Thank you for purchasing Saab J29 “Tunnan”90mm from www.rbckits.com

For the first time, R/C enthusiasts we have a choice in scale and fun flyer aircraft designs.

Our goal, through computer technology and state-of-the-art production techniques, is to offer aircraft which in the past have not been modelled simply because they weren’t popular enough to justify mass production. Our production techniques allow us to produce aircraft which, though not as popular and well known as P-51s and P-47s, still offer historical significance (good or bad!), Good looks and flying characteristics, and a uniqueness that is sure to turn heads wherever you take your airplane!

Your airplane has many unique features in its design:

CAD Design

CAD design allows strength to be built into the airplane without sacrificing weight. Accurate parts design and placement ensures a perfect fit.

CAD Drawn Plans

The plans in this kit are not copied from a master set! They are originals drawn directly from the CAD program where the airplane was designed. We do this because it allows us to use colour, which helps you better visualize the various components of the airplane, and we can use better quality paper, which greatly reduces the possibility of shrinkage.

Since you’re going to build directly on the plans, they ought to be the proper size! Also, parts placement is guaranteed to be accurate, so you can build a better, straighter model.

Small and hard-to-produce parts are simply a computer file away, so you get a more accurate airplane.

Lightening Holes

Lightening holes are cut into all ribs and formers where possible and justified. This allows us to keep the weight on each plane to a minimum without sacrificing strength.

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The same program that generates the design and plans also drives the cnc cutter, so every part is reproduced exactly as it was designed. Cnc cutting also allows us to fit more parts on each sheet of wood, reducing the waste, and lowering the cost to you.

Plastics

Several parts are accurately reproduced high quality Polystyrene, the canopy is made from PETG or Lexan

General Building Information

The Saab J29 “Tunnan”90MM can be built by a person with experienced building skills. It is not designed for someone who has built a trainer or low wing sport plane. No unusual building techniques are required, although more difficult areas are explained in detail where necessary. Certain steps in the building process must be followed as depicted, or you might find yourself digging back into the structure to redo something. These areas are outlined when necessary. Occasionally hints will be included at certain building steps. These are not required for completion, rather they are tips intended to ease a particular process. The cnc router does cut through the wood, as a result of this, occasionally there will be fraying on the surface of the wood. This is normal, and is only a surface problem and does not affect the wood in any other way. Similarly, the cnc settings are optimized for wood thickness averages, so occasionally, due to variations even in individual sheets, some areas might not cut through completely. Simply use care in cutting the parts from the sheets; most of the time, the parts will break out of the sheets!
Note that due the differences in wood thickness per sheet it is advisable to sand the tabs a bit so they slide in easy , also sand the openings so parts slide in easy , hard pushing parts have a high risk of breaking, it is not necessary the rework the corners of the cut-outs , this is done by the cnc machining

Hardware and an edf unit are not included in the kit. There are so many choices for quality hardware that these choices are left to the individual preferences of the builder, rather than include something in the kit that you’ll probably throw away anyway.

This aircraft is not a toy. It must be flown in a responsible manner according to the rules set forth by Law. The builder assumes the responsibility for the proper assembly and operation of this product. Rbckits shall have no liability whatsoever, implied or expressed, arising out of the intentional or unintentional neglect, misuse, abuse, or abnormal usage of this product. Rbckits shall have no liability whatsoever arising from the improper or wrongful assembly of the product nor shall it have any liability due to the improper or wrongful use of the assembled product. Rbckits shall have no liability for any and all additions, alterations, and modifications of this product.

Having said that, turn the page and start building the best airplane kits on the market!

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Material you might need:
Balsa knife, Stanley knife, straightedge, building board 1500mm,
ca glue medium, thin, thick you need approx. for wing and vertical stabilizer sheeting 4 bottles thick and 2 bottles medium for rib gluing,, fuselage 1 medium for formers … thick for sheeting building nails, tape
Also use white glue, and canopy glue, epoxy for the canopy and cowls
Some drilling and bending tools, wire cutter, safety goggles etc. etc.

