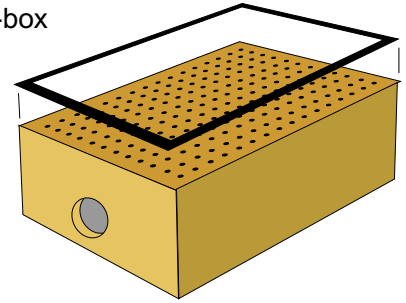
Eurofighter Typhoon Parkjet

Finishing Guide

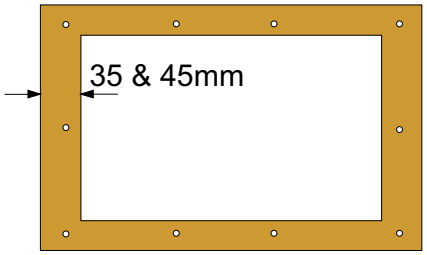
1. Vac-box

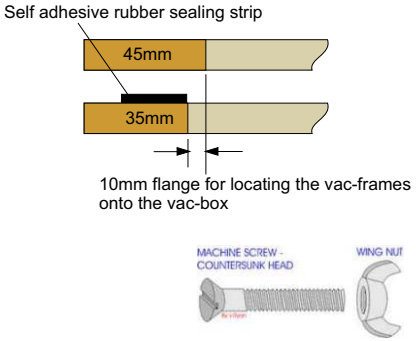


- 345 L x 235 W
  125 D box (mm)
- 12mm (½”ply)
- 3mm (1/8”) holes drilled every 12mm (½”).
- Leave 25mm (1”) around edge for seal
- cut hole for tight fit around vacuum cleaner hose.

- Stick self adhesive neoprene weather strip around perimeter of box.

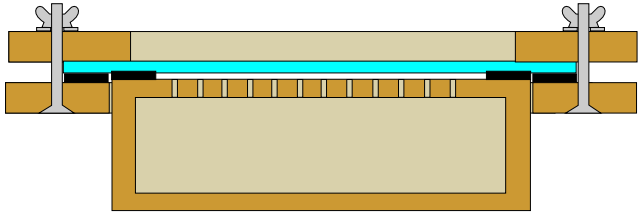
2. Vac-frames



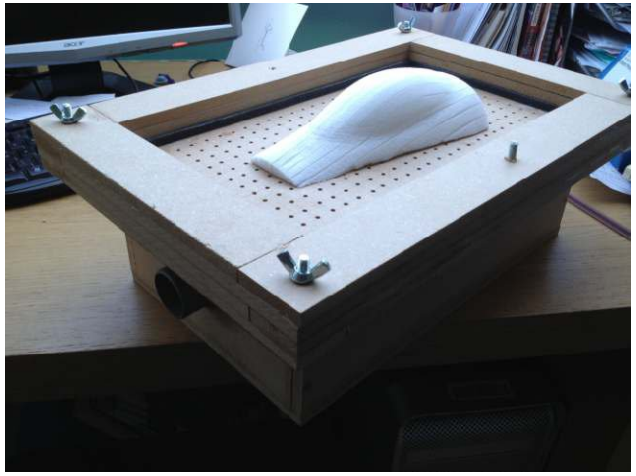


- Raise the lower frame 50mm to avoid the plastic touching the oven shelves with 4 wooden blocks

3. Assembled (NTS) with clear PET-G plastic sheet (shown blue)



use .5mm CLEAR PET-G Plastic sheets



VACUUM FORMING MACHINE

DIY Clear plastic canopy (using vacuum cleaner and kitchen oven).

As an aircraft modeller, a vacuum forming machine is a very useful tool. One of the main criticisms often against parkjets is that a depron canopy doesn't look very realistic.

Here is my design - Simple and effective. specially sized to fit in a european sized oven.

Vacuum forming machine operation.

