

English Electric Lightning Detail and Weapons Set

In 1989 we started work on what was to be a complete kit for a 1/48th F3, and we had been making patterns and producing artwork in fits and starts for this kit over an eight year period up until we heard about the release of the Airfix kits. Much of the artwork and tooling that we had produced has now been adapted for use in this set, and the complete F.3 kit has been abandoned. A look at the ventral strake etchings [for the F2A/F6], parts 16 & 17 in the Airframe Section, will give you an idea of what our resin airframe would have looked like - the fin master for the F.3 having nearly 300 flush rivet head outlines per side!

We provide a new pitot head in high grade cast metal, with correct knuckle joint detail, and this is intended to be fitted to your model, polished and unpainted. Similarly, we have chosen nickel-silver as the material for the etched sheet. This has the ease of brass to work with [but not the difficulties of stainless steel], but still enables you to leave various overlay panels and fittings unpainted, particularly on the undercarriage section, for maximum definition of detail.

The decal sheet for the F3 had already been printed for the proposed Flightpath kit, and these are included in this set. The 56 Sqn. fin markings are an almost spot-on match for the Airfix fin, requiring just the smallest edge to be sanded away from the rear of the kit fin. Even though two of the remaining decal choices clash with F3 options in the Airfix F3 kit [although the individual machines covered are different], you will find that our decal carrier film is much thinner than that in the Airfix kits, and that the stencilling on equivalent items is also clearer. Different printers were used, although the same decal designer worked on both ours and the Airfix kits. **For this reason you may wish to use any other items on this sheet that are relevant to the version you are modelling, in preference to the equivalent items on the kit decal sheet.**

In terms of this set - the assembly is divided into five sections: cockpit, airframe, undercarriage, missiles & handling trolleys, and access ladder.

Remember that Flightpath produces an RAF Diorama Set, an Oxygen/Nitrogen Trolley, and a 25kVA Ground Power Unit - all essential items in the modelling of an action-packed RAF

Lightning diorama.

Assembly

Check all etched parts prior to forming or fitting to see if any etched rivet head detail needs pushing through from the rear of the part. This is best done by use of a centre punch against a firm base - the smooth side of a sheet of hardboard is ideal.

Cockpit

When using the cockpit films provided, you should first paint them white on the reverse side, and paint the area behind their locations white as well. Obviously, the panels that they fit behind must also be painted beforehand.

1. Form up the main cockpit tub [1], adding parts 2-5, as shown. Fit parts 6 & 7 over the LH side console area where indicated. If modelling other than an F3 or F6 you should fit part 8 where indicated on the port side console area. For an F3/F6, fit part 9 instead, with cockpit film 9, behind it. Fit parts 10 & 11 to port side console area, where indicated, adding part 12 to part 10. Paint part 13 gloss white on the front face and set aside to dry.

2. Form up main instrument panel [14], adding parts 15, and 16 [F3] or 17/18 [with film 5 behind] for an F6. Paint this assembly, and add the films, as shown, to the rear - films 1, 6, 7 & 8 for all marks, plus film 2 [early marks], or film 3 for an F3, or film 4 for an F6. Add part 13 to the rear of the assembly, and fit the completed unit into the cockpit tub, using the location slots provided.

3. Add cast stick and throttle levers and port side unit, as shown. Form, paint and fit films 10 & 11 to part 19, fitting this into the forward starboard side of the cockpit where shown. Part 20 should be formed and added to the starboard cockpit sill - after first painting and fitting film 12 to the rear, where shown, and part 21 should be fitted in the corresponding position over the port cockpit sill.

4. Detail the excellent kit ejector seat, by laminating parts 22 & 24, and parts 23 & 25, and fitting these to the sides of the seat, as shown. The ejector seat straps etc. are fitted using parts 26-44, as shown in the diagrams provided. Fit seat into the replacement cockpit tub after painting, and fit the completed cockpit unit inside aircraft in place of the kit parts. Add cast replacement for the HUD assembly [kit part 11].

5. Paint and fit the framing to the windscreen, using

parts 45, and 48. adding parts 46 & 47, as shown. When fitting the framing parts to the kit transparencies, you may wish to consider using clear Evo-Stick. This will not 'smoke' the kit parts. It is available in the UK [in blue tubes], from most hardware stores.

6. Paint and fit inner framing to main canopy, using parts 49, 50, 51 - which can have the rear [mirror] side left un-painted, 52 & 53. Similarly, you can add the outer framing using parts 55, 56 & 57, adding part 58 into the slot provided in part 57. Finally, add front fascia [54] to main canopy assembly.

