

Saab J29 'Fly

When the editor rang me to ask if I knew anyone who would build a review model of the MJD Models Saab J29 I just had to offer my services. There were two reasons: I had seen these excellent kits when I visited the World Scale championships in Sweden and had been very impressed with the design and quality. I also realised that the small electric powered model would be ideal for our club flying field and would fit into my MG TF sports car.

Description

When the well-packed kit arrived the box was quickly opened revealing a good number of balsa sheets with superbly cut parts plus some top quality sheet balsa for covering the airframe. There were two instruction booklets, one in Swedish and one in English, very useful. The two beautifully detailed rolled plans were in Swedish, which did surprise me a little as when I was in Sweden almost everybody seemed to speak English. There were bagged smaller items and hardware and a very nice carbon fibre ducted fan unit. The motor, speed controller and batteries have to be obtained by the builder.

Foolproof Construction

After studying the drawings I decided to make a start on the fuselage although the wings were suggested as the first item of build. The structure for this component is different to any that I have built previously. A sheet balsa stepped crutch is used onto which are threaded the balsa formers. With a CNC cut kit like the Saab this is a good option since the model is small and this feature makes it impossible to get the formers in the wrong position. Strip balsa stringers were then added to keep the assembly rigid until the sheet balsa covering was fitted. There is a considerable amount of double curvature on the fuselage and it is necessary to use narrow planks of 1/16" sheet balsa where this occurs. The area where the fan unit goes was left uncovered until after the unit and ducting tubes were fitted.

The tail unit is from balsa sheet and this was sanded to the section shown on the drawing. The fillets were left until the unit was fitted to the fuselage.

The wing is built directly over the drawing flat on the building board. There were no real problems but it was not too clear about the balsa root parts, did they fit in place before or after the wing was fitted to the fuselage? In the end I left them to be fitted later.

The next job was to install the ducting tubes and the fan unit with the motor. The ducting tubes are from clear plastic sheets that have to be carefully measured and cut out. The front section is fitted first followed by the fan unit and then the rear tail pipe. Once these parts had been installed and fixed with cyano the remainder of the fuselage sheeting can be fitted in place. When I installed the motor, an AON Thrust Series Brushless, type T2415-4900 from CML, I was surprised to find that the aluminium drive dog for the fan was just glued onto the motor shaft. It does seem to work though as I have not had any problems in this area. Care had also to be taken when mounting the motor to ensure that the screw that holds it in place was cut to the correct length. I also had to cut out some of the plastic vane where the motor wires lead from the fan unit back to the speed controller. This was a better solution than leaving the wires out in the air stream from the fan in my opinion.

A Minor Problem!

To complete the wing the aileron horns had to be fitted. These were from piano wire with bearings from plastic tube. When these were in place it was time to fix the wing into its position. During

the construction of the fuselage a slot had been left to enable the wing to be slid into place. After a great deal of huffing and puffing I eventually got the wing through the slot and into the correct position. There was now a problem, how did I connect up the aileron push rods to the piano wire horns? The answer was in the instructions and it was simple; use the heat shrink tubing that was supplied! It wasn't simple though because you just could not get to the horns, they were way down the fuselage completely out of reach.

After some deliberation I decided that the only way to overcome the problem was to cut away the fuselage above the wing. With this accomplished it was a reasonably easy job to fit the linkages and the wiring for the other electronic components. I would suggest that the sheet balsa covering above the wing is left off the fuselage until the wing is fixed in place.

Perhaps a modification note to this effect should be printed in the instruction leaflet. By fitting the wing in this way I was able to fit and shape the wing root parts before gluing the wing in place too.

Critical Balancing

With the wing in place the fuselage sheeting was now completed and the wing and fuselage unit given a good sanding before covering. I decided to use tissue for the covering material as I could see excess weight being added if glass cloth was used on such a small model. I attached the tail unit after it had been covered making sure that it lined up with the wings. The ailerons and elevator had been shaped to the correct section and after covering they were fitted permanently in place.