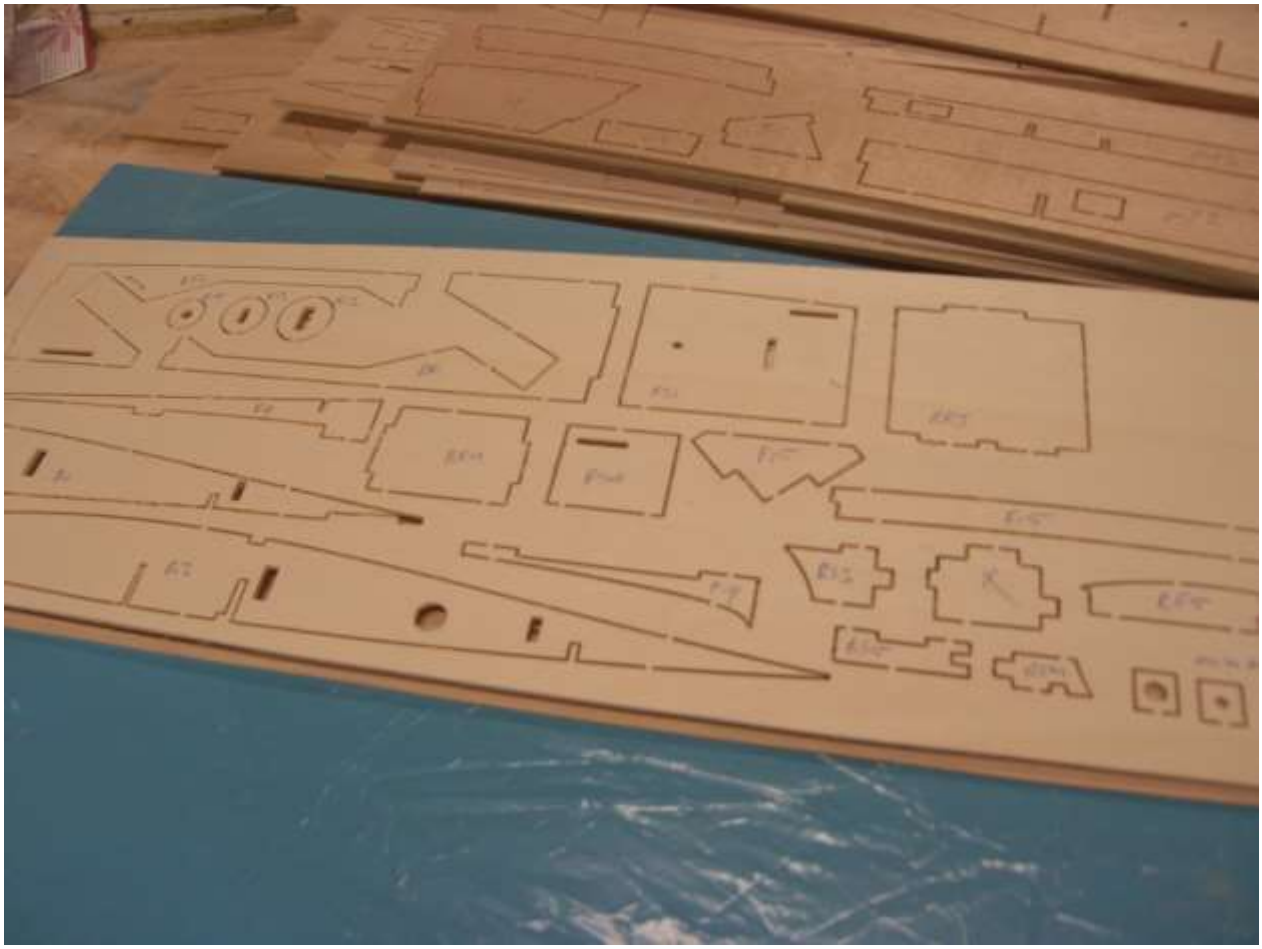
For finishing you need:
Glass 25 gram or japan paper 12 gr 3mtr and filler dope or PS100 1 litre, brushes sanding paper 60,120,180, paint of your choice
Wheels as on the drawing, controls, motor, battery etc.
All vacuumformings should be roughened up before gluing and primed before painting

Check the pictures for additional information; a picture says more as a 1000 words so do look at the pictures on the cd

STUDY THE DRAWING AND PICTURES TO UNDERSTAND HOW THE J29 IS BUILD

IMPORTANT! DO MARK ALL PARTS ON THE CNC SHEETS AS PER DRAWING THERE ARE A LOT OF PARTS THAT ARE LOOKING SIMILAR, SO MARK THEM CLEAR AS TO THE DRAWING

