



Feature Article

Airfix

BAe Hawk T.1 "Red Arrows"

1:48 scale

by

Es George

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(87 images, 49 A4 pages, 3,946 words)



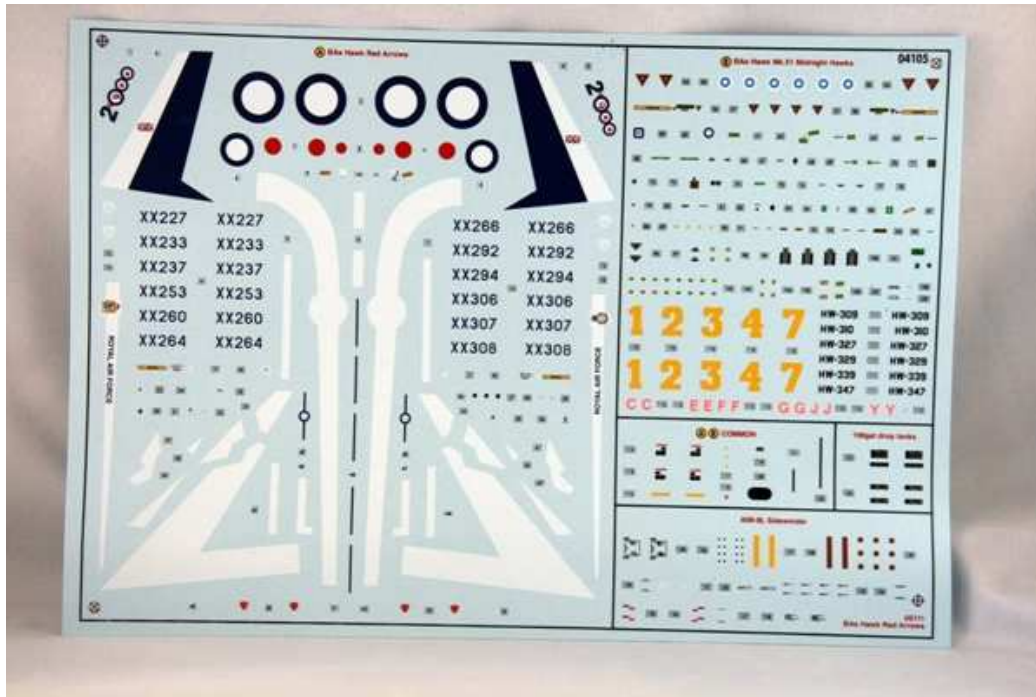
Reference: Item No. 05111



Background Info...

The Hawk entered RAF service in 1976 and arguably, has gone on to become the world's most successful jet trainer. The RAF, from point-defence interceptor to target towing, has used it in a number of other roles but it is as the mount of the RAF Aerobatic Team, the Red Arrows, that the Hawk has found the most fame. Set to soldier on for a number of years yet, despite the introduction of the Hawk T2, the first generation Hawk is a neat and tidy aircraft, popular with its many operators, and also enthusiasts and modellers.





This kit dates from 2003 and whilst not the first Hawk available in the scale, is certainly a good kit and was without a serious rival until the advent of Italeri's offering. There are 128 parts, some of which will go straight to the spares box and the box is packed tight; the clear parts are good and bagged separately. You get 2 decal options, covering the Red Arrows and the Finnish Air Force's aerobatics team, the Midnight Hawks. I intend to build this kit as straight out of the box as I can, although, on immediate inspection, the cockpit is a tad sparse on detail. As my instructions were that I don't have to do a Red Arrow... I won't!!



There have been comments about Airfix decals, and to my eye, these are slightly out of register. This issue, and the deformity of the exhaust part, prompted me to put in a call to the Hornby Helpline (note that the telephone numbers in the older boxings are no longer in

use; you can though get through via the numbers on the Airfix website), who, without fuss, have promised replacements for both the decals and the offending part.

See how it all builds up over the coming weeks.

References...

SMNs Photo Reference Library (PRL) Several walkaround sets covering the internal and external details for the BAe Hawk

World Air Power Journal Volume 22

<http://www.midnighthawks.fi/sivu/fi/>

Wikipedia - http://en.wikipedia.org/wiki/BAe_Hawk

Personal photographs

Initial Construction...

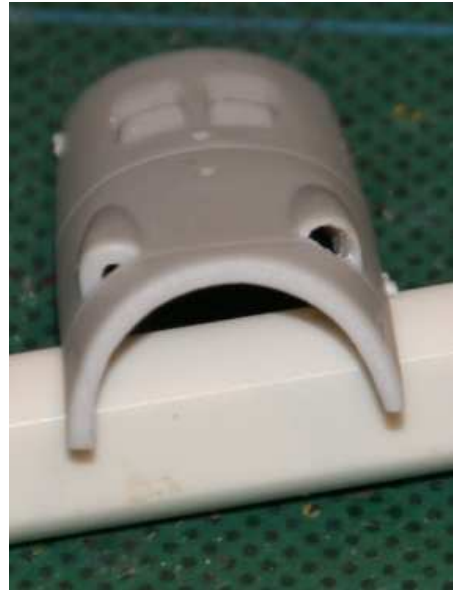
Good as their word, Hornby came up with replacement parts. The exhaust was straightforward, however, their remained an issue with the register of the decal sheet, with the register remaining slightly out.



Contacting Hornby again, they were very helpful, but gave me the bad news that as the kit is only available in the Red Arrows Gift Set boxing, the Finnish decals are no longer available. As such, I resigned myself to the fact that the decals would be one of only two main aftermarket additions to the kit; more on the other later.

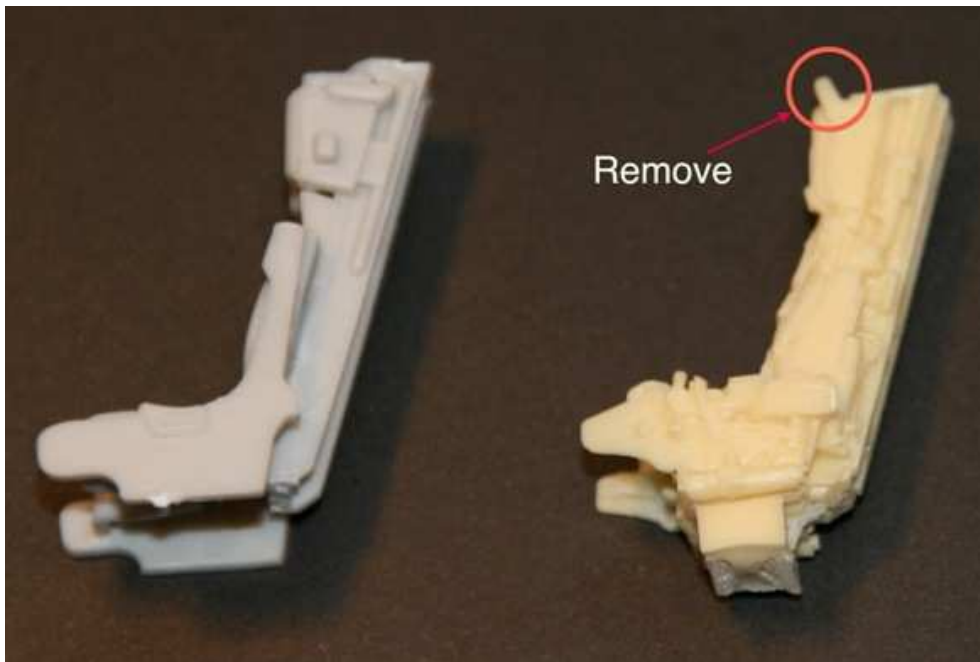
The kit instructions are good, with Humbrol painting references called out in the build. Before starting on construction, there are a number of small intakes that benefit from being

hollowed up to scale thickness, particularly on the upper fuselage piece (part 47). Standard techniques used here; chain drilling with a micro drill and filing away the excess.

