SPAD VII 36″ EZ BUILD

R/C Scale Model Instructions

CONTACT INFORMATION
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SPAD VII 36" EZ BUILD

Thank you for purchasing the SPAD VII model plans for electric flight.

THE MODEL

SPAD VII EZ BUILD

A semi scale adaptation of the SPAD VII, this model is designed to be easy to build and exciting to fly.

POWER SET UP

The model can be set up to be powered by the 6 v Speed 400 or Long Can Speed 400 (sometimes called a 480) with the 2.33:1 Mini-Olympus gearbox and a 10x4.7 APC prop.

R/C GEAR

A four function mini receiver and four micro servos are all that are required.

Model Specifications:

SPECIFICATIONS
More than 160 laser cut parts

Scale:	~1/9
Channel:	R/E/A/T
Wingspan:	36"
Wing Area:	397 sq in
Weight:	23 oz
Power System:	Speed 400/480 Mini-Olympus geared 2.33:1
Prop:	9x7
Wheels:	Balsa & plywood, Neoprene foam tires
Airfoil Type:	Flat bottomed
Cowl:	Built up balsa
Decals:	Available on the website
Covering:	Litespan or Polyspan

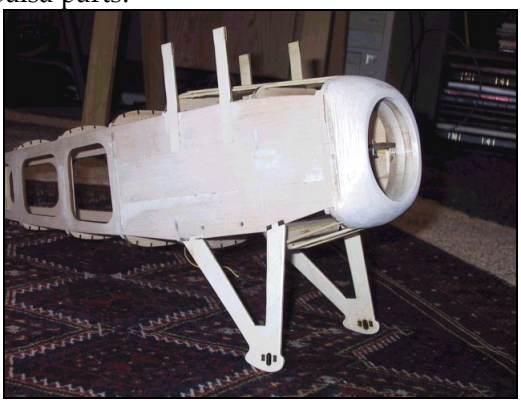
BUILDING THE MODEL

BEFORE STARTING

A note about the photos: the photos were taken of a prototype and the parts shown in the plan may look slightly different from them. However, the concepts illustrated are the same.

COWLING

The cowling is of built up construction with laser cut balsa parts.



Cowl construction

The cowl should be sealed, sanded and primed until no wood grain is left showing. Baby (Talcum) powder in clear dope makes an excellent balsa sealer. Talcum powder mixed in white glue makes excellent filler for gaps or gouges. Sand down after it dries.

WINGS

Wing Construction

Pin down, over the plan, the t/e, l/e, spars and wing tip, gluing as required. Making sure that you are using the correct ribs for the wing you are building, glue all the ribs in place. Sand the leading edge stock to be rounded and meet the ribs.

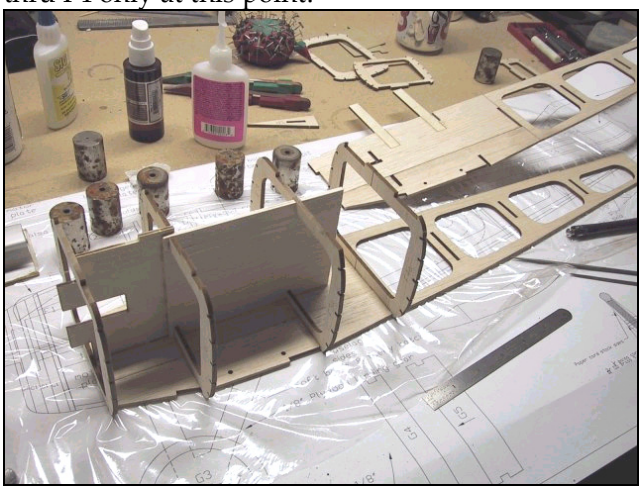
Pin down, over the plan, the t/e, l/e, spars and wing tip, gluing as required.

