



FOKKER Dr1



ASSEMBLY INSTRUCTIONS

Required to complete

- Balsa cement or super glue
- Wood Glue or white glue
- Paint brush
- Sharp craft knife

Preparation

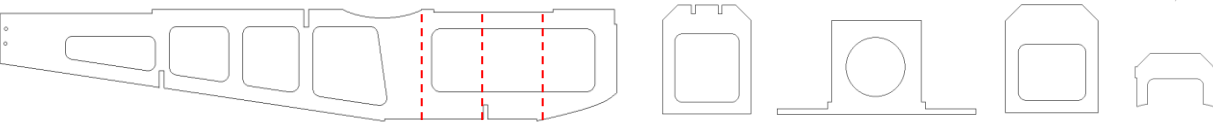
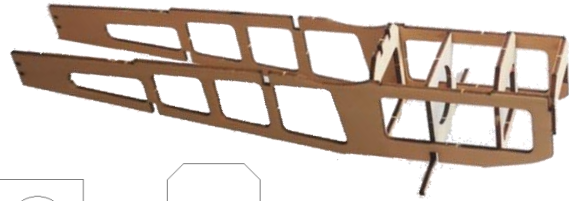
- Mark all sheets with relevant numbers
- Trim all parts and dry fit before gluing
- Allow parts to glue fully before moving on

Step 1 – Parts 1a/b – 7a 2a- 4a-3a

Take fuselage side 1a and dry fit the wing cross section 2a to the underside through the hole for the wing spar support, align to the bottom of the fuselage to fit flush. Use a 90 degree angle to position it exactly at right angles and glue in place.

Dry fit part 4a at the front of the cockpit area positioning at the end of the cockpit curve, use a 90 degree to align and glue in place.

Fit part 3a forward of 2a and align to the lower wing notch and the beginning of the curve on the lower nose. 90 degree and glue in place. * Take fuselage side 1b and dry fit over the opposite side of all sections. Using a 90 degree make sure that all parts are aligned the exact same way on both sides of the fuselage. Also check that both sides of fuselage are aligned to each other before gluing.



Trim Part 7a to fit into the nose slots and tabs as provided, glue into place assuring alignment is perfect.

Step 2 – Parts 5a – 6a

Holding the fuselage, dry fit part 5a to the rear of the cockpit into the slots provided. Holding the tail section, slightly taper the ends of the fuselage using gently pressure to hold part 5a in place. Align to top of the fuselage and glue in place.

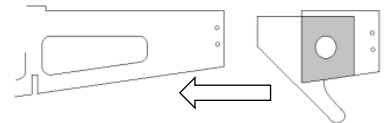
Tapering the fuselage further, dry fit part 6a and apply pressure to tail until part fits. Align to top of fuselage and glue in place.

Step 3 – Parts 13 a/ b – 14a – 12a

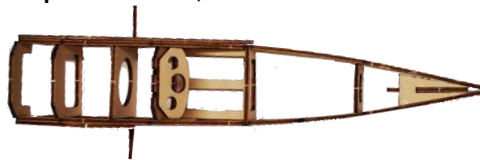
Building the tail section – Start with part 12a, dry fit part 13a to one side, aligning to the circle hole and to the angled bottom. Make sure that the upper tab of part 13a is left clear, glue on edges and inside hole. Repeat process on the other side with part 13b.

•Slot part 14 a over the tab of part 13a, making sure that it sits flat at 90 degrees to tail section.

•Holding the two tail ends, place the tail section with skid between both halves and squeeze the tail ends together until the fuselage tail is flush with the sides of 14a. Align these according to the double holes on both sections. A pin through these holes can be used for alignment. Glue in place.

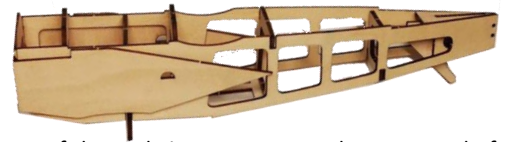


Step 4 – Parts 35 a/b - 16a – 10a



Part 10a the servo chassis forms the cockpit floor. This can now be glued into place and should fit between parts 4 and 5a. Glue this strongly into place as reinforcement.

Cockpit dash board part 16 can be fitted at this point. Supports for this are parts 35 a/b these fit into the slots at the top of part 4a, trim to fit and glue in place, tabs into slots. Glue dash board / instrument panel to parts 35 a/b aligned slightly above part 4a.