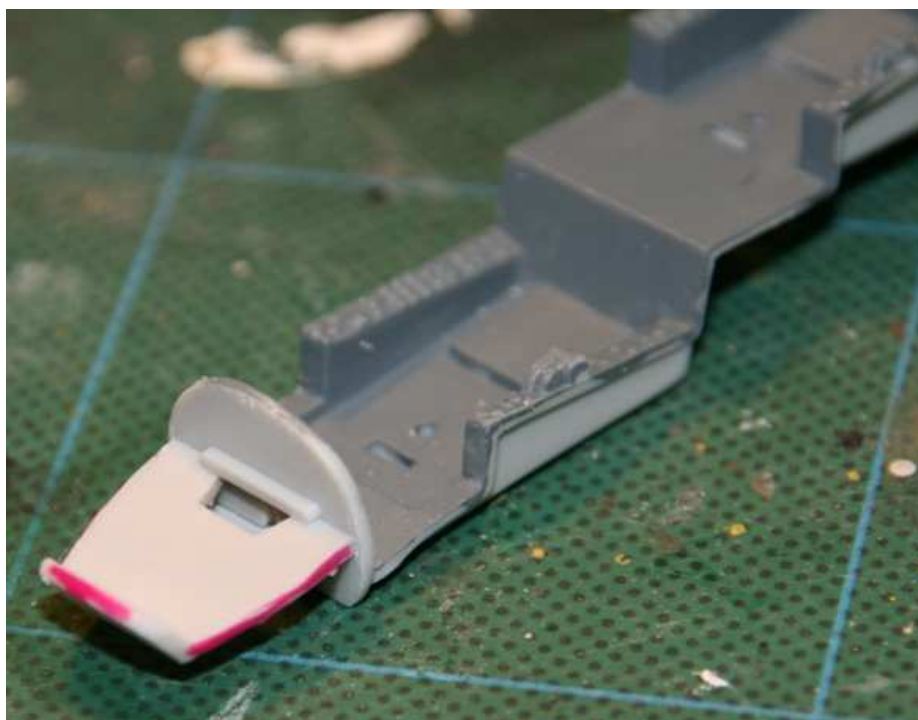


I also backed these, and other exhaust openings, with black painted plastic card. Attention also needs to be made to the holes that need drilling out for the chosen option, and there are also a fair amount of seam lines to be removed from a lot of the parts.

That done, time for the build to commence proper, with the cockpit. The ejection seats are 5-part affairs, with sparse detail. However, they are less than accurate and as such, this prompted the second aftermarket addition, some Airwaves Hawk T1 seats (SC48055, an item in my stash stock). There is no real comparison, although the width of the kit seats mean that they would have been a fuller fit in the cockpit tub



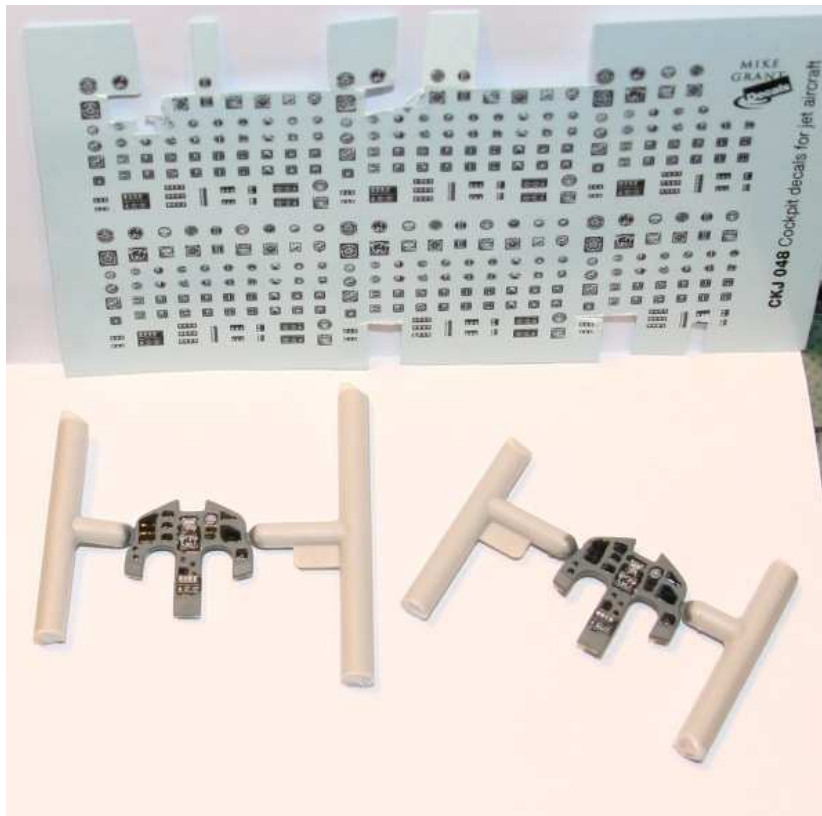
But, apart from the need to remove the canopy breakers, the resin seats were the ones for me.



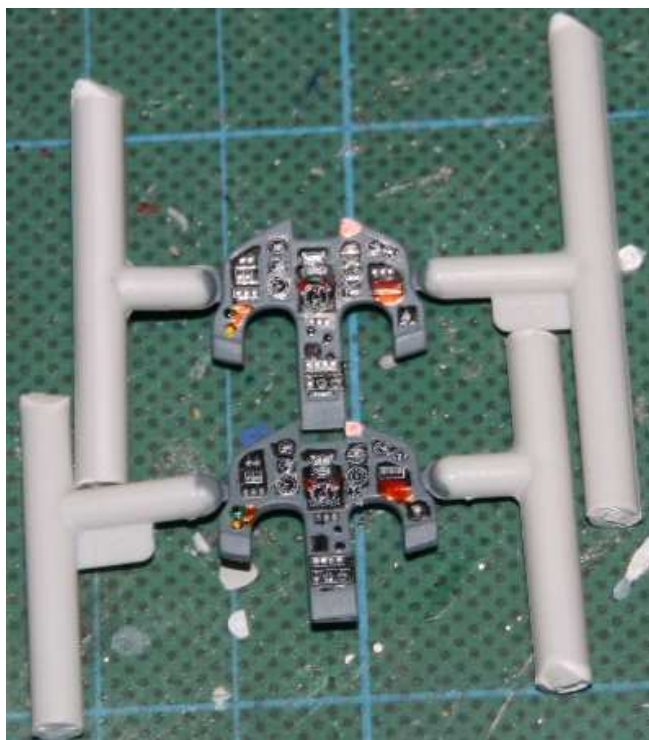
Having decided that, I painted the cockpit tub and sidewalls Xtracolor Matt Dark Admiralty Grey, X410. Note the red marking in the photo (see below re the nose wheel bay roof); on test fitting the tub to the fuselage halves, there was a bit of a gap, so I sanded the red areas slightly to ensure a good fit. The cockpit is a bit sparse on detail, especially given the large canopy; the instrument panels have engraved detail, not particularly representative, whilst the side consoles have raised details.

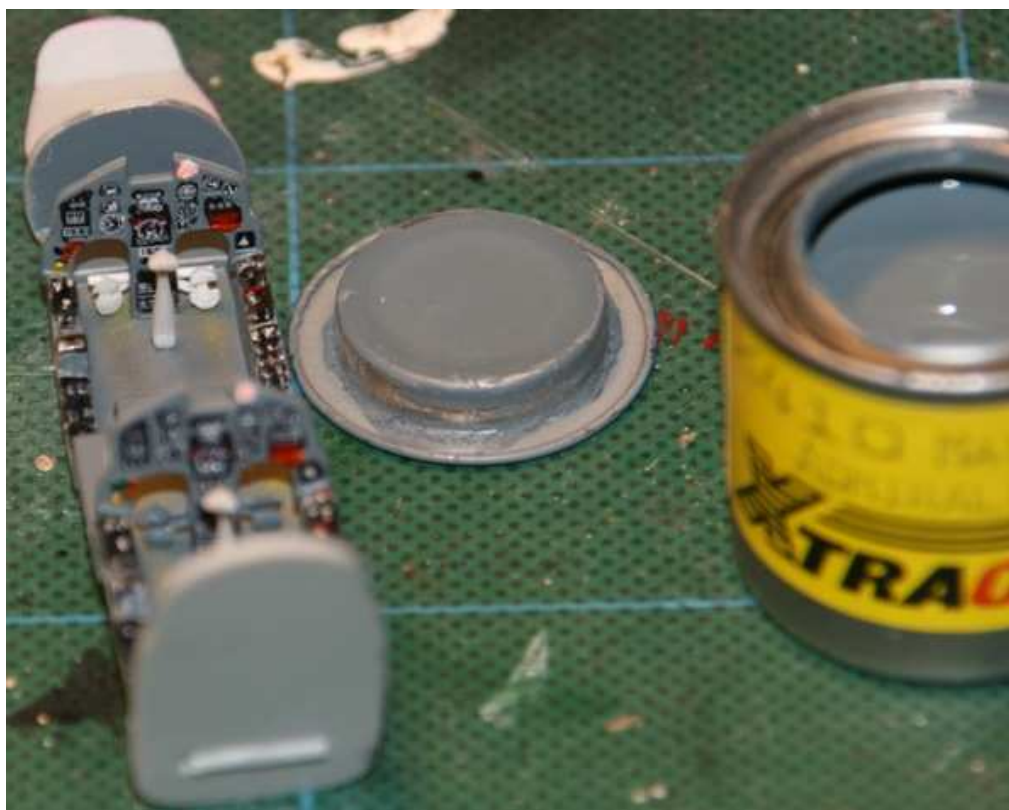
From my spares box, I used some dials/instruments from the excellent Mike Grant Decals Jet Aircraft Details (CKJ048) to make up the 2 instrument panels; these need careful

handling, as they are Alps printed (tip; coat with Kleer, or similar, before use). Tamiya's Mark Fit setting solution, which is not too aggressive, was used to settle the decals down.