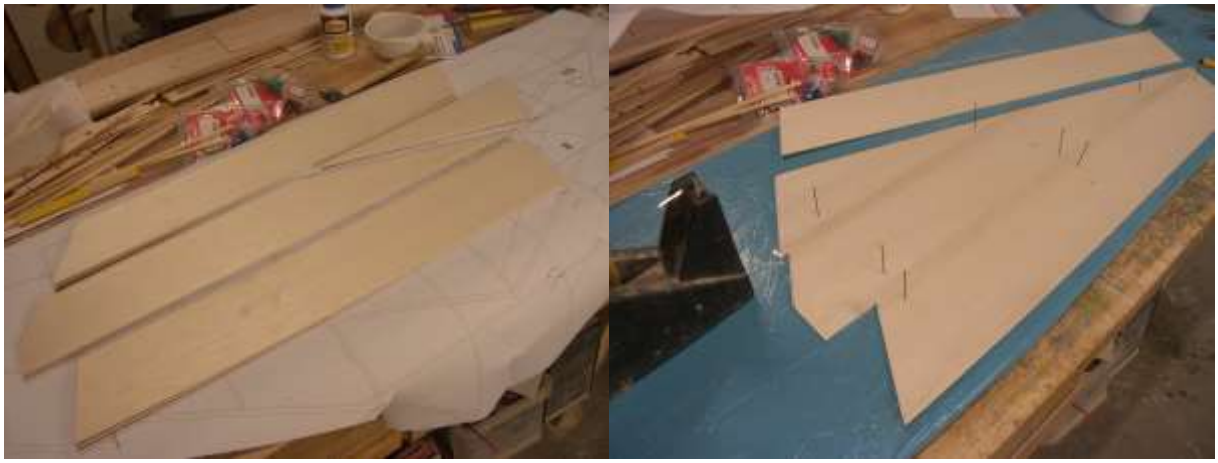
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Wing:

Place wing drawing under a sheet of clear plastic.
Start by making the wing sheeting from 1,5mm balsa as per plan, see the templates for cutting the sheets and the wing top view for the glue template, and do make oversize! And join with tape and ca

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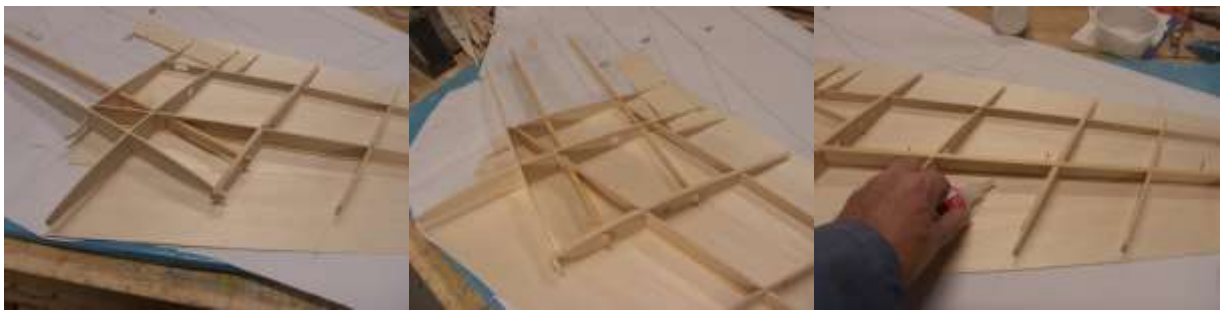


Take out all parts that are needed for the wings and clean them up with a sanding block from the small holding tabs.

Set up the Main formers with the 3x6 spruce stringers along a straightedge and glue



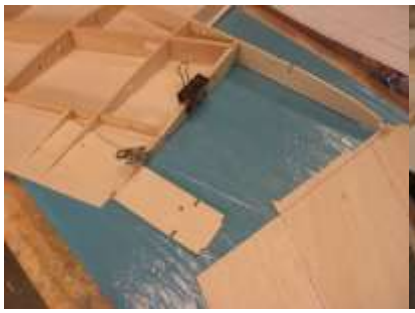
Set up the frame work with ribs and main formers keep main former bottom stringer a bit longer on tip side so it is easier to pin down



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Make sure the parts are sliding in smooth; to tight a fit can warp the parts, so sand if necessary.
Place formers without glue, when all parts are in ad a drop of glue here and there to hold the set.
Align all with the drawing, place the 6x12 help former under the set and nail down the parts onto the drawing.
Glue ribs to main formers place spruce main stringers loose in , it is for alignment
Assembly on the sheeting , with the help former as it is a stiff set already , line it out and glue Main former with medium ca to the sheeting as start then glue on till all is glued to the formers,

Take out spruce main stringers and make other side of wing partly, on sheet, slide in ribs





Place ribs on rest of sheet, line out and glue , place R12 and R13 and glue spruce main stringers,
Glue 3x6 top stringer on mainformer.place dowel doublers R15, do not glue in dowels yet.




