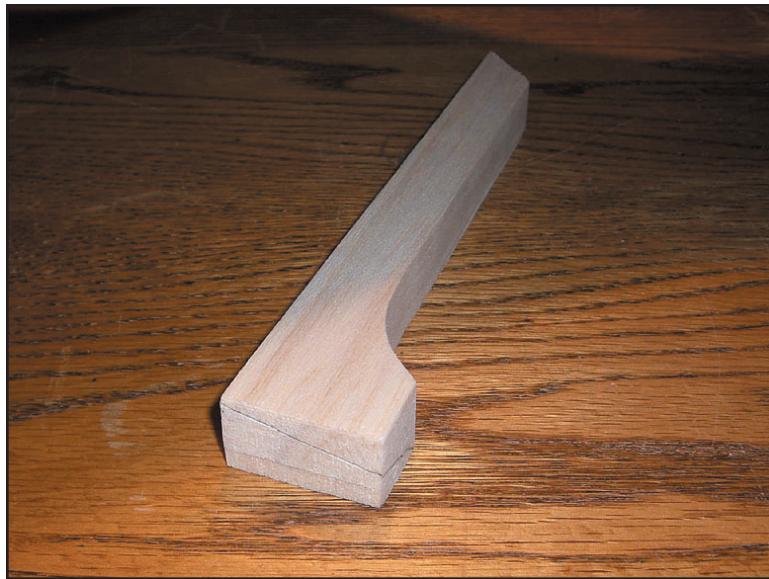


Photo 25

□□ 129-3. Use a razor plane to taper F-22 as shown.
(Photo 26)

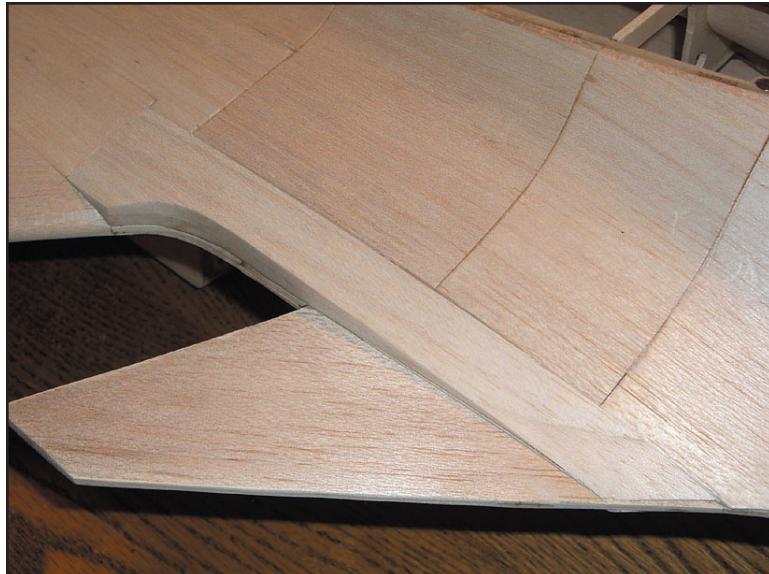


Photo 26

□□ 129-4. Round the F-22 filler block to match the contours of the fuselage. Repeat steps 129-1 through 129-4 for the other side. (Photo 27)

NOTE: Continue the model's construction with step 130 in the **Su-27 construction guide**.



Photo 27

Control Throws

If you're using elevons instead of the optional ailerons/elevators, you'll need some way to mix aileron/elevator functions. This could be in the transmitter or an external mixing unit carried on-board the model. The throws below describe the actual direction of movement of the control surface itself.

Elevon

Ailerons, measured at the forward tip of the elevons.

High rate: Up - 7/8", Down - 3/4"

Low rate: Up - 5/8", Down - 1/2"

Elevator, measured at the forward tip of the elevons:

High rate: Up - 1", Down - 7/8"

Low rate: Up - 5/8", Down - 1/2"

Aileron/Elevator

Ailerons, measured at the root of the aileron itself.

High rate: Up - 9/16", Down - 3/4"

Low rate: Up - 7/16", Down - 1/2"

Elevator, measured at the forward tip of the elevators:

High rate: Up - 1", Down - 7/8"

Low rate: Up - 5/8", Down - 1/2"

Balancing and Flying the Model

The model must be balanced before attempting flight.

Failure to properly balance the model will most likely result in the destruction of the model. The model should be balanced upright on a balancing stand. It should be balanced at the point shown on the fuselage, or 8-7/8" forward of the wing root trailing edge where it joins the fuselage. If the model doesn't balance at this point, try moving the internal components such as the receiver battery until it does balance at the point indicated.

Follow the flying instructions in the Su-27 construction guide.

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