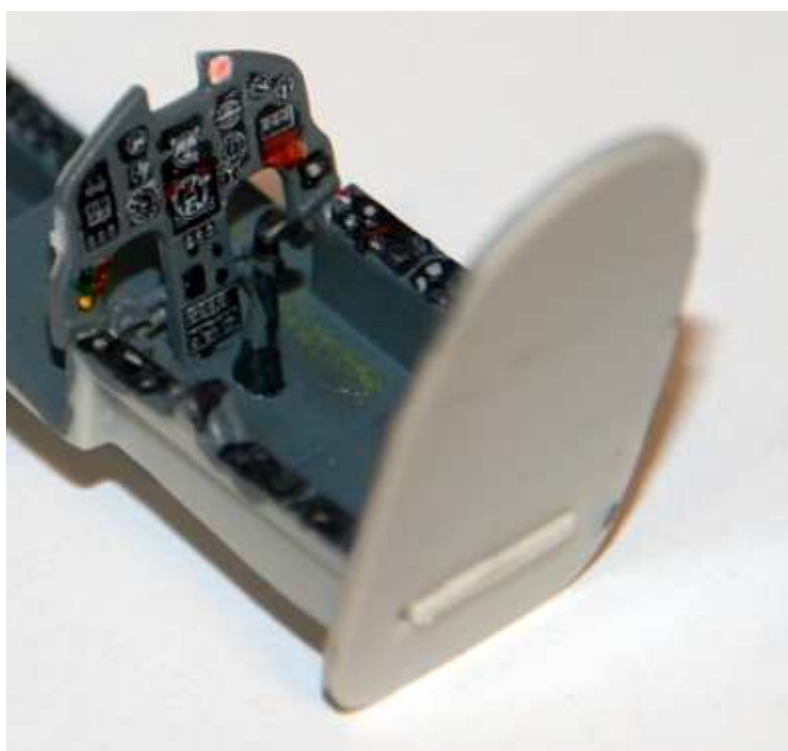


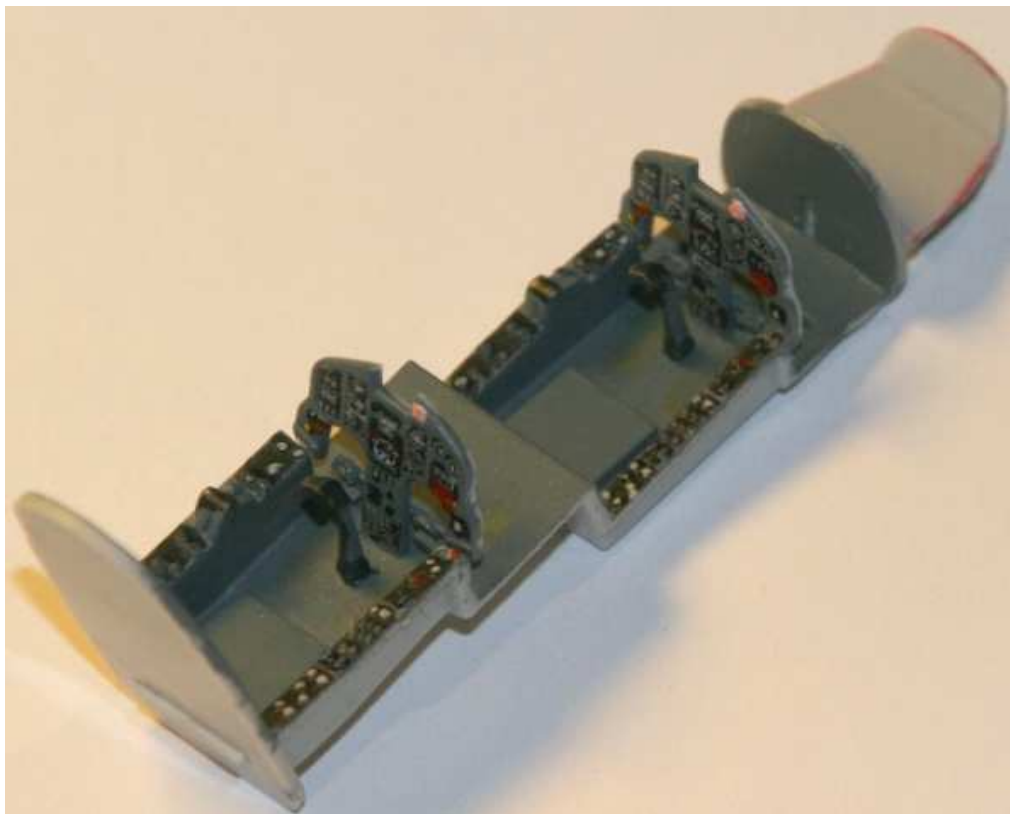
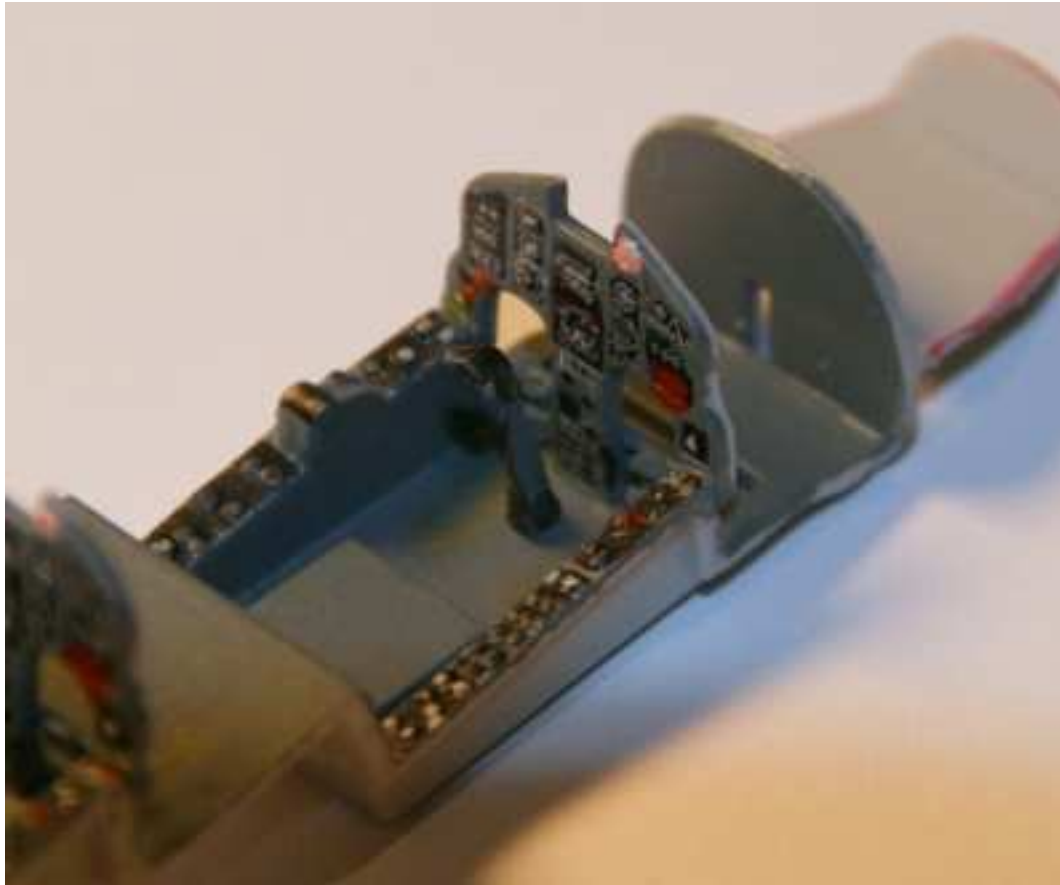
The side consoles were painted black, and these were dry brushed with Gunze acrylics to bring out the detail. I think the end result here was worth the effort and I also scratch built some rudder pedals with plastic rod.