FUSELAGE CONSTRUCTION

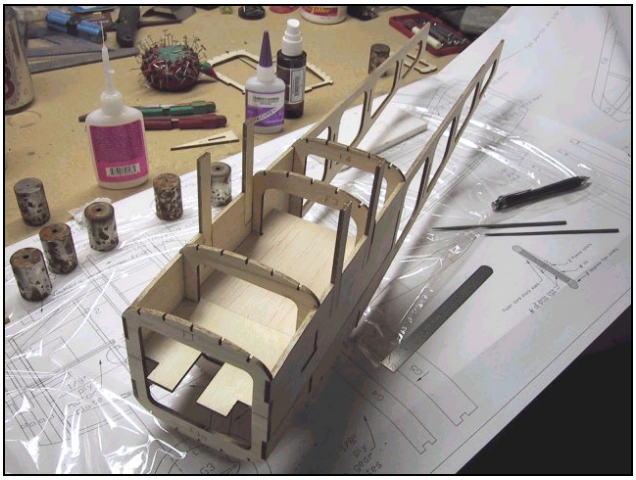
The fuselage is built as a unitized box structure, using pre-cut side frames with pre-cut notches for the formers.

Building the Fuselage

Assembling the fuselage frames on the plan. Glue the cabane struts into the 1/8″ balsa sides. Connect these frames by aligning them on the plan. Insert the motor mount and battery tray. Connect F1 thru F4 only at this point.

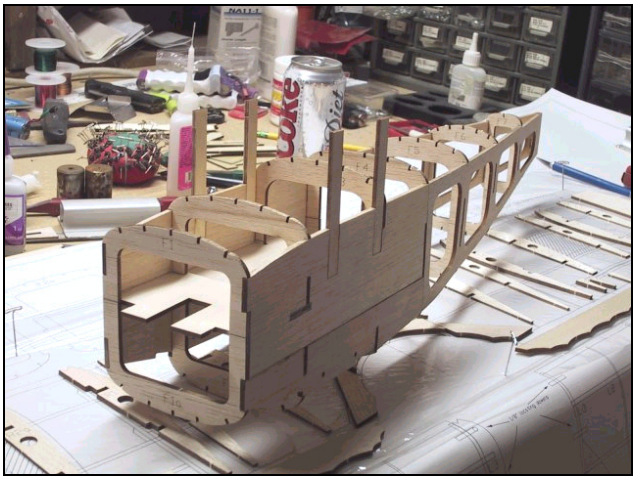


Connect F1 thru F4 only at this point.



Place Fuselage on Side

Then turn the fuse on its side and add the other fuse side balsa.

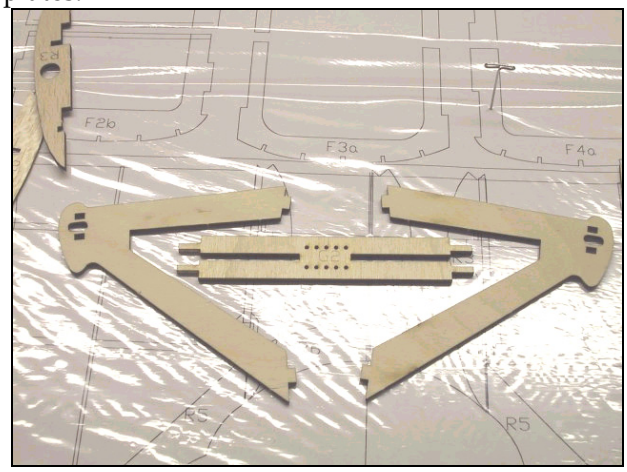


Add the other formers and close the fuselage end

Now it is time to add the other formers and close the fuselage end taking care not to produce a warped or twisted structure. Then add the balsa stringers top and bottom.