Place sub leading edge to rib assembly sheet.Place some scrap balsa to take aileron and flap hinges.
Place doublers from 1,5mm balsa to take servos for ailerons and flaps, place flap servos more forward as on the pictures.

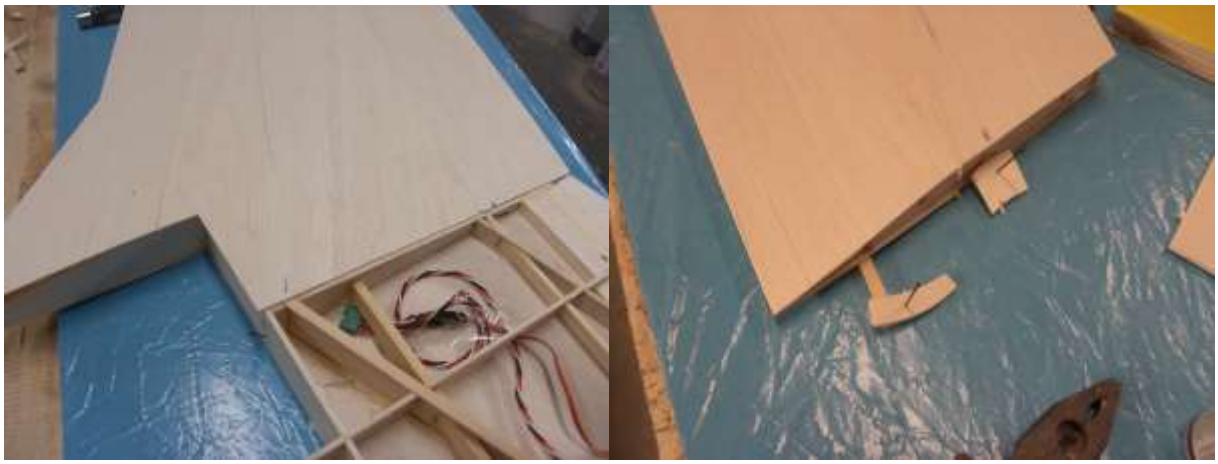
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Take of wing from building board, mark flaps and ailerons with your balsa knife sticking through the bottom sheeting.
Place servos for ailerons and flaps we wrap them in cello tape and glue them to the wing sheeting with a 1,5mm balsa doubler on the bottom sheeting and a 6x12 doubler at the top , sand flush with ribs.
, cut the servo arm openings and lead the wires through the openings.



sand all so there are no high spots and pin down the panel to the building board with help from the 6x6 help former for the correct washout, pin down the wing at the X marked points as on the drawing



Cut the top sheeting; mark it with some lines from the inner panel as lead. make cuts in the sheeting

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for the leading edge extension ribs
and glue top sheeting assembly with thick ca or use slow white glue to the main former
Take of panel and glue front part of wing , sand edges , Sand all edges and place leading edge from 6x16 balsa , sand to shape as per plan.





Place R17 R18 and dowels in vacuum formed wing tip, place assembly to wing and sand flush with sheeting.





Now mark trailing edge as per plan and cut clear the trailing edge and sand , take out ailerons and flaps, on the drawing is a alternative flap hinge shown, take what you want , it is more scale.





, the wing is ready to place to the fuselage, or you can glass or paper it first , as it is easy to work on , also you can after finishing take out aileron .check disk for pictures.
For a close gap between the wing and fuselage, tape wing with thin plastic and fill the edge of the fuselage with 5min epoxy, sand flush ..

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Horizontal Stabilizer:

Is made of 8mm balsa cnc cut sheet, join as per plan , sand as per plan with course sandpaper and finish with fine sand paper, the front extension is sanded when assembled on the fuselage.



Vertical Stabilizer:

Start by laying out all parts as on the drawing, build formers and ribs on the horizontal stab with the dowels do not glue to stab yet, take of assembly and sheet with 1,5mm balsa as per drawing



Place leading edges and Sand leading edge as per plan, place tip, sand all to shape.



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Fuselage:

Take out all parts and clean up the small tabs on the parts.