I used CMK and Tamiya weathering products to add some wear to the cockpits, and some dry-brushed X408 Matt Zinc Chromate on the cockpit floor, to replicate the wear I'd seen on the real thing.



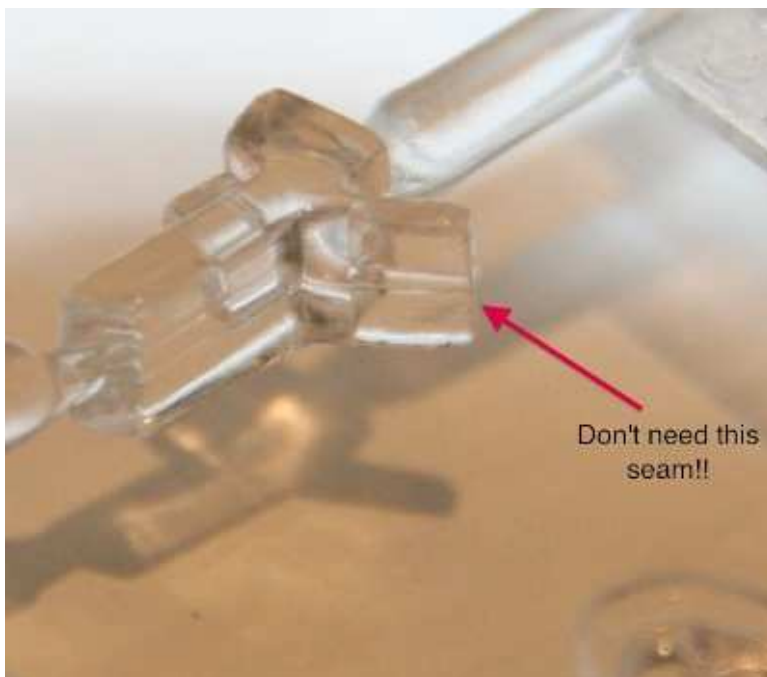


The cockpit sidewalls have raised detail, and these were also dry brushed with weathering pigments. The completed tub was then glued to one fuselage half, and as the instructions

call for 10g of nose weight, I used some lead weights in available spaces; these were secured with PVA glue.



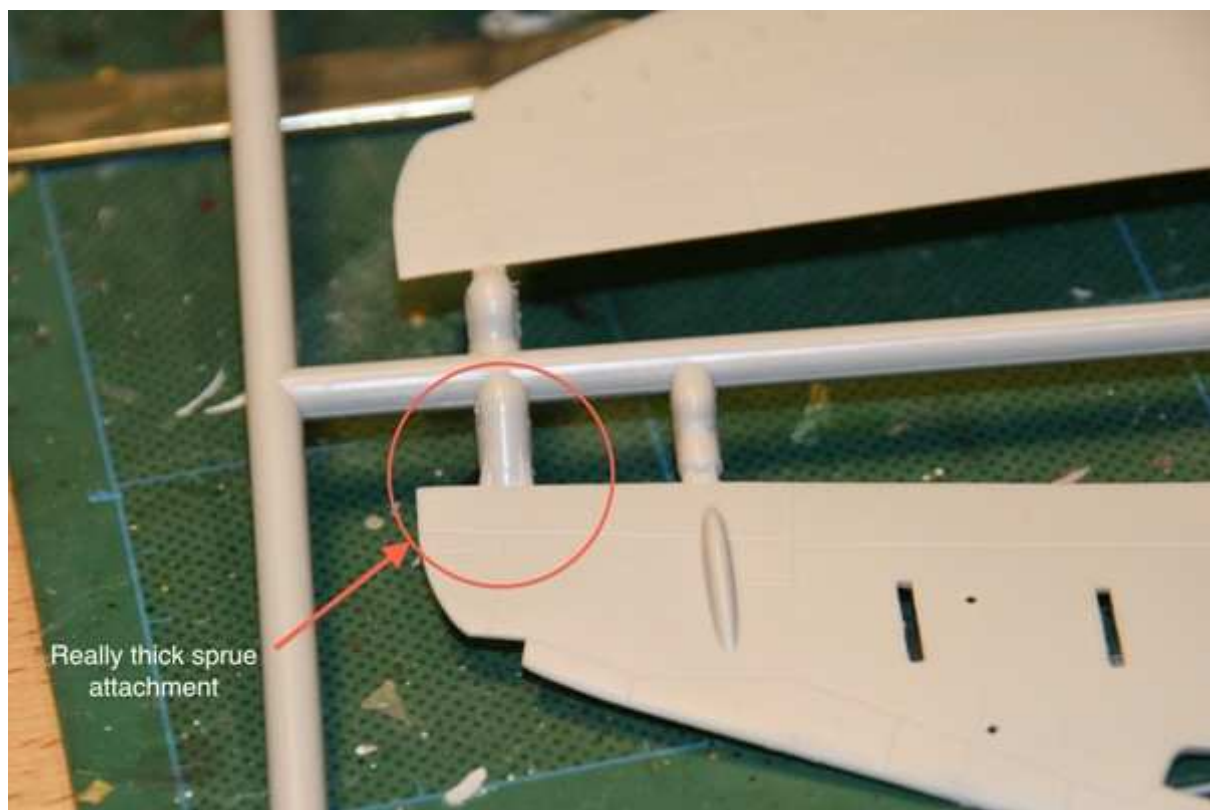
The nose wheel bay was also painted X15 RAF Light Aircraft Grey and weathered. The alignment of the nose wheel bay roof (part 28), and cockpit bulkheads (parts 19 and 22) is a bit vague, as they will 'float'. I found it best to line them up in the right fuselage half, and then glue. This takes us up to Stage 6 in the instructions, but planning ahead, I treated the seam on the 2 HUD glasses supplied in the kit; they'd have made interesting IFR reference points on the real thing and therefore need sanding out!!



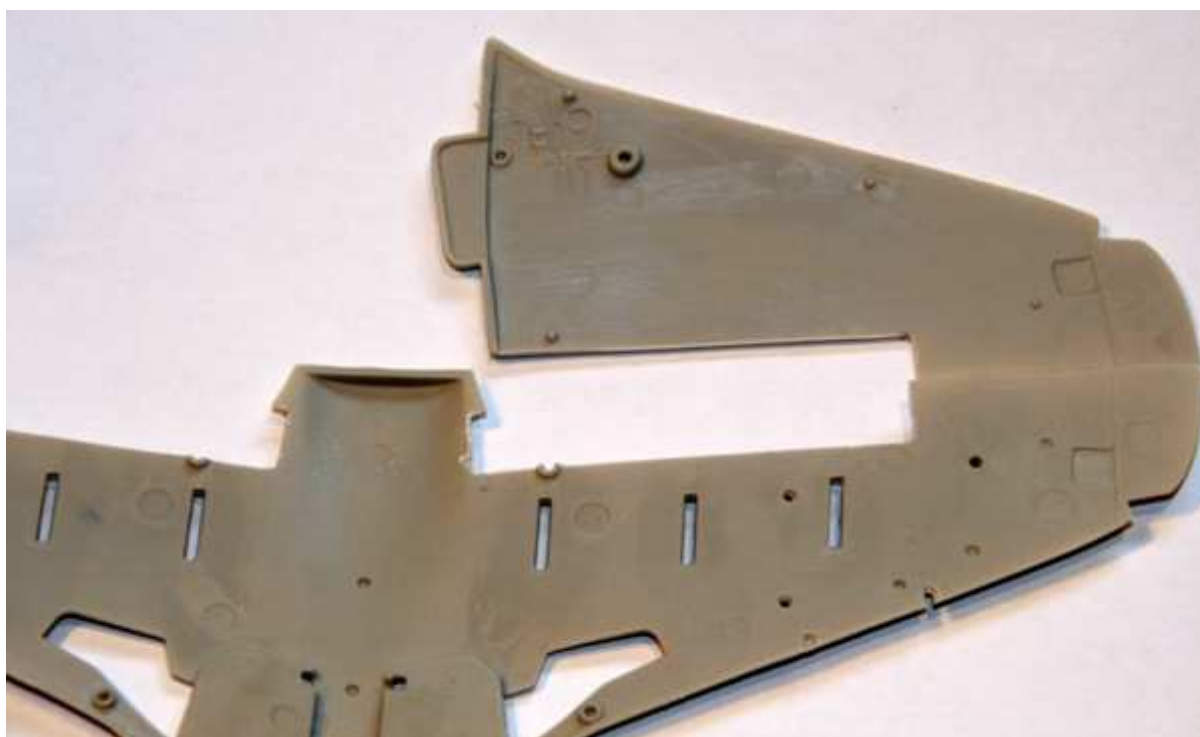
A couple of points before I glued the fuselage halves together. First, the exhaust (part 30) does not need fitting at this stage and leaving it out gives a good holding point for painting (my usual handle is a bent clothes hanger). Second, I test fitted that the nose wheel assembly would fit into its opening after the fuselage halves were closed; with a little fettling on the top surface, it will.