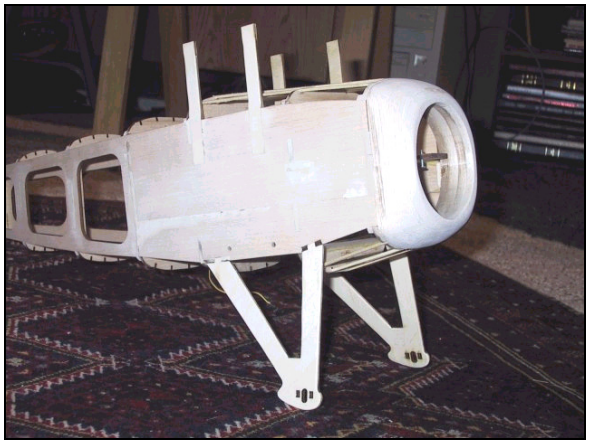
Adding the Undercarriage Plates

Once dry, remove from the board and add the plywood formers crosspieces that serve as u/c plates.



Undercarriage Parts

Use thin CA to harden plywood undercarriage parts and **epoxy together securely**. Use Kevlar™ or Nylon thread binding to add an additional degree of strength to the joints. The axle is designed to have some shock absorbing character. Mount the axle in the center of the UC plate using Kevlar™ thread and epoxy. Bind the axle ends at the uprights with elastic cord or rubber bands. There are cut outs in the uprights to allow some movement of the axle during landing.



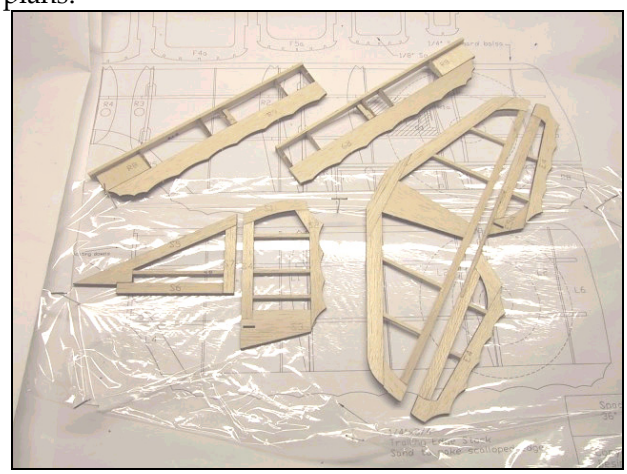
Undercarriage Detail

Adding the Deck

Add all the decking stringers. Sections of 1/16" thick balsa are added next to the cabane struts before covering. If a recessed dummy machine gun mount is desired, fabricate a slot with cardstock or 1/32" balsa in the top of the fuselage.

TAIL SURFACES

Lay out and glue parts of the tail surfaces on the plans.



Control Surface Parts

Join the elevators with the 1/8" dowel joiner. Sand the tail parts, rounding off all edges. Don't add the horns or hinge the surfaces until after covering is complete.

COVERING

Any lightweight covering material can be used. Polyspan makes a good choice Litespan is also popular.

DECALS AVAILABLE ON-LINE: Downloadable decal outlines are available on AerodromeRC website:

http://www.aerodromerc.com/decals.htm

WHEELS

Gluing the ply sides on the ¼ "balsa core makes the basis for the wheels. Use the brass hub for alignment. Epoxy the hubs in place and add a sufficient amount of epoxy around the base of the hub to reinforce the connection of the hub to the ply. Plywood reinforcing hubs are provided that are to slip over the brass tubing as shown. Alternatively, gluing an additional ½" square piece of scrap 1/8" balsa with a hole drilled in the center can be substituted. Next, CA glue the neoprene cording together to from a "tire". Use thin CA sparingly as the CA bonds very aggressively to the rubber. Press the CA wetted ends together for an instant bond. The best way to align the ends is to glue them while they are in place on the wheel. Then attach the tires to the wheels and CA in place. A thin bead of CA around the rim makes for a secure tire.