Start by following the described steps here,

Note: There is a build step map on the cd check this also, the images are a bit hard to see, but that is because the part nr did not show clear

Join retract formers laminate a piece of 200gr glass between them for added strength, use white glue or epoxy for this,



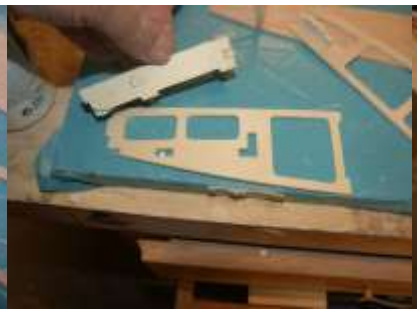


Place F01 and F37 (kit version F01 is ply for added strength) with help from some formers, and make front retract set, note that you can mirror the assembly, might be important for your retract set steering arm take care for the opening in F3 left or right

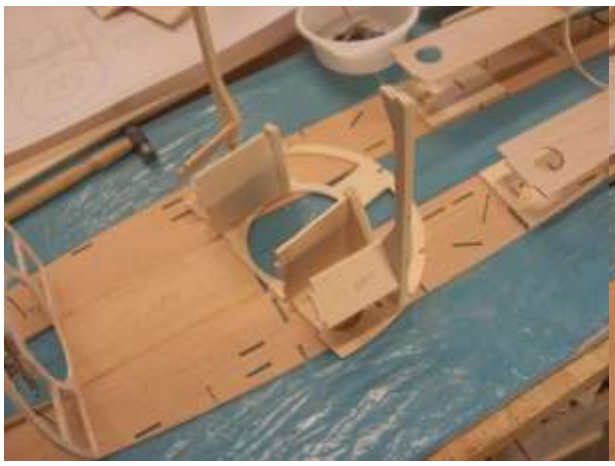
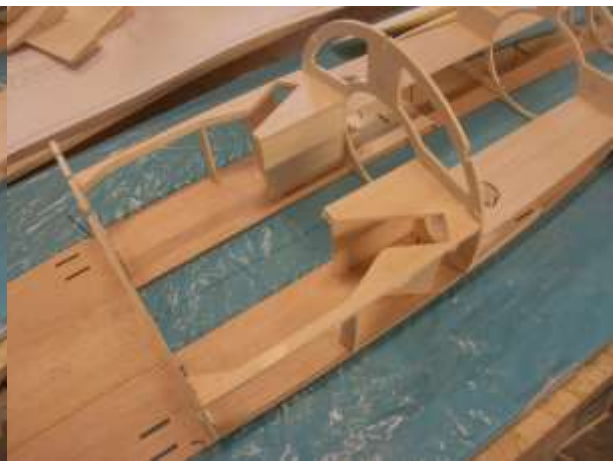
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There are a lot of parts for this small piece, go step by step, there is also a servo plate included RS7


That also counts for the main retract formers, join them also onto the F01, carefully check parts before glueing or you might find yourself in problems.

Place formers to F01, make good glue, and join the M5 mount with epoxy

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Join F13 and place to formers



Place intake duct (2pcs) and outlet duct from paper, you might want to waterproof the paper before assembly, and you can do afterwards with a long brush



When ducts are glued to the formers the fuselage is twist stiff so take care for alignment.

Place anti duct collapse stringers onto intake duct from 3x6 balsa and start sheeting from midpoint, with 2x12 balsa strip

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Sheet fuselage , you can sheet over the wheel doors if you like you can cut them out later , but mark opening for wheel doors and edf hatch , we did cut out the edf hatch last and fitted the formers, you can do this in the build if you like .

Please check cd for more sheeting pictures




Take of assembly from building board and sheet the sides left openings

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Place top formers as per plan. Join F22 and F23 and place to fuselage with F25 that is sticking through F01 for a good glue joint, place F19 and F20 and scrap fill for the sides of them



Place Tail formers to fuselage back. Build up tail carefully for straightness, use glue as late as possible



Place rudder to fuselage for alignment of the formers then glue formers

Place wing onto fuselage, the cut-out at the trailing edge should be large enough to clear the 6mm wing dowels, then slide the wing forward in F22, fasten with the M5

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Now sheet back part of fuselage with partly sheet and strip sheet. Place elevator servo and wiring



Close tail section and sand to shape with F38, sheet front section place rudder to elevator and place to fuselage, use slow glue



Canopy framing:

Place wing with the 2 x M5 fasteners , the wing slides in from back to front, there is the cut out at the trailing edge for

Make up frame with formers as per plan. Onto the wing, place 4mm dowels, place canopy closing with epoxy

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Place 3x6 stringers over wing as wing seat. Note that C1 has locating dowels place them into C1 for good fit. make good fit to wing and start strip sheeting assembly







You might need to join stringers again, just a blunt join will do, transitions has the be made also.