Main Construction...

The wings have the option to model the flaps down, and I liked the look of that. As such, I detoured from the instruction sequence and tackled this area of the kit first. Of note, the sprue attachment points are really thick on the wing trailing edges, especially the lower halves,

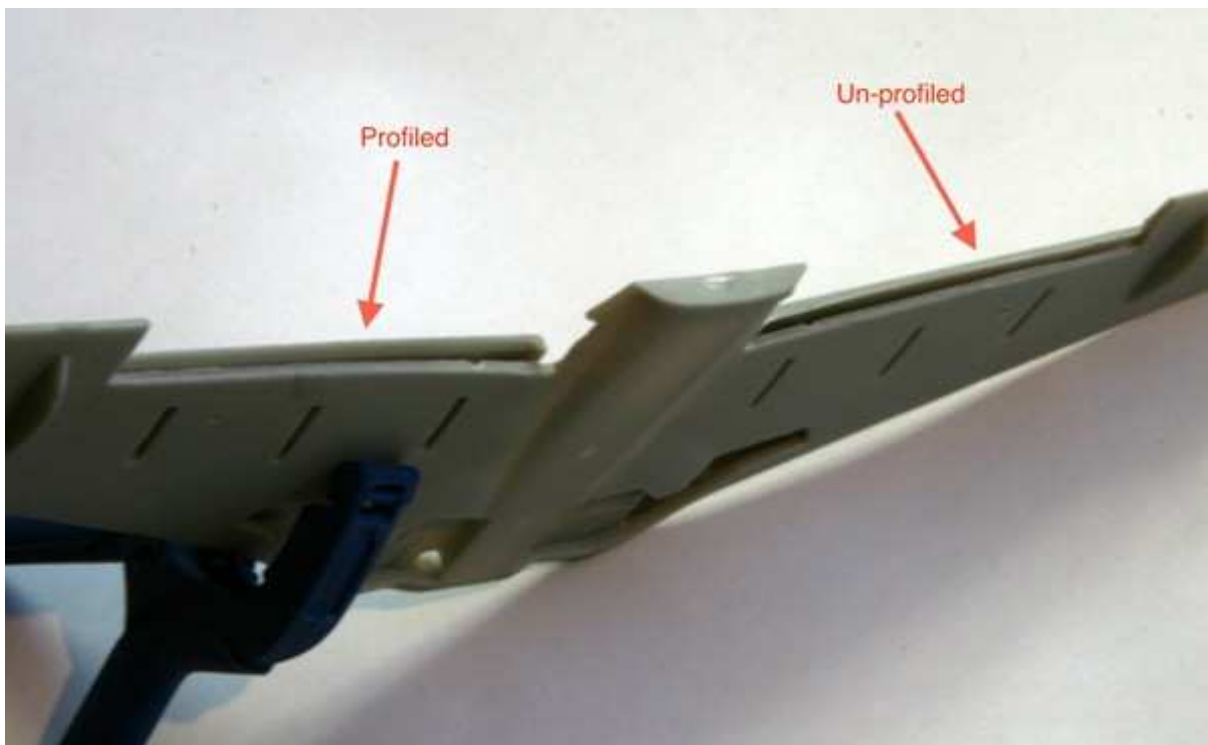
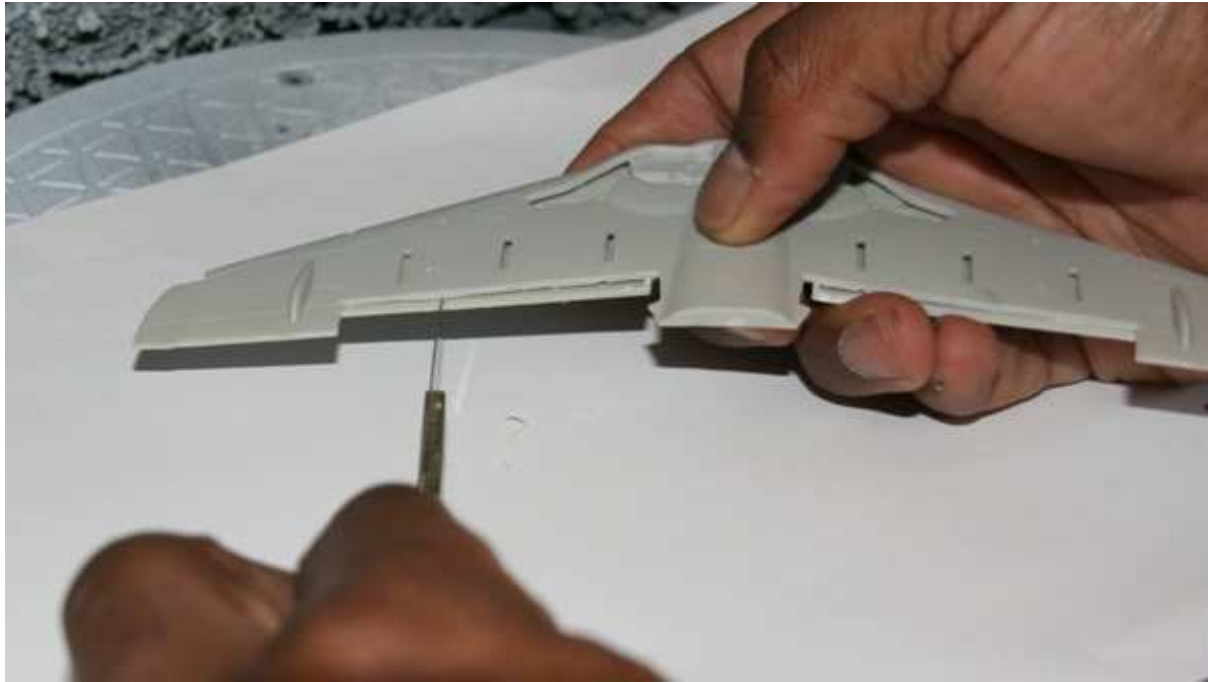


...so care needs to be taken with their removal; I used a razor saw and then sanded down to a smooth finish, to ensure a distortion-free trailing edge. To drop the flaps, you have to cut out the raised part from the wing. The instructions (stage 12) suggest that you join the upper and lower wing halves prior to performing any surgery on the flaps; I felt that it would be better to do the cutting whilst the wing halves were separate, and did this with no negative results