Paper cones supplied are cut out. Use a ballpoint pen to score each line on the back to make an impression of "spokes". It is helpful to do this operation on a paper tablet so that the pen makes a good crease. Fold the paper along the crease lines to exaggerate the raised lines. One of the sections forming a wedge is cut out. Make cuts to the center of the circle along a pair of the spokes. Close the paper cut-out to form a cone and tape the joint inside the cone.

The inside cones may now be attached to the wheels. The outside cones may be attached at this point if wheel collars are to be used. Alternatively, after installing the wheels on the landing gear, a washer may be soldered to hold the wheel in place and then the cone is attached. This method makes a very nice scale appearance.

Wheel Assembly

INSTALLING THE RADIO CONTROL GEAR

Servo Bay

Get your R/C gear fitted at this stage, and also the motor.

Servo Bay

Battery

Use the battery position to balance the model as shown.

ASSEMBLY

Wing

The first task is to epoxy the top wing accurately onto the fuselage. Use 5-minute epoxy for this task. After the top wing is attached, the struts are inserted and the model is turned upside down. Use the locating dowels to attach the lower wings to the fuselage.

Using Locating Dowels And Aligning Wing Panels

Apply epoxy to the wing rib that meets the fuselage. Attach the wings to the fuselage. Use the locating dowels to assist with aligning the wing panels. Allow epoxy to set.

Attach Wings to Fuselage

Fitting Tail Surfaces

Slip the control horns onto the wire pushrod ends and, with both the servos and the control surfaces centered, glue the horns into their slots.

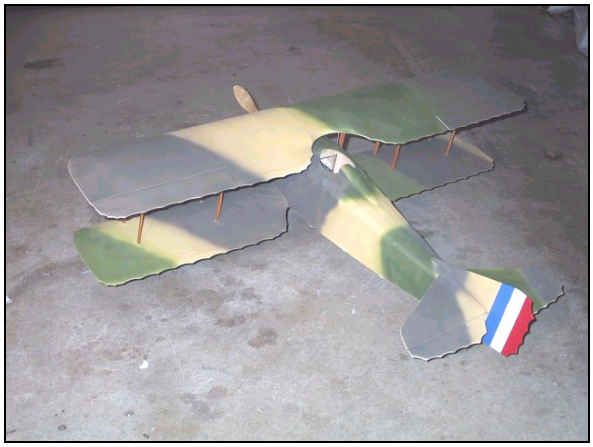
Fitting the rigging wires

Use strong thread or Kevlar™ fishing line to simulate rigging wires. Use small screws, fishing hook eyes, straight pinheads or small eyelets to attach the lines. While not technically required these wires can add a degree of strength to your model.

Dummy machine gun

Laser cut parts are provided for a dummy machine gun. Glue these parts together according to the plan and sand to shape. The machine gun can either be sanded to fit on top of the fuselage or be recessed into a slot in the top of the fuselage. The slot is not detailed on the plan.

Finish the cowl front by installing a piece of window screening in the opening at the nose of the fuselage. This screening simulates the radiator vents and allows cooling air to enter the fuselage.



Nearly Finished

Balance The Model

Balance the model at the point shown. It is best to position the battery to do this operation.

SPAD VII EZ BUILD
Finished Model, (radiator screening not shown)

FLYING

The model should ROG on pavement or hard surfaces. On grass, the model may require hand launching. Be careful that your hand or fingers do not catch on the lower rigging. Launch firmly and level. While the tail surfaces are small, they should not need excessive throws. Let the model gain altitude slowly off the runway. Applying too much up elevator at slow speeds asks for a stall. Make your turns gently as tight turns risk tip stalling in any model. Don't expect the elevator to make the model climb. Think of the elevator as a device to change the attitude of the model. The wing and airspeed ultimately make the model climb. Often down elevator applied at stalling can avoid a major crash. The most important details for proper flight operations are:

1. CG location. Tail heavy models never fly well or at all
2. Down and right thrust
3. Straight and non warped wings

Be sure you assemble and lube the gearbox so that it is not binding. A binding gearbox will rob most of your batteries power.

CONTACT INFORMATION

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