Close canopy frame and cut out cockpit opening if you like

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Cut Canopy carefully to fit the frame. Make opening for canopy closing. We glue on canopy after glassing



Join F1 Cut nose cowl to size .Place F1 and dowels cut dowel 6mm in 2 small pieces



Smooth out edges and place assembly to front of fuselage.

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Cut out Fan Hatch and place formers F14, F16, F17 (you might have done this in the build), place some scrap fill for taking fasteners or fasten hatch with tape.





Canopy is placed after finishing

Make a good fit between canopy and fuselage, clean canopy with window cleaner, do not touch the canopy, place onto fuselage tack with ca when position is ok, glue edge with ca, you can use a bead of epoxy or filler at the edge.

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Retracts:

Open up front retract hatch and Main retract hatches, you can use the balsa cut-outs, and sheet them with glass, we prefer to use thin aluminium sheet as you can bend it a bit to shape afterwards.

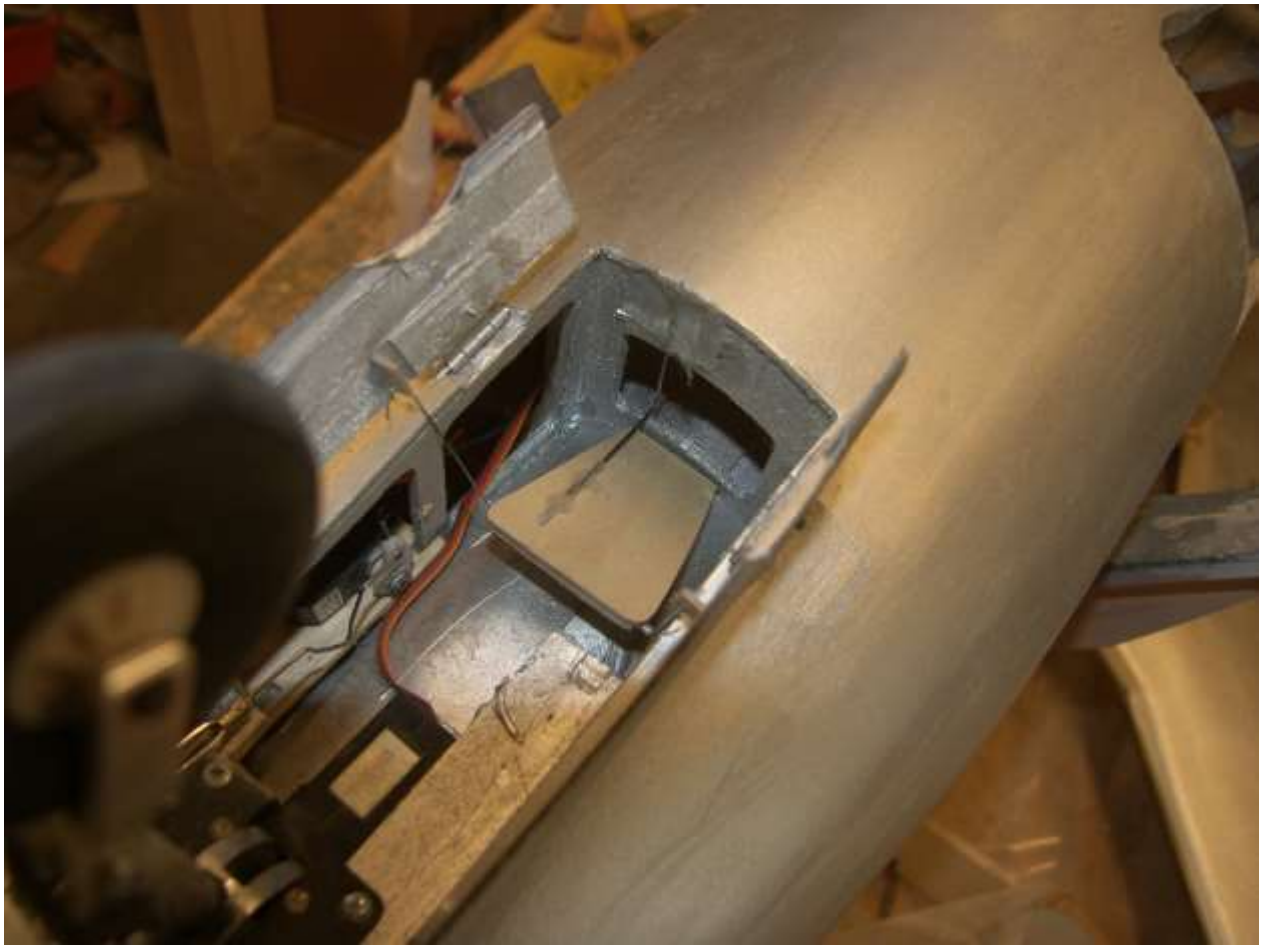
Cut front retract hatch in 2 and place hinges , the hinge line is to the outside as the hatch is bend else the edge does not clear the fuselage, 4 or 5mm is enough, test and trial., we prefer to fasten the hinges with a small fastener to the hatch and glue into the fuselage easy.
Place steering servo, we glued it to RS7. place 0,8mm steering wire to retract arm.