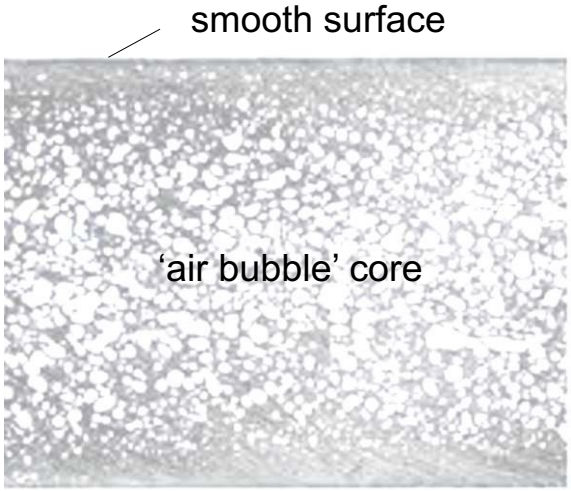
1. Heat the oven to 180 C / 350 F.

2. Put the plastic into the oven and watch it like a hawk! (use a flashlight through the oven window).

3. When it sags around 35mm / (1 ½”) in the middle. turn on the vacuum cleaner.

4. Immediately (with oven gloves) quickly put the frames on the vac-box. a few failures may be expected at the
beginning while you get used to the machine and plastic state.

5. Then let it cool. You now have a plastic canopy.



Close up section through depron

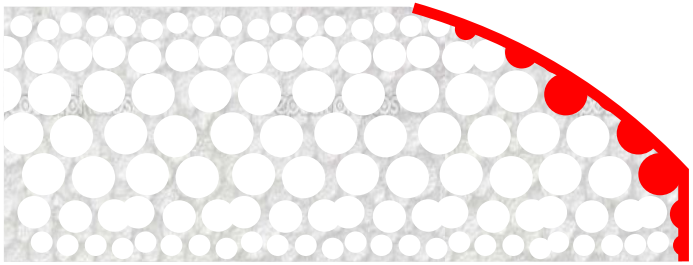
Depron is a great material for building RC aeroplanes from, but it does suffer from a few issues that often cause aeromodellers to reject it.

1. compared with traditional balsa constructionn, It is quite brittle (on a crash)

For me, this is where the secret lies with depron. Yes it is quite brittle, but incredibly easy to repair. my prototype model crashed around 15 times, yet each time I simply made new parts and stuck them on - even using Foam safe CA glue to make fixes at the airfield!. I think this is quite impossible for a traditional construction.

2.. It is prone to ‘Hanger Rash’ - a conditiion where in general use and storage it gets dented and scuffed, quickly causing the model to look tatty.

This can certainly be true, unless you know how to finish it well. This is what this guide is for.



Dealing with the rubbed down areas and edges

The surface skin of depron is ok for most modellers as it presents a relatively smooth skin for painting etc. When you sand through the foam (see diagrams opposite) you will see that the ‘air bubble’ foam core leaves a porous surface.

If you apply paint straight onto the depron as it is, it will cause the paint to fill the holes and absorb a surprising amount of paint - adding weight. Also, because the surface texture between the surface and the core is so different, you will find that the visible differences between the edges and faces of the depron are very noticable.

The tried and tested approach is to use lightweight filler (spackling in USA) mixed with a little water to get a foamy whipped cream like texture, then coating the models open pore areas. This adds very little weight and gives a much better surface.

WARNING! solvent based fillers (such as automotive fillers) can melt depron - if you are unsure test first.

Creating a ‘ding’ resistant surface.

With the surfaces of the model prepared with lightweight filler, you could paint it directly. However, experience has told me that paint will not hide a visible difference between the depron and filler. What is required is a ‘cover-all’ solution that will unify the finishes.

This cover-all solution, could also be used to give a tougher skin to the depron. The best stuff to use in my research is Interior (not exterior) grade water based polyurethane varnish (abreviated WPU). The exterior grade is not as durable as the interior grade - possibly something to do with UV protection.

It is available from most DIY stores and online, and is cheap, odorless and tough. Some people have experienced the tinted WPU gets darker over time. As a result, I would be wary of using this as a clear varnish finish, but rather a base in which to paint over.

I suggest you try thinning it down a little with water, and also you could mix in microbaloons into the mix which can help to improve the surface further. It is worth experimenting to get a consistency that suits you.