Step 5 – Parts 23 a / b - 17a

The cowling sides of the fuselage and nose (Parts 23 a/b) are ready to go on. These should be aligned carefully flush to the nose and to the top of the fuselage. Ensure these parts do not rise above flush to the fuselage. Glue in place on each side.

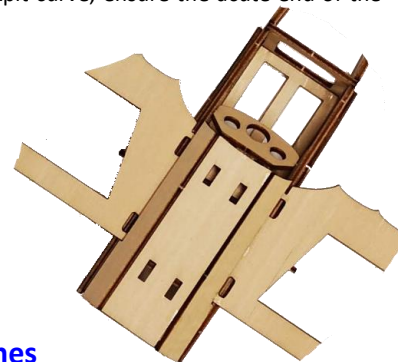
Part 17a forms the rear of cockpit and top of tail. Align the ends of the triangle to the rear of the cockpit curve, ensure the acute end of the triangle is central on the fuselage.

Step 6 – Parts 21a – 18a / b / c

Fitting the first of the tri planes wings is an important step to check all alignment. The first wing will dictate the placement of all that follow. Parts 21a fits across the top of the fuselage nose and must be aligned to the slots in the top. The four holes can also be used to gauge position. Glue strongly along contact point on both inside and outside.

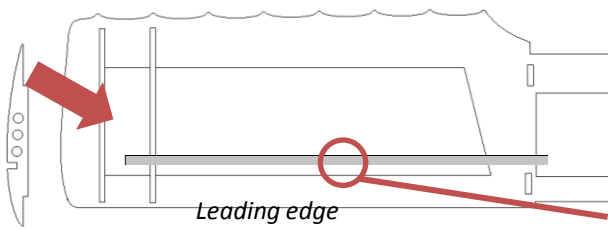
Parts 18 a/ b/ c form the top of the nose, Position part 18 a first, aligning it carefully to the top of parts 4a, 3a & 7a, dry fit parts 18 b / c before gluing 18a. Ensure that these parts are all proportional before making the final glue.

Check that all parts 18 a / b / c fit flush to the front edge of the nose.

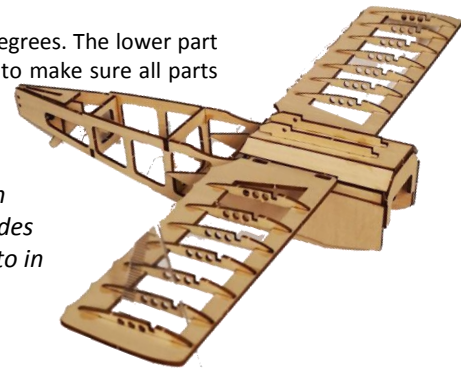


Step 7 – Parts 22a – 24 a / b

Wing Cross sections are collectively known as Parts 22a, these fit across all wing sections at 90 degrees. The lower part should be aligned with the notch touching the leading edge of the wing. Use a 90 degree edge to make sure all parts are 90 degrees to wing edge before gluing.



Repeat process in opposite for both sides always working out to in



Starting from the outside of the wing and butting the first cross section up to the inside wing edge, glue wing cross sections in line with the crest of each wing curve at the trailing edge. This will allow you to judge spacing. Dry place wing spar 24 a/ b into the holes at the top of each cross section to help with alignment as you glue in cross sections. Insert the twin machines guns into the holes on the top of the cowling facing forwards and glue in place. (Parts 9 a / b)

* Dry fit the wing spa to confirm alignment but do not glue in place yet as upright struts need to be fitted first.

Step 8 – Parts 25 a – 22a (multiple)

The next step is to fit the wing cross sections to the lower wing, starting from the outside with the first cross section flush to the outside inner edge as in step 7. Again align the cross section spacing to the rear of the wing curves as in previous wing. Ensure 90 degree to wing and glue in place. Continue, stopping before reaching the inside edge of the wing, one curve before.

Step 9

Fitting the lower wing section to the fuselage. Carefully lay the model upside down, taking the lower wing section dry fit in line with the notches on the underside of the fuselage. The contour cut out of the lower fuselage or body section gives direction to the wing fitting. Use the notches in the wing to position with trailing edge forward to the foremost notches in the fuselage. Ensure that the wing is 90 degrees to the body and that it is aligned perfectly to the body, stepper slightly back towards the rear of the plane from the top wing. Glue where the trailing edge meets the fuselage.