It was now time to fit the radio gear, the battery and speed controller, which was an Ultrafly 25 A programmable unit again from CML. The drawings gave suggested positions for the servos and this is where they are placed. The battery too is fitted in its designated position with the speed controller and receiver slipped down beside the ducting tube.

I then stumbled upon my next problem; getting the centre of gravity in the correct position. With all the components fitted in place where described the model was tail heavy. With a normal model powered by an internal combustion engine I would just have added some weight but after trying to keep the weight down on this electric powered machine I was very loath to add lead to the nose. With careful repositioning of the electronic components, including the LiPo battery, I got the balance point just



ying Barrell'

Phillip Kent departs from his usual scale prototypes and tests this Swedish EDF jet construction kit from MJD Models



(MJD Models photo)



Contents of the kit box



Fuselage with building jig still in place

about in the correct place. The final component to make was the cockpit with the moulded cover. There were no problems with it and how well the supplied magnetic catches worked. Final finishing was just sanding sealer and a rub down with fine sandpaper.

Mind That Bush!

I was keen to fly the model and thought that I had time before it got dark. I decided to use the field next to the house, it had some long grass and it was close. It was a big mistake as things turned out but I was able to launch the model for a powered glide that was successful. After a small trim adjustment I launched the model again and it shot up to roof-top height but all was not well, there were trees in front of the model. I made a wide sweeping turn having decided to bring the model in to land. There was a crunch and I was amazed to see the model in a bush at the edge of the field. The model was damaged as can be seen from the nearby photograph but it could be repaired. It was another delay to the project and this did annoy me, as I really did need to get the model and this review finished off.

With the repair completed I sprayed the model with some silver cellulose and attached some of the self-adhesive decals. It was looking quite smart, now all I needed was some decent flying weather.

There was no wind and it was warm and sunny, let's fly. This time I made my way to our club flying site; this would be ideal for the model. I checked the wind direction and launched the model. After an undulating flight of half the length of the strip the model stalled and flicked. What a disaster. I was sure that it was a balance point problem but would the weight of the paint have made such a difference? The model was a bit of a mess with the nose all shattered and with the motor and fan broken away from the duct. There was only one thing to do - get cracking and repair it.

I managed to cyano most of the forward fuselage together but I had to cut into the fuselage to get at the ducted fan unit and the motor. This turned out to be a good move as I was able to move the fan unit forward thereby hopefully getting over the rearward C of G problem. The repair was completed the next day and with-



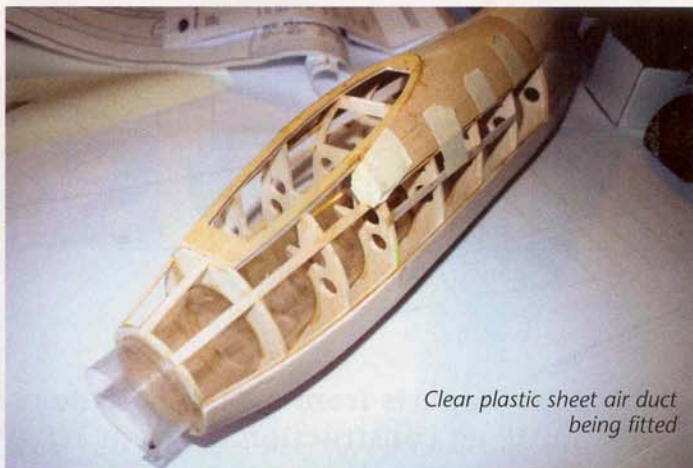
Sheeting the rear portion



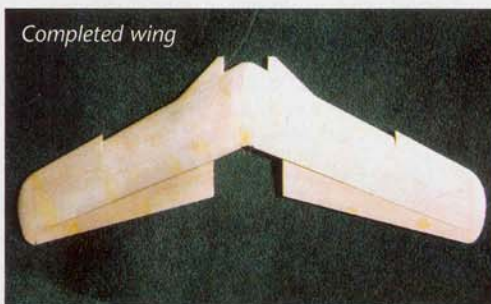
The swept wing structure



Completed sheeting on rear portion



Clear plastic sheet air duct being fitted



Completed wing

out paint I decided to try again. This time the model flew. Not only did it fly, it flew very well indeed. I opened the throttle wide and gave it a good throw on this occasion and the model

shot away. It did need some down trim but to be quite honest I find this most difficult to put in when flying with digital trims so I flew the model with a touch of down held in and it was great. The model was fast and it was stable. The battery/motor combination seemed well suited to the J29 that has an all up weight of 465 g, well under the expected weight of 500 g.