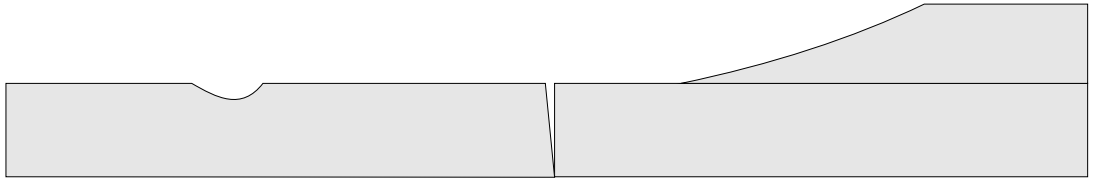
Creating a tough scuff resistant underbelly.

WPU helps to prevent hangar rash, and gives a good painting base. However landing on hard sun-baked airfields can quickly start making a mess of your underbelly. For good protection at minimal weight gain, using a super-light fibreglass cloth can keep your model looking great.

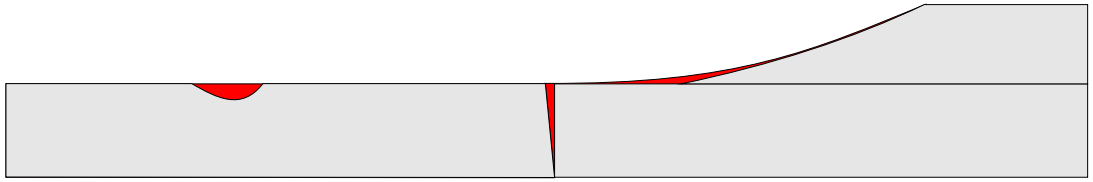
Polyester resins will melt depron, and epoxy resins tends to be a little heavy so many people use WPU in place of a traditional resin to attach the fibreglass cloth. On larger models, often people will coat the whole airframe this way.

For the sake of keeping weight as low as possible, I suggest that you coat the main ground contact points, (with an emphasis towards the front, to keep as much weight away from the back end as possible to avoid affecting the cg adversely) with the rest simply painted with WPU directly.

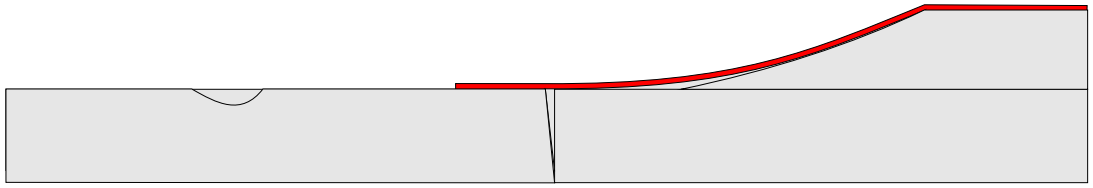
The next page looks at the practical stages of ‘toughening’ your model.



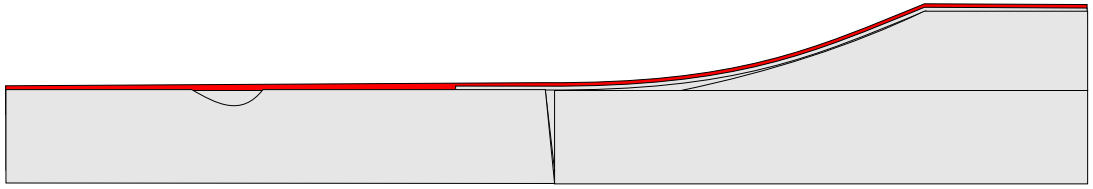
1. When constructing the aircraft from depron, it is inevitable that dents and imperfections happen.



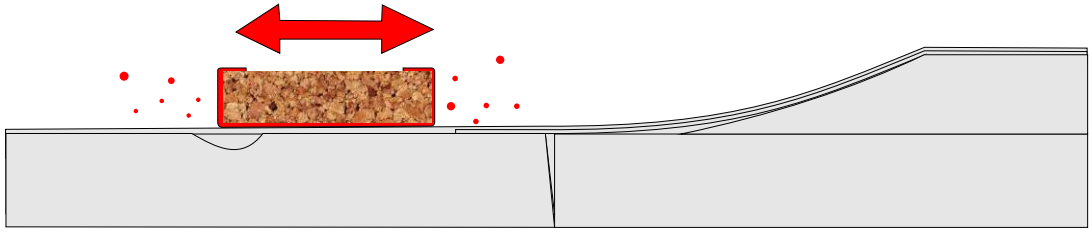
2. Use Lightweight filler (Spackling) to create smooth transitions and fill dents and gaps. Use sparingly to avoid weight gain. Careful use of a plastic spatula can help to give an almost perfect filling without the need for excessive sanding. When sanding down, be careful not to let the edges of the sandpaper dig into adjoining depron pieces.