Glue along all the edges where the wing meets the fuselage. Ensure a strong and solid bond. Make sure to glue the wing to the arms of fuselage part 2a



Step 10– Parts 19 a – 20 a / b



Begin building the tail section by taking the flat plane section Part 19a. Carefully align the front edge in line with the tapered fuselage tail. It is important to make sure that the center line of the tail is perfectly in line to the center of the fuselage. Any mistakes here will make the tail sit twisted.

Use the fuselage sides the align to and move the tail plane forward so that the back lines up to the end of the fuselage tail section. Glue all places where the tail meets the fuselage ensuring the glue along the bottom edge.

Parts 20 a / b form the tail flaps. These can be glued directly to the tail plane as seen in the diagram. If you want to make these movable you can make paper hinges. Cut out small rectangles of paper 2cm x 0.5cm, glue to the tail plain first along the trailing edge. Leave a space equal to the width of the wood and glue tail flap to paper parallel to tail plane.

Step 11– Parts 17a

Forming the top of the fuselage is a triangular section (Piece 17a). This should be aligned with the curved section forming the back of the cockpit. The trailing end of the triangle will sit over the front edge of the tail unit and run straight down the middle of the fuselage. Make sure that the triangle is central to each side of the fuselage. Glue wherever the wood of the triangle comes in contact with the fuselage.

Step 12 – Parts 17a

The next step of assembling the wings is to fit the upright struts that run between the wings connecting and giving strength to each wing. Make sure that the end without the tabs is upper most to the model for the top wing. Then slide at an angle between the 2nd & 3rd rib or cross section of the middle wing until the strut bottom fits into the lower wing just inside of the first cross section. The tabs should lay on top of the wing flat and be glued to the cross section. Do the same for where the strut passes through the middle wing and glue to wing flat and cross section securely.



Step 13 – Parts 24 a / b – 25 a / b

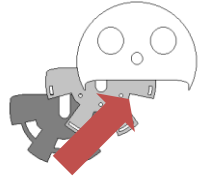
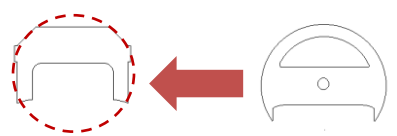
Now that the lower and middle wings are in place you can fit the wing stringers across the top of the cross sections. Make sure that the upright struts are sitting correctly and glued securely to the wing cross sections and the wings. Lay the wing stringers across the top notch in the wing cross sections, making sure to butt up against the inside edge where the wings meet the fuselage. Glue to the top of each cross section and then bond to the fuselage. On the top wing the stringer should touch to side of the cowling, trimming or sanding can create a stronger bond. On the lower wing the stringer should align with the projection of Part 2a which runs along the lower wing from the fuselage. A strong bond here will give the wings more strength.

NOTE – If you want a smooth finish to the top of the wing, lightly sand across the joints with fine grit sandpaper.

For video instructions please visit - www.vibes.co.uk/airpearthlanes

Step 14 – Parts 11 a – 8a – 15 a – 15 b

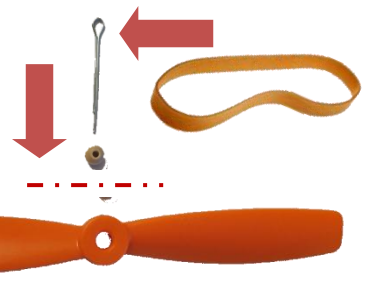
With the fuselage and lower two wings completed it is time to add the Fokker's engine and cowling face. Start by fitting Part 11a over the front of the cowling, this should be judged to cover the top of the cowling and in line with the squared off sides. Glue to the cowling nose, Part 7a. Ensure a strong bond as this will carry the rubber motor.



Glue part 8a which forms the cowling front or nose to part 11a, using the central hole as a guide, make sure that these are perfectly aligned. The smaller part will leave a gap of around 1mm all around give the nose a slight dome. This can be sanded smooth if desired using small grit sand paper. The rotary engine is formed by parts 15 a and 15b, these should be glued on top of each other to create the engine profile. Part 15 a sitting over the top of 15b to give they cylinders depth. Dry fit the completed part behind part 11a into the fuselage and push upwards to the desired depth. These should form a complete circle with the cowling. Make sure now to mount too deeply and block the centre hole. Glue securely.