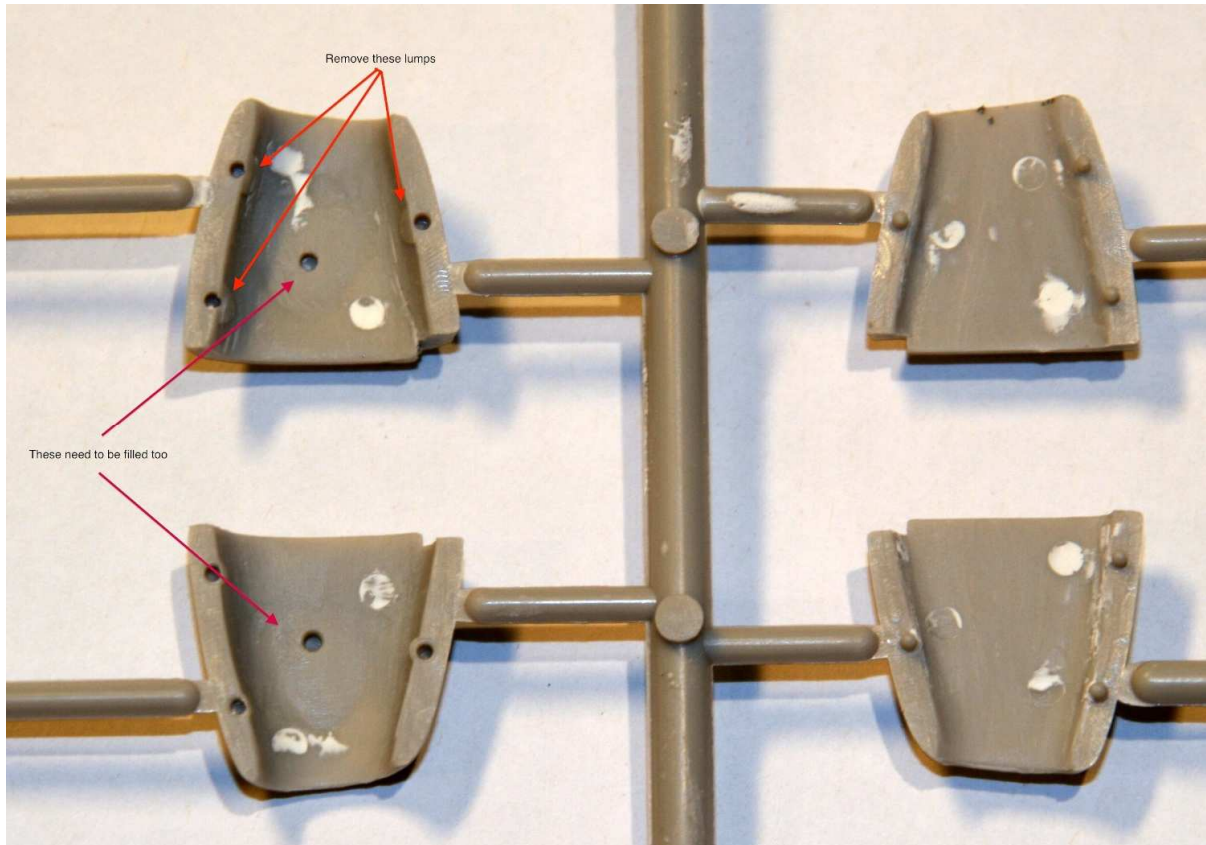


(though I will try the suggested method on another kit, for comparison).

Depending on your fit option, you need to open up holes in the lower wing; I only opened up the inboard pairs for the tanks-only fit I was going for. The main undercarriage bays have some moulded-on detail; scope for improvement here, but I left them as is. The wing halves were joined once the surgery was complete, and I tidied up the flap recesses to leave a shaped and thinned area, which is a more realistic internal wing profile with the flaps lowered.



Stage 13 has you fitting the wing fences and the navigation lights; both should be fitted at this stage, although I didn't fit the lights, which was a mistake to be fair. With the flap surgery complete, it was back a couple of instruction stages with the intakes. Probably one of the weaker areas of the kit, each intake is in two halves. First, there is a few sink marks to deal with, and holes to fill for identification lights that are not applicable to this mark; you also need to remove the lumps that are made by the attachment points for each intake half, which are too prominent if left untreated.



As per the instructions at stage 7 & 8, the internal surfaces of the intakes were painted X141 gloss white and then this was masked and followed by X158 FS16173 Battle Grey (for my intended scheme). The demarcation point between the two colours is not clear, so I settled for the width of Tamiya 10mm masking tape to ensure an even match.



Whilst sorting out this demarcation line before joining the intake halves was easier than would have been the case otherwise, the join of the halves is not perfect and there is a noticeable and awkward seam...



... there is a Two Mikes resin aftermarket option, which could be the way to go here, I think. However, I stuck to my guns and filled the gap with Mr Dissolved Putty, and then sanded



with a sanding stick...

Clearly, a repaint was required after this treatment, but at least the main demarcation of the intake colours was clear and easy to touch up.

Test fitting of the wings showed that the front join to the intakes would take some work, and I also needed to fettle the inner wing surfaces to get them to mate right to the fuselage.

As such, the wing was fitted before the intakes at stages 7 and 8 of the instructions, which involves painting the intake faces black, and fixing the intakes in place. The wings, main fuselage and upper fuselage part (part 47) represent the main joins, and these were all done at this point. I found that I had to use filler on all the joins except the wing to fuselage; again, Mr Dissolved Putty was the weapon of choice.





After sanding and a bit of re-scribing, a coat of Halfords plastic primer showed that a bit more work was needed on the intake join.



The last bit of main airframe work was the flaps. These are fitted at stage 20, and there are a few things to note here, although I was tempted to leave them off until all painting had been complete; glad I didn't. The flaps' guides are fitted at this stage and these are incorrectly numbered. Parts 59-64 should be for the raised option, not 65-70 as in the instructions. Their fit is a little imprecise, and care needs to be taken to ensure that they all line up to receive the flaps on an even level. The main flaps should be fitted first, as per the instructions, and there are indent guides on the secondary flap parts (parts 72 & 74), but

these do not line up; the instructions do not make it clear that these parts do not span the whole flap. That point aside, they need trimming by 2mm inboard, to ensure that the indents on their surfaces, the flap guides, and the fuselage opening all line up.



With all that work, I'm glad that I wasn't trying to sort it out after main painting

Leaving all this work aside for a while and with the model looking like a Hawk, next task was to finish the cockpit and get everything ready for painting.

Cockpit Finishing...

The canopy has the miniature detonating cord (MDC) engraved on its internal surface, which makes it easy to paint. I'd immersed the canopy in Klear, as I always do, and once this had cured, I used Gunze Sangyo White to paint the MDC with a fine brush; whilst not 'splashing all over', I wasn't too concerned about excess paint at this stage. I let this dry for about 15 mins, and then, with a cotton bud moistened with alcohol, wiped away the excess paint, and voilà, a neatly painted MDC. Whilst the MDC is a plus point of the canopy, the framing is a minus; Airfix have moulded the front/rear cockpit as an external, raised frame, when it should be flush with the canopy surface; you may therefore want to replace the kit canopy

which a vac formed example (or sand the framing back and polish with sanding buffers/polishers?)

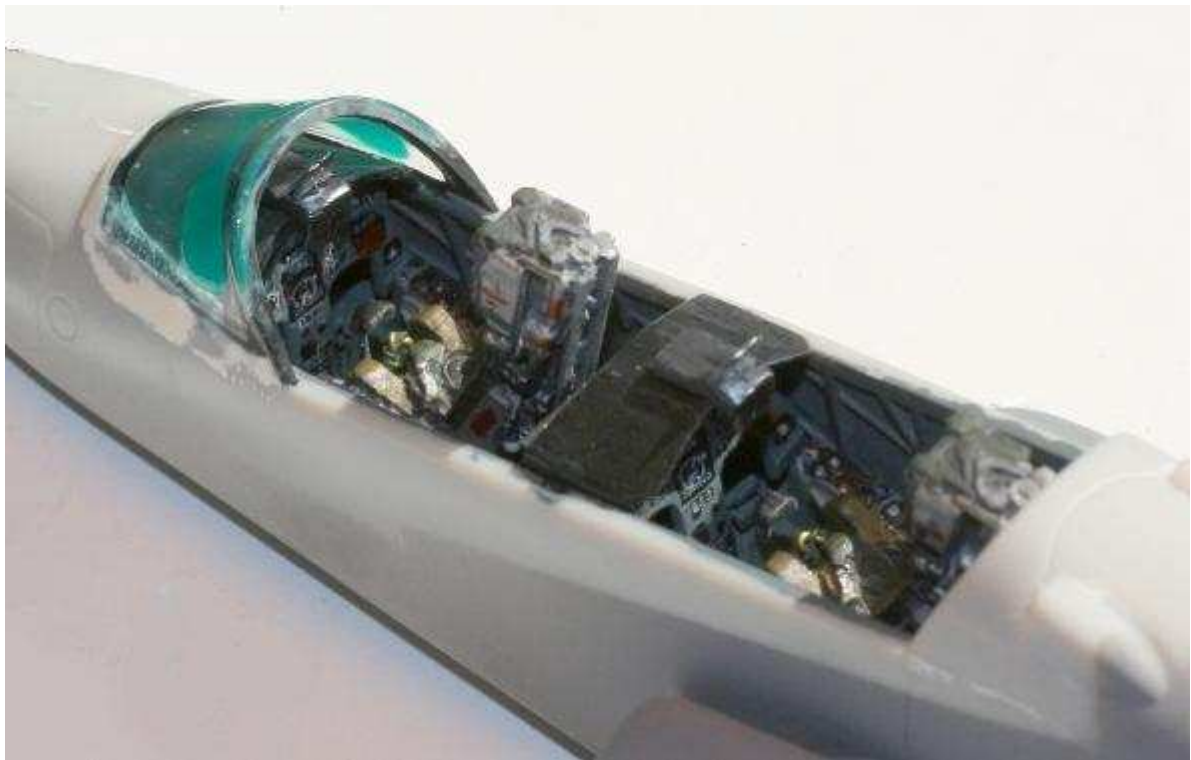
The internal blast screen is moulded separately, but is flat on the bottom surface, where it should be indented, and these points aided my decision to close the canopy on the finished model. The edges of the blast screen were painted matt black, and I painted the canopy internal frames white. The white was then masked to leave a fine line (to represent MDC), and then this too was painted matt black, apart from the dividing 'frame' between front and rear, which was left white. To finish the canopy off, I added mirrors from an old PP Aeroparts (sadly long since gone by try the manufacturer Reheat) Aircraft Canopy Mirrors Set.