We did make a small closing actuator from thin ply it works ok but there are many ways to do this. Check the drawing and pictures on cd

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Main retracts:

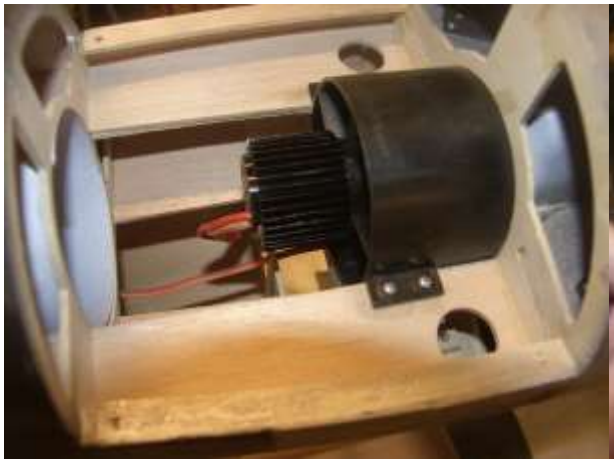
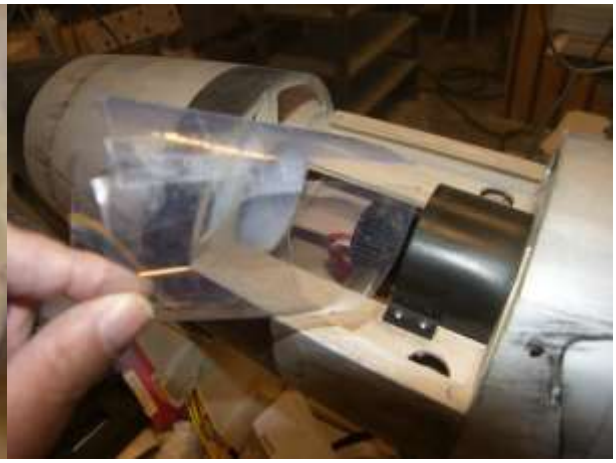
Make the retract legs from 4mm steel wire bend as per drawing , solder M3 hatch actuator to leg as per drawing or use some commercial leg.Take care of the wheels better a bit smaller as larger as you will have trouble getting the hatch closed, it will take a lot of tries to get this working correct, btw I suggest take 1 retract unit extra , they are cheap , take out the controls and spindle so it can rotate free , so you have a trial set for getting the hatches to work without plugging in cells and servo tester etc

Hinge the hatch with 2 hinges we screwed them to the fuselage and hatch.
Drill 3mm hole to take M3 fastener, do not tighten the fastener as it has to rotate free., place small silicone fuel tube , adjust length for opening and closing, as the hatch is a bit floppy we added a closing arm to the hatch this gives a positive closing, do try and adjust.

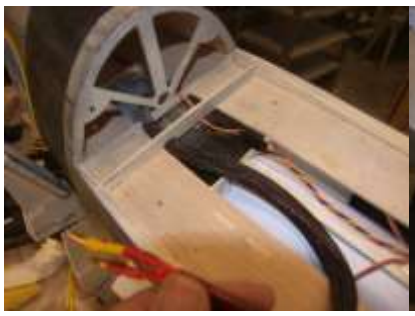
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Place fan unit, we used long edf motor wires to the controller; we need as much weight at the front as we can have. Place between duct and fasten with tape.