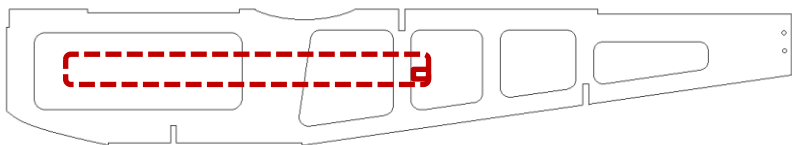
Step 15 – Parts – Propeller – Bearing – Split pin – Rubber band

To begin fitting the rubber band motor take out the parts in the small bag. The cotter or split pin forms the drive shaft. Part the ends of the split pin slightly and slide the rubber band between and pull down until it fits securely in the eyelet. Take one of the wooden bearings and slip over the end of the cotter pin, pull down to rest against the eyelet. Insert the cotter pin and assembly through the hole in the cowling from the inside, Fit the propeller over the exposed cotter pin, the arms of the pin should be passed through the centre of the prop and carefully bent over in both directions to catch against the turning armature of the propeller. This will allow it to spin, ensure the propeller is not too tight up against the cowling.



Step 16 – Parts – Rubber band, Match stick

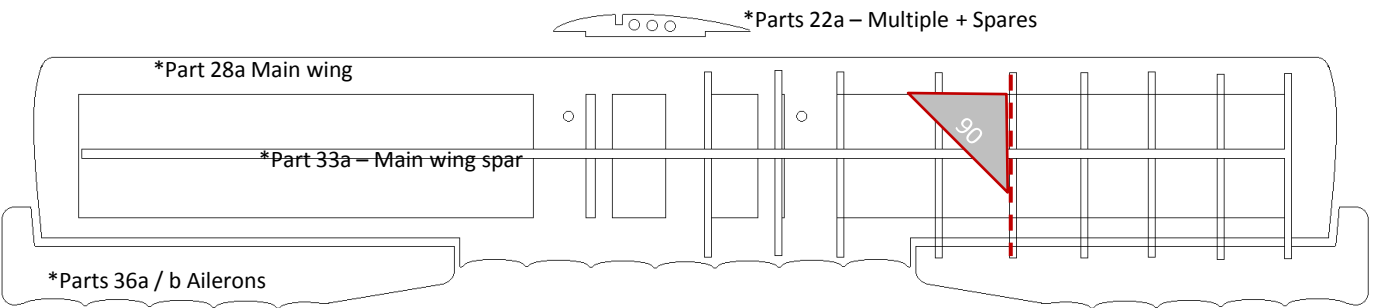
To fit the rubber band into the fuselage you will need to use a piece of bent wire or hook and the match stick provided. First using bent wire or a hook pull the rubber band backwards through the fuselage passing it through the nose and cockpit sections.



The match stick will form a retainer for the rubber motor and will sit behind the cockpit, fitted horizontally behind the cockpit upright. The rubber band must be looped over the match stick before fitting. Once the rubber band is over the match stick it can be pulled back to rest against the rear of the cockpit as in the diagram above. Once you are happy the rubber band has clearance around any internal parts, glue the match stick to the fuselage frame and trim away and protruding wood. Ensure a strong bond as this will be under pressure.

Step 17 – Parts – 28a – parts 22a (multiple)

It is time to begin building the top wing of the model. This is built in the same way as the lower two wings but in one continuous piece. Lay down the main wing section part 28a. Begin fitting wing cross sections (22a) starting from the outside of the wing and spacing equally and perfectly 90 degrees to the main wing, use a 90 edge to achieve correct fitting and align each as forward to the front edge of the wing as the wood will allow.



Once the wing cross sections 22a have all been fitted as shown in the drawing above it will be possible to fit the main wing spar, Part 33a, this should slip into the notches at the top of the cross sections, fit it all the way along and then begin gluing where it fits through the notches, This can be lightly sanded for a smooth finish or left rough for covering.

Step 18 – Parts – 36 a / b

The ailerons form the last part of the wing and give the Fokker the aggressive turning ability. These fit into the slots in the main wing section and can be glued to both the main wing and the overhanging parts of the wing cross sections 22a. Glue securely to both parts, if desired leave a small gap between the main wing and the aileron and glue directly to the wing cross section overhang. Ensure a strong bond. • If you are covering the model it is advisable to cover the top wing with tissue paper and fully finish before fitting to the main model. This will also allow more space to cover the middle wing and top of the engine cowling • If the model is to be hung locate the holes to the centre of the wing, at this point you should loop wire or string through these before covering so that you can use these as hanging points later..