The seats were finished off using references and a mix of acrylics and enamel, and given a wash to bring out the detail.



These fitted into the cockpit tubs with no issues, and despite being narrower than the originals, don't look out of place at all. The rear cockpit coaming and both HUDs were also fitted (these were given a dry brush of silver), as was the front windscreen; the later needed fairing in with some Mr Dissolved Putty. The completed cockpit does, I must say, look the part...



After this, the blast shield was fitted with Gator Grip (white glue), and canopy was closed up and fitted to the fuselage. There wasn't too much of a fit issue, but do take care with the blast shield's interaction with rear cockpit coaming.

We're now about ready for some colour...

Painting Part 1...

The scheme I'd chosen from was from Galdecals 'Finnish Air Force Part 1' sheet (48/001), which allows just about any low-vis Finnish Hawk to be modelled, and has the numbers for the Midnight Hawk's 2004 30th Anniversary Season. I used the sheet's paint guide for the colours I used. Prior to painting though, I fitted the nose landing light (part 43), the insides of which were painted chrome silver. It fits, but the profile doesn't quite match the nose; it would be a bit of a sanding job to correct. After a coat of Halfords Plastic Primer, the under surfaces were painted Xtracolor X15 RAF Light Aircraft Grey; the main undercarriage legs were placed but not glued in situ, to ease their painting, as they and the undercarriage bays were the same colour as the under surfaces. I then realised a bit of a schoolboy error; I'd not test fitted the wingtip navigation lights – Doh!! Sure enough, they weren't the best fit...



... and I had to do some sanding to get the profile right...



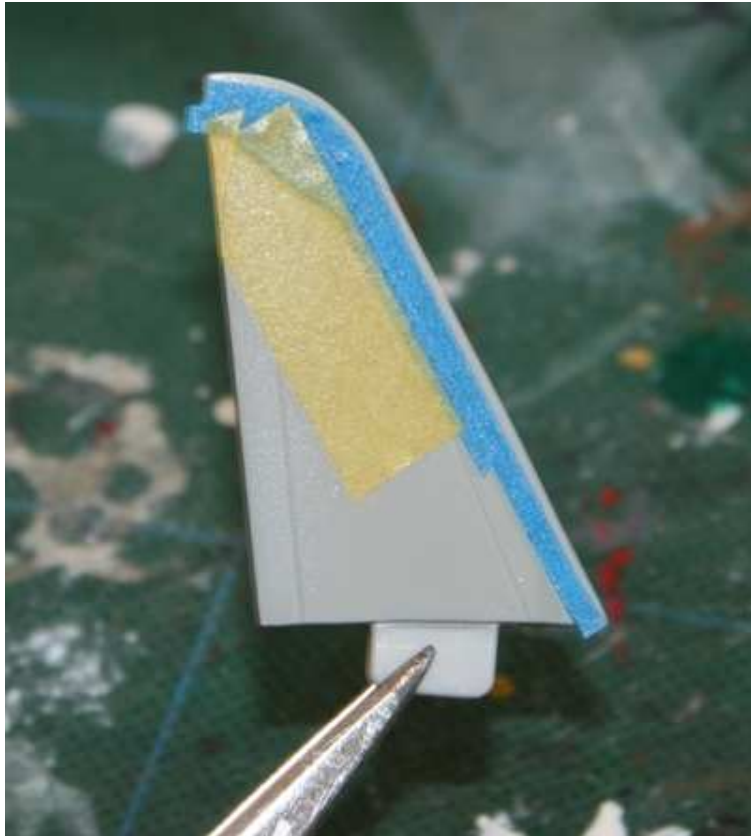
After this, it was a quick re-prime and repaint, and the undersides were completed.





Once fully cured, the undersides were masked off; not highlighted in the decal instructions is the need to ensure that the upper surface overlaps the under surfaces' leading edges, so this was masked accordingly.





The upper surfaces were given an initial coat of X158 FS 16173 AMC Battle Grey.





Unlike most other national aerobatic teams, Midnight's Hawks jets are not kept pristine and can appear patchy in appearance; I replicated this in a number of stages. First, I masked the surrounds for intake lips, rudder, fin leading edge, elevator and wing leading edges, and the mid-rear fuselage.





The leading edges, including the intakes, were then given a coat of X158 lightened with a couple of drops of white, to replicate the finish on actual aircraft. The mix was lightened further and the rudder was then sprayed. All the upper surface masking was removed, apart from the mid-rear fuselage section, and patches of further lightened X158 were sprayed around some of the panels. Finally, the mid-rear fuselage section was sprayed with a darkened coat of X158, which was too dark initially...



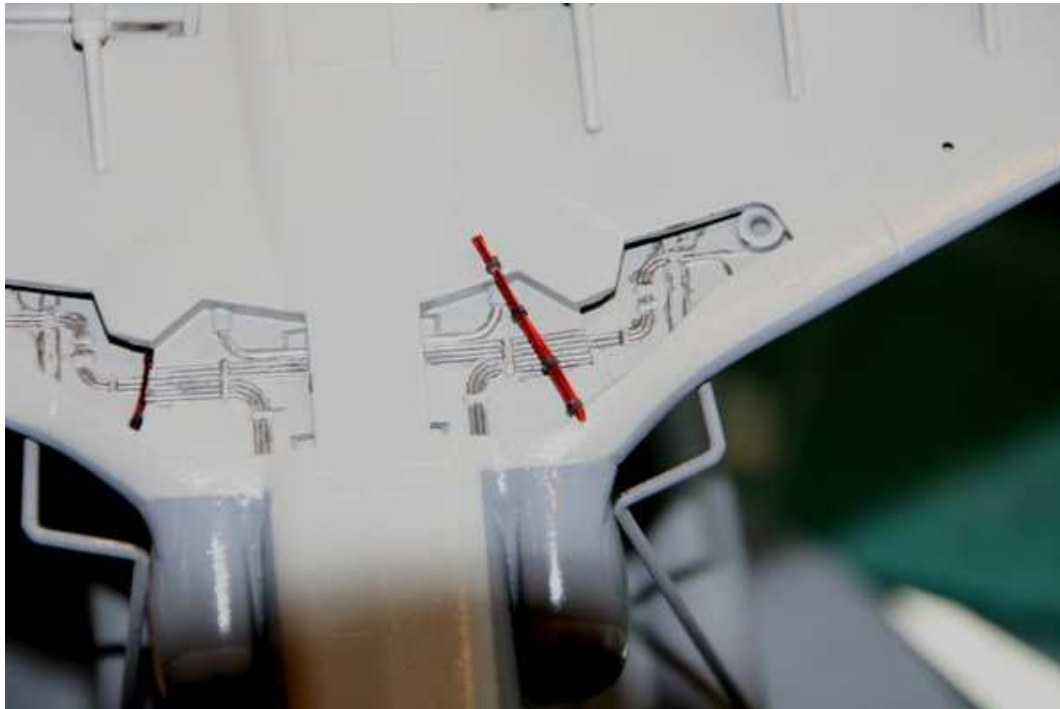
...and once corrected, left a darker section in this area. Overall, these different treatments broke up an otherwise too uniform surface finish. I should point out, by the way, that the demarcation line between upper and under surfaces around the intake area isn't clear, so I referred to references for a best guess.