Airframe

1. Part 1 is a wrap-around fascia for the kit intake rim. Firstly, kit part 37 should be thinned down slightly - especially on the forward edge, as the requirements of moulding make it too thick. The wrap-around etching [shiny side outwards], will give you impressions of .004" rivet marks around the part when it is fitted to the kit intake rim. Our part almost meets at the bottom, where a correctly-shaped cut-out for the location of the pitot tube unit is provided. Both part 1, and the pitot tube are intended to be fitted un-painted.

2. The cast radome, with surface band, is a replacement for kit part 14. It fits centrally into kit parts 15 & 16, after these have been cut back by 2.4mm. This part has a double-function, as it acts as a weight, so that the model will sit down on its nose-wheel. If you wish to fit the FOD guard [a colourful feature of parked Lightnings - they are bright red], laminate parts 2 & 3, adding wire grab handles. The guard is secured to the aircraft, by drilling two small holes in each side of the nose [where shown], adding two short lengths of wire, and etched parts 4 & 5 to each one, enabling fine boat rigging thread, or similar, [not supplied], to be fitted to each side of the assembly, as shown.

3. Assemble and add the gun port outlets from parts 6-8, and 9-11, if modelling an F6, and fitting, as shown. You will need to trim away a suitable area around the kit gun ports if fitting these.

4. Assemble aerials using parts 12 & 2 x parts 13, and parts 14 & 15 [to make three smaller units]. These are fitted where indicated.

5. If modelling an F.2A or F.6, assemble two ventral strakes using parts 16 & 17, provided, and fit these into the recesses in the kit fuselage, after first drilling out two locating holes in the kit for each

strake assembly. If preferred, you can remove the lugs from parts 15 & 16, and obviate the need to drill out the location holes. These can be left unpainted on natural metal aircraft, or those with natural metal finish in these areas.

6. There is a replacement in-flight refuelling probe supplied. It should be assembled as shown, with the light added underneath, and fitted in place of the kit parts.

7. Jet Pipes - these are one area that plastic can never reproduce correctly, and although top marks must go to Airfix for adding detail to the inside of the jet pipes, it is in the nozzle area that things always have to be simplified. Part 19 is fitted inside part 18, as shown, and these two assemblies replace kit parts 23 & 24. The petals on both these parts should be curved inwards, as shown, prior to rolling these parts into a circle. Use of a piece of doweling smaller than the required diameter is recommended, as this then allows for springing of the material. These parts are butt-fitted to the ends of kit parts 21, and kit parts 25 fit around these assemblies, and to the rear of the kit fuselage halves **after [not before - as in the kit instructions]** the main jet pipe assy. has been fitted into the fuselage.

Undercarriage

Main undercarriage - port unit shown - mirror image for starboard side *except* where noted.

1. Fit etched u/c bay roof [1], **noting that this has lugs included with location slots for the plugs in our 25kVA Ground Power Unit kit.** The inboard slot is for the DC cable - the outer for the AC. Part 1 should be fitted to kit part 60 after the moulded u/c side-walls on the kit part have been sanded down by the thickness of the etched part [.008"].

2. Fit parts 2-4, as shown, adding the cast u/c leg unit into part 4, and add u/c leg strut from the cast parts shown. Laminate parts 6 & 7, and fit these and part 8 into the inner section of the bay, as shown. Fit retraction jack unit - via etched bracket [5], which is fitted to the cast u/c leg, where indicated. Form and fit part 9 into rear outer corner of the bay, where shown.

3. Form and fit part 10 to the lower outside face of the u/c leg, and form and fit part 12 around the leg, as shown. Form and add part 13 to kit part 90, adding part 14 to part 13.



F.2A Starboard Main Undercarriage Leg and Wheel
[note 'dished' style of hub on F.2A]
- Photo Copyright David J. Parkins

where marked, noting that when the wheel is fitted to the u/c leg, the ends of part 12 fit the parts 29 & 30.

6. Assemble the outer hubs - we provide both styles of hub - the concave ones that seem to be fitted to F.2s/F.2As - and the flat ones that seem to be fitted to all other marks. It is interesting that all the copycat reviews published by the model mags. when the kits first appeared, made no mention of this, so intent were they on the cockpit.

- F.2/2A Hub - paint part 34 metallic brown and fit into wheel, centrally against the inside face of part 27 [fitted when installing the inner hub]. Dish part 35 - re-straightening the outer rim area afterwards - and fit this over the face of the wheel casting, as shown.

- All Other Marks - paint part 31 metallic brown and fit into wheel, centrally against the inside face of part 27 [fitted when installing the inner hub]. Fit part 32 in register with the rear face of part 33, and fit part 33 over the face of the wheel, with part 32 protruding inside the wheel hub area.

Note that except where noted, virtually all the etched parts in this assembly sequence can be left un-painted.