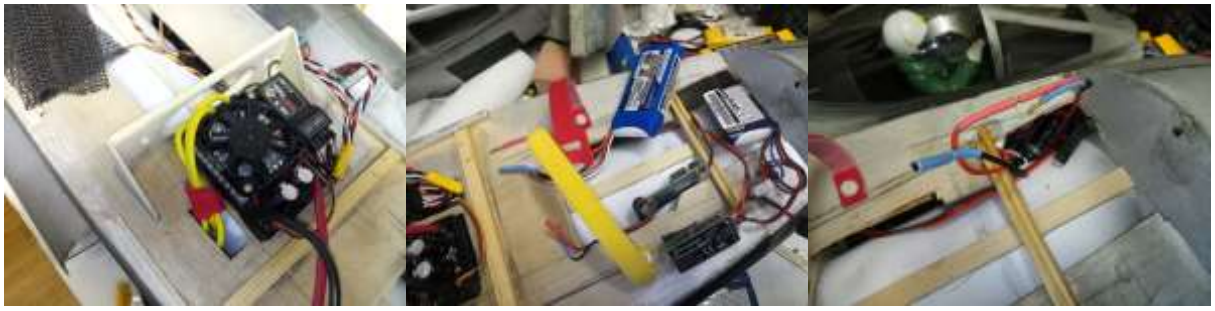
Route wiring through fuselage and join with controller.



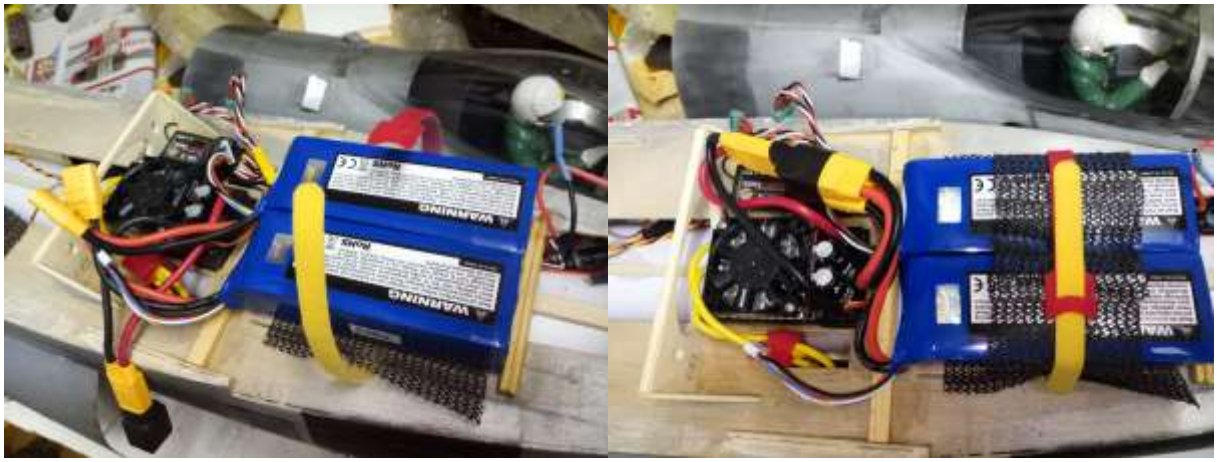


Place speed controller and receiver before wing and place 2 2s lipo for retracts and receiver in nose section.

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Make battery stop from scrap wood, use the openings in the F01 to route a piece of Velcro as battery fastener. We place some rubber between it to prevent sliding.



Finishing:

We finished the Tunnan fuselage with thinned superlight filler; brush it on, sand with 60 grit, then glass the fuselage with 25grs

The complete wing is covered in 25gr glass and doped with PS100 Pu and filled with some extra talcum powder sands great and smooth, when ready a thinned layer of PS100 is OK

The airframe is filled with lightweight filler thinned down to ad it with a brush , sand with 60grit, then finish with 25gr glass and polyurethane 1K add a bit of talcum powder to get a smooth finish
Now finish with... Vallejo, humbrol or we used cheap spray cans... take care for the vacuumformings as some paints will not hold as good, or worse will dissolve or make it brittle, use a primer
Place wing, place canopy, check CG, Go Fly.

Have you found an error in the drawing or parts or instructions, just mail us at info@rbckits.com
I am sure we can find a solution for your build.

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Some tips:

Flying:

The Tunnan easy lifts off with a bit of flap and is easy to fly and is fast, landing: plan it in and land it as usual a bit of flap is ok but do not make it to slow the Tunnan glides very well with wheels in in case of ….

A 8S 5000 battery is powerful enough, a 6s 5800 will also work for the cg power is a bit less, or use a Turbine

Throws of the rudders etc., we like them big, we steer just around the centre of the sticks but it might be too much for you so always, make them large and have a dual rate button in your fingers, to small throws is most of the time problems, to large... it is in your fingers

If you need additional pictures, check the disk or just ask.

Have a good build and flight with the Saab J29 “Tunnan”

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