Satisfaction

After all the false starts I now have a model that performs perhaps even better than I was expecting. I would think that a builder with little experience in the art

of model aeroplane construction would struggle in some areas when building the MJD Models' Saab J29, but the instructions are mostly very good and the quality of the materials is excellent.

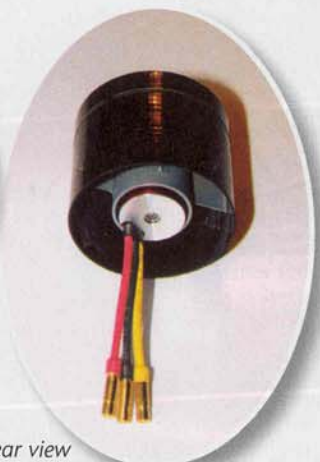
Flying is exciting and due to the small size of the model it does seem to be very fast. It does go exactly where you want it to go



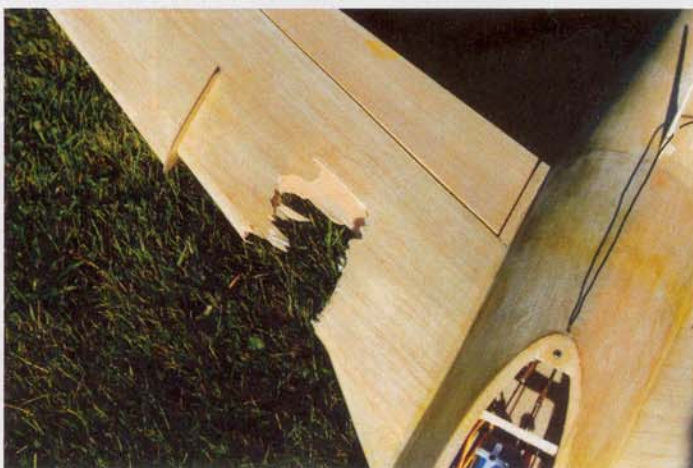
Fuselage with cut away to house wing



The EDF with motor



EDF rear view



Damage caused by flying into a small tree



Repaired wing

though and looks great in the air. The landing speed is high too but on a grass strip of reasonable size this is no great problem.

The project has taken much longer than I expected but I feel that I have created a little gem of a model that is just so different from anything that I have built or flown before. I love it! **RCMW**

Contact Details

MJD Models

www.mjd.se

(Sweden) 0046 531 3531



Repaired but still unpainted

SPECIFICATION

INFORMATION

Name: Saab J29 'Flygande Tunnan' (Flying Barrel)

Manufacturer: MJD Models, Sweden

Distributor: MJD Models

Price (Euros): 199 incl. postage (1475 SEK)

Model Type: Scale Jet

Motor: Mini AC 1215/12

Test Motor: AON Thrust T2415-4900 brushless

EDF: Alpha Model 60/15 Mk.2

ESC: Ultrafly 25 A programmable

Battery: 3S 1250 mAh LiPo

Construction: All wood kit, CNC balsa and plywood

R/C FUNCTIONS

- 1: Ailerons
- 2: Elevators
- 3: Rudder
- 4: ESC/Throttle

MODEL DETAILS

Wingspan: 734 mm

Wing Area: 9.6 dm²

Length: 680 mm

Rec. Max. Weight: 500 g

Flying Weight: 465 g

Scale: 1:15

TEST

Dislikes

- Difficult to fit wing
- Access to aileron torque rods
- C of G critical

Likes

- Quality of kit parts
- Parts fit well
- Supplied EDF
- Flying qualities



Finished and waiting to go