3. In areas of potential ground damage when landing, you can give the model a tough skin. Paint WPU onto the depron, then when tacky, apply 0.6 oz fibreglass cloth (pre cut to shape) over it. Immediately paint WPU over the cloth to ensure it is saturated. Avoid excessive use of WPU to keep weight down. When it is set the fibreglass appears to be nearly be invisible.



4. Mix Lightweight filler (Spackling) with water based polyurethane varnish to make a frothy/foamy slightly viscous liquid. Brush over the whole aircraft to give a tough shell.



5. When set, sand down the WPU mix, to remove the brush strokes with fine sandpaper, to leave a smooth, tough shell ready for airbrushing stage.

OPTIONAL SURFACE FINISHES

Painting and Decals

Painting

There are many types of paints and methods of application can be used to paint your model from household paints, to dedicated RC aerosol paints.

My preference is to airbrush the colour scheme using cheap artist acrylic paints from my nearest art & craft-shop. I have found the optimal mix for my paint :-

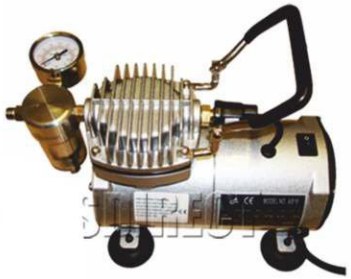
> Paint - approx 50%
> Windex (Windolene) - approx 10% to break to surface tension.
> Ethyl alcohol (Ethanol) - Approx 40% to cause the paint to dry quicker.

If you have not tried airbrushing before, you can pick up airbrushing equipment quite cheaply. However most artists airbrushes have a very fine nozzle which can block really easily.

Most cheap ($10) airbrushes tend to have cruder construction and bigger general purpose nozzles, which are perfect for spraying home-thinned paint.

For both of these models, you will need black and white paints to mix to the right shade of grey. I use a silver acrylic household paint tester, mixed with a little black to get the exhaust tile colour.

(Thanks Lessram for your advice)



Panel lines

These can be added (post decals) either by airbrush or using pens and pencils.

Airbrushing

Airbrush on top of the camouflage **(**much like real dirt or dust**)**. It is recommended to try a darker shade of the camouflage color used, or a **very** diluted grey if you follow the YF-23 proto colours.

Use a straight-edge paper masks along the shaded lines to emphasize the effect further. (Try on scrap paper first to get the hang of it!)

Pens & Pencils
Pens and pencils from your local stationery store can be used to create the panel lines. Some people just go to town with a fine-tipped black ink Sharpie, and call it good enough. However, black ink is usually too strong contrast.

Use :-
 > Gray pencils (eg Sanford Prismacolor -. 30% warm and 70% cool)
> Silver gel pen (eg Sanford Uniball Gel),
> Silver Paint pen is (eg Sakura Pen-Touch silver)
> Black pen (eg Sanford Uniball) / Fine tipped Sharpie.

Use straight rulers to draw most of the lines. You will also need a flexible ruler (from the stationery store) to go around curves. Shape templates with squares and circles are great for small access panels etc.

Practice on scrap material first to get a feel.

DON'T cross lines (unless the real one had them). It just looks wrong when two lines cross each other.

Don't worry about mistakes. when all the lines are on you won't see a squiggle her and there. Don't over do it! 10 lines on a wing looks great especially with a few access panels.

Use light panel lines over dark background, dark over medium or light background. Change the pen/pencil color when going from one background color to the other, or across a decal. Not hard, just time-consuming.

The final effect will be a lot more satisfying than uniform stark black panel lines.