Repeat the entire sequence for the starboard assembly, but using etched parts 5, 26 x 2, and 30-58.

Front Undercarriage

4. Fit part 15 over kit part 94, after first sanding off any raised detail from this part. Part 15 is etched in such a way that 'dishing' of the part to match the kit part will be easy. Add all overlays to part 15 - using parts 16-25 where indicated, and fitting parts 26 x 2 into slots in parts 21 & 22.

5. Fit part 27 into one side of a main wheel casting, to sit on the ledge provided. Laminate parts 28-29 and fit centrally over part 27. Fit part 30 to part 29,

1. Using template [part 59] taped to kit part 18, drill out a locating hole in the kit part for the front u/c leg casting. Remove template - re-affix to kit part 17 and repeat the procedure. Fit cast leg unit into holes drilled kit part 17 & 18, and add retraction jack where shown to u/c leg, angled to run off up into wheel bay.

2. Fit hubs [60] onto ledges provided in each side of

the front wheel casting, noting that the part 60 marked with a small 'x' is fitted to port. Fit the wheel into the front leg, using a section of wire for an axle.

3. Fit part 61 over the inner face of kit part 88, after first removing any raised detail from the kit part. Add 2 each of part 62 & 63 as shown. Laminate parts 66, 65 & 68 3 deep as shown, to make a port door strut, and laminate parts 64, 65 & 67 in a similar manner, to make a starboard strut. These are fitted to part 61, and to the front u/c leg, where shown. Parts 69 & 70 are inner over-lays for kit parts 86 & 87 respectively.

Again, all the etched parts in this assembly sequence can be left un-painted.

Parts 11 are pins for use with the printed RBF tags included with this set, and can be fitted to each u/c leg, where shown, with a tag attached to the loop in the part by fine fuse wire, or similar.

Missiles & Handling Trolleys

Firestreak Missiles

Drill out wing and fin locating holes prior to commencing.

1. Fit 4 x parts 1 to the missile, over the cast ribs. Laminate 4 wings, using parts 2 & 3 [bent slightly as shown - along the line between the full & relief-etched areas on the rear of the fin - to give an aerofoil section], and fit to the missile, via the slots provided in parts 1.

2. Fit the fins [4], adding an end cap [5] to the rear of the missile body.

Repeat the sequence for the second missile and fit to aircraft in place of the kit item. If fitting the missiles to handling trolleys - see below.

Red Top Missiles

Drill out wing and fin locating holes prior to commencing.

1. Laminate parts 6 & 7 to make four wing units, and fit these to the missile body, using the location holes provided.

2. Laminate parts 8 & 9 to make four fin units, and fit these to the missile body, using the location hole provided. Fit the end cap [5] to the rear of the missile body, and add overlay [10] to the face of the cast rib on the missile body, as shown.

Repeat the sequence for the second missile and fit

to aircraft in place of the kit item. If fitting the missiles to handling trolleys - see below.

Missile painting instructions are as noted in the Airfix kit.

Handling Trolleys

1. Cut four trolley longitudinals [73mm long] from pieces of 1.5mm dia. brass or plastic rod. Form and fit part 11 between two of the rods with the front edge of part 11 34.5mm in from the front ends of the two longitudinals. Slide the forward cast cross member over the longitudinals, from the rear, to abut the rear face of part 11.

2. Form and fit part 12 between the longitudinals, and abutting the rear face of the front chassis cross member, and fit the rear cross member casting over the rods, abutting the rear edge of part 12. Form and fit part 13 flush with the rear edges of the chassis longitudinals.

3. Assemble the front tow-bar unit from parts 14, 15, 2 x parts 16, 17 & 18, as shown. This can be fitted as shown, or in a horizontal plane, so that one trolley can be connected to another via the part 13 on the forward trolley. If fitting a missile on the trolley, this should be done at this stage, with kit parts 114/115 fitted atop the cast missile. Fit the cast missile retaining clips and the wheel units [4 each per trolley]. Form and fit wire guards and grab handles to the trolley where shown, using the templates provided on the constructional drawings.

Repeat the sequence for the second trolley. These units have appeared in red, Traffic Blue, RAF Blue/Grey, yellow, and, in the later period, dark green - all with grey/black tyres to the wheel units.

Access Ladder

1. Construct the LH side-frame by laminating parts 1-3, with parts 4, 5, 7, 9, 15 & 17 added, as shown. Laminate parts 21-23 - fitting these to the inner edges of the side-frame and to parts 4 & 9, as shown.

2. Construct the RH side-frame in a similar way by laminating parts 10-12, with parts 6, 8, 13, 14, 16 & 18 added. Laminate parts 24-26 - fitting these to the inner edges of the side-frame and to parts 13 & 18. Form part 27