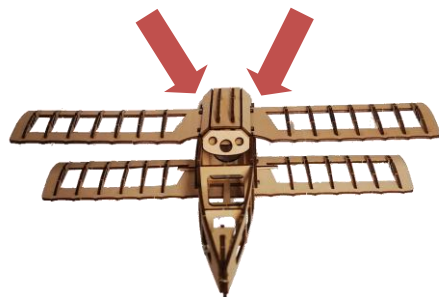
Step 19 – Parts – Top wing - 37 a / b

The top wing can now be fitted to the model with the central fuselage struts and the outer wing struts. Begin by taking the centre struts, parts 37 a/ b and dry fitting into the holes in the wings either side of the cowling with the triangle facing upwards.

Do not glue these yet, they should fit into the holes angled outwards and loose.

Trial fit the top wing over the wing edge struts, this can be judged by eye, the wing will rest on top of the struts and into the grooves. This should be just inside of the 2nd wing cross section in from the outside of the wing edge.

Once you are happy that the wing is central you can fix it to the top of the outer struts with a touch of glue where the wood meets, make sure to glue all 4 points.



With the top wing semi secure to the outer struts, pinch the inside struts inwards until they meet with the upper wing. These should line up on each side, compare the symmetry between the both sides in relation to the centre point of the wings. When you are happy with the fitting, glue the top of the centre struts to the top wing, ensure that this is a strong bond.

Glue the centre struts to the cowling wing holes where they pass through and ensure a strong bond.

* At this point you can build in extra strength to the wings and strut joint by winding thread around the connection, this is optional and makes a great way to add extra strength while maintaining a traditional build appearance. Wind the thread in a cross weave around and across the joint and then drip super glue over the bond.



Step 20 – Parts – 30a – 29 a / b

Building the landing gear assembly is almost the final part of assembling the air frame. Start with the flat wing section of the undercarriage part 30a. Cross sections for this are parts 31a, you can space these as you like and will need a minimum of 4. Start from the outer edge of the inner rectangle and glue with the tapered end facing towards the rear. Make sure to align to either the front of the rear edge on all cross sections.

Once this is complete take landing struts 29 a/b and turning to model upside down dry fit into the holes in the lower wing with the more upright part facing forward. These should rest in the holes unglued laying slightly outwards.

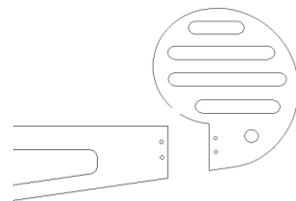
Dry fit part 30a, the landing wing assemble upside down onto the landing struts, make sure that the tabs on the extreme of the V shape fit loosely into the rectangular holes on the outside of part 30a. Now that the landing gear is in place adjust it by hand until happy that it is sitting symmetrical to the fuselage and level. Any variance here will cause the plane to sit lopsided. While holding glue the tabs into the holes in the lower wing, allowing them to set securely. Then glue the top of the V tabs into part 30a, glue can be dripped through the bottom of the rectangle. Ensure this is a strong bond and reinforce if necessary. Hold undercarriage in place until set totally dry.



Step 21– Part 26a – tail upright

Fitting the rudder is the final part of assembly. This can be glued in place or bound to the tail section with thread. Dry fit the rudder upright into the groove of the wing plane until it butts up against the tip of the tail fuselage section. If you wish it to be static, glue in place.

If you want to be able to move the tail rudder, using thread and a needle bind thread through the holes in the rudder and the matching holes in the fuselage tail. Remember to dab super glue on the thread where it passes through the wood. A cross hatched bind looks best but a straight horizontal bind allows more movement.



Step 21– Parts 32 a / b – bamboo stick

The final step is to build and fit the wheels. Taking part 32a lay flat on the table and press the bamboo stick from the accessories bag firmly into the hole in the centre. Use a 90 degree edge on at least two sides to ensure that this is perfectly at right angles to the stick or axle. It may be necessary to trim the bamboo axle, once happy with the fit glue securely into place.

Pass the opposite end of the axle through the oblong hole in parts 29 a & b above the landing wing, this may need a little gentle twisting to go through, be careful not to break the undercarriage. Once the axle has passed completely through the under carriage test it to see if it turns, any sanding or trimming will need to be done by removing the axle and refitting.

Once happy with the fit you can glue part 32 b to the end of the axle protruding through the landing gear. Once again, ensure a 90 degree fit from at least 2 sides. The aircraft should roll on its wheels. Sitting on both the wheels and landing skid. Reinforce wherever necessary.

For covering Instructions and stickers see separate sheet.

Full Video instructions available on YouTube at:

<https://www.youtube.com/watch?v=HkrwUsHs pUJ>

www.earthvibes.co.uk/airplanes

Manufactured by EarthVibes Ltd UK - Henson's Flying Models
12 Constance street, London, E16 2DQ
United Kingdom