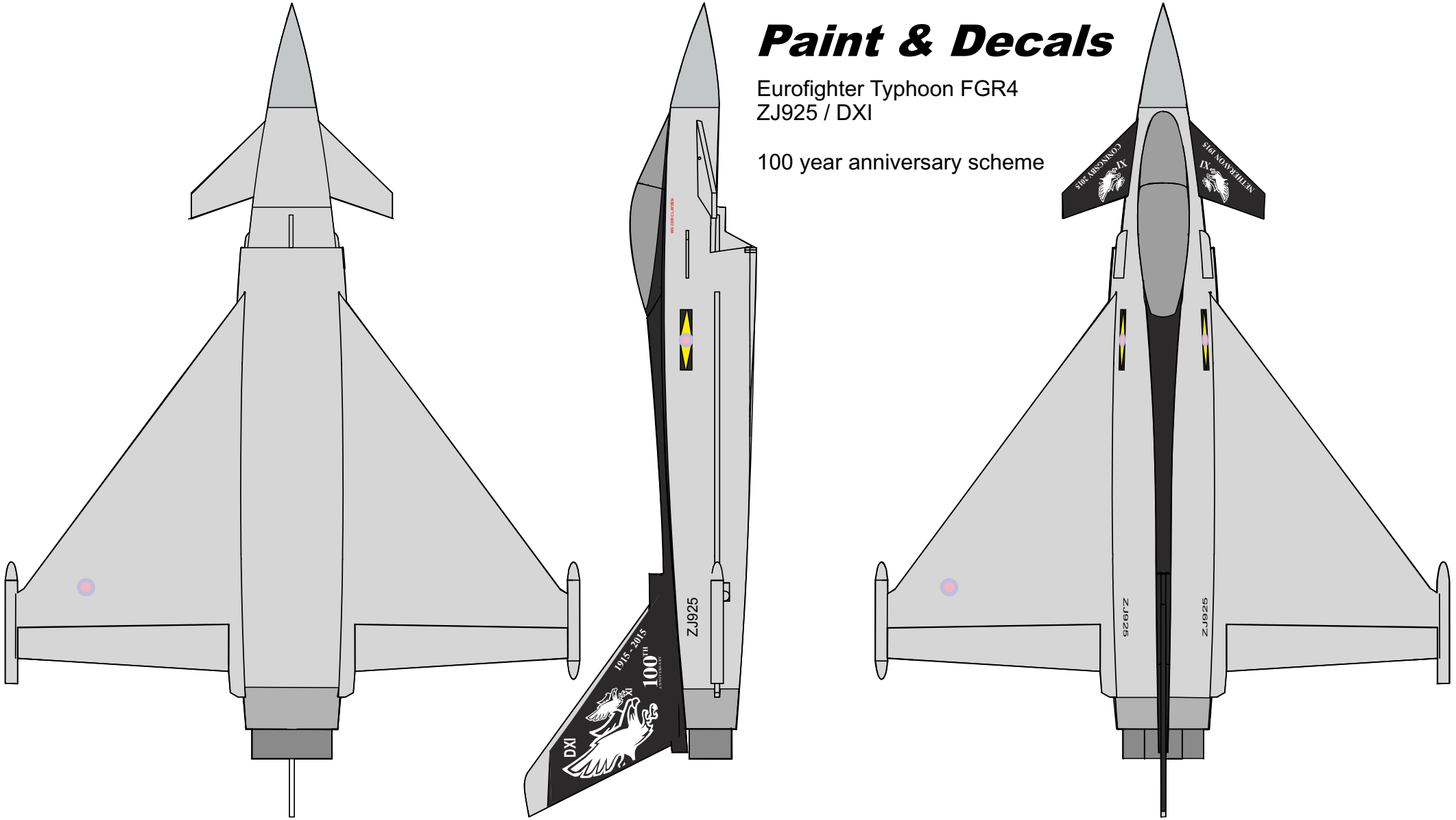
If you want your Typhoon to look as realistic as possible, there are lots of images to inspire you in Google images.

Reference materials

Paint & Decals

Eurofighter Typhoon FGR4
ZJ925 / DXI

100 year anniversary scheme



Paint & Decals

Eurofighter Typhoon FGR4
ZK349

75th Anniversary of the
Battle of Britain scheme

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