The final bit of painting was to paint the fin tip and its bottom leading edge black; this detail is missing from the instructions...

Painting Part 2...

The main undercarriage bays did look a bit bland on reflection, so, consulting references again, I painted some of the cabling with Mr Metal Color Stainless Steel and Chrome Silver, and then fashioned some red cable looms from www.little-cars.com excellent Vivid Red Copper 0.3mm wire and insulating tape;



...it's not a lot of detailing, but adds colour to the area. The same colour, and some black wire, was also used to fashion brake lines for the main undercarriage legs. These, and the other Light Aircraft Grey parts, were all set aside.



A bit of a catch up, now, with some of the other painting. The wheel hubs had been sprayed Light Aircraft Grey, and their raised rims negated the need for any masking prior to painting.



Whilst the Finnish Hawk fleet transitioned to greys, the ancillary equipment doesn't appear to have been repainted. As such, the pylons were painted X148 FS14227 Israeli Grey; the closest match I could find to the prescribed light green in the Airfix instructions. The fuel

tanks were painted Light Aircraft Grey on the under surfaces, masked, and given a coat of X1 RAF Dark Green. Take care here, as there is no clear line for masking, so it's good old 'that looks about right' measuring, and that completed all of the main paintwork.



Next, we'll bring this jet to life.

Marking Up...

First off, a couple of coats of Klear to give a solid, gloss base for the decals. As I'd said a couple of stages back, I wanted to use Galdecals Finnish Air Force Part 1 sheet for this build; I modelled HW-326, No 4, primarily as 4 is 'my' number! Overall, the decals performed very well, with no silvering. Ironically, though, the roundels were slightly out of register, but not as bad as the Airfix originals. Although the Galdecals sheet is excellent, some stencils and fine details are missing, so I used the Airfix versions as appropriate; I'm pleased to report that they also performed flawlessly and settled well after treatment with Mr Mark Setter and Softer.



It took an evening to complete the decals, and once dried, the model was again coated with Klear.



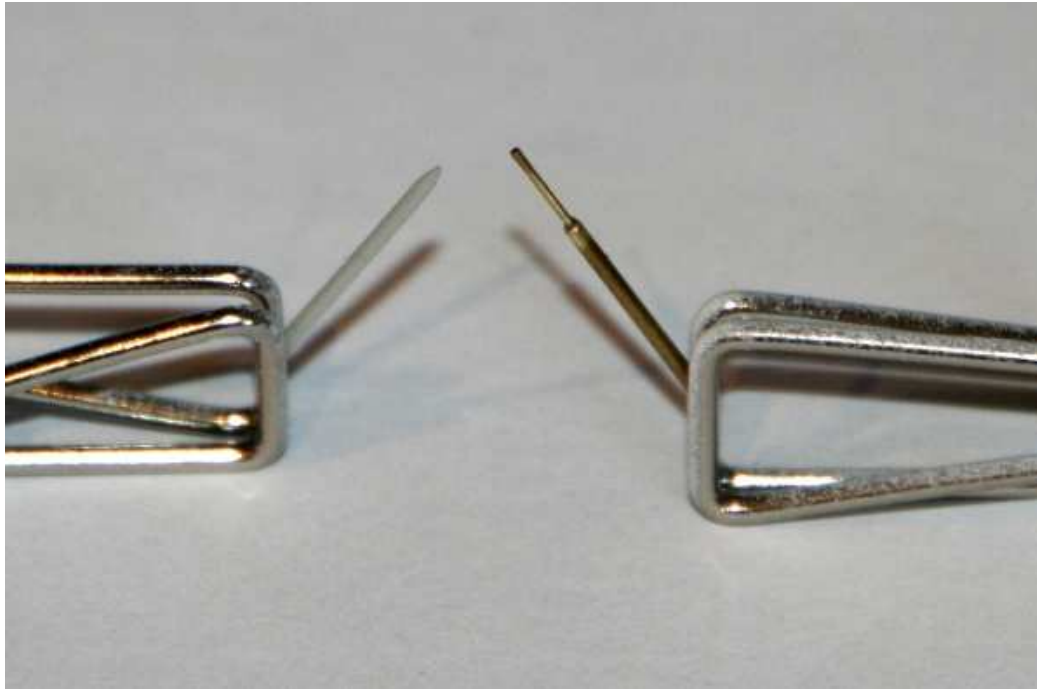


I'm always looking for new products and came across weathering solutions by The Detailer.net. These are water-based and after a liberal application, come off easily with a damp kitchen towel. If applied thinly, it acts as a stain, and this was used in the wheel bays and on the undercarriage; I'll be trying out this product again.



I used Tamiya weathering sticks (Soot, Oil and Silver) to replicate exhaust staining, scuff marks and other highlights; the overall dirtying up gave me the workmanlike finish that I was after.

Approaching the home straight, I next turned to those little details that finish a model, or, if not right, can spoil it. The kit supplied pitot probe is a bit of a lump really; this was replaced with a couple of telescopic sections of Albion tubing... (See Here Now – Tools)



...and painted Mr Metal Color Stainless after being primed; once polished, this gives a nice realistic sheen. I also finished and weathered the small parts...



...and gave the airframe a coat of matt varnish...





...after which the Stainless treatment was given to the exhaust housing on the rear starboard fuselage. The horizontal tails were finally fitted, and these were such a good fit they I've not used glue. Note though, that the underwing tanks and pylons were given a satin coat, as, compared to the real aircraft, they are nowhere near as grimy and this makes a nice contrast to the dull airframe. Four final bits of detail; first, I drilled small holes into the bases of the two identification lights (parts 117 and 118), and then painted the resulting recesses Gunze Clear Red. Once dry, the bases were backed with Gunze Silver and attached; this technique replicated a real light housing over a bulb.



Secondly, whilst I used the aerial, part 147 (pointing forward as per the instructions), I filed a small recess at the tip, to house a length of Albion tubing; this replicates the radio aerial as seen on Finnish Hawks.



On the subject of aerials, these we all fitted, although on reflection, they are a bit on the chunky side, scale wise, and replacements would be a good idea. Next, I painted the edge of the deployed flaps flat yellow, and when dry, gave a wipe with a bit of soot weathering. Finally, the edges of the intakes, and the leading edges of the fin, wing and tailplanes were all given a coat of Klear; this was to replicate the different tone and finish on these areas.

Home straight now, and the undercarriage and airbrake were all fitted. The main undercarriage is fiddly to fit and care needs to be taken with the retraction arms (parts 84 and 85); fit these first with slow-setting glue, and then add the main legs. The nose wheel leg axles were trimmed to allow the nose wheel to slot in; just, and it will then rotate on the axle to sit on the pre-filed flat. It was then eased into position and left a few hours to harden; unlike the main undercarriage legs, the fit was not as tight. The main wheels are a very tight fit; again, no glue needed and I was just about able to rotate them onto the flats that I'd also filed on these. I have to say that the placement for all the undercarriage doors is a little vague, and I referred to references to ensure the correct angles for the main doors. The airbrake was fitted, and I'd shortened the actuating arm to fit the airbrake slightly opened; pictures of Hawks at rest show this posture. Final parts to fit were the new pitot probe and exhaust, and then it was off with the canopy masking, and Midnight Hawk No 4 was complete.

Summary:

Now that it's finished, I really like this model. It is a nice size and I'll look forward to a comparison with the Italeri Hawk, which I will do as a future build.

Plus points:

- Good quality mouldings and options to drop the flaps
- A number of options with respect to stores fit
- Good, firm fit of some of the smaller parts
- Engraved MDC on main canopy; in fact, it's a lovely, clear canopy.

Watch out for:

- Cockpit detailing is sparse and seats poor
- Filler is needed in a number of places, especially around the intakes
- Weight the nose to avoid a tail sitter
- The undercarriage is fiddly to fit and fitment of doors imprecise
- Some smaller parts are over scale / inaccurate and should be replaced.

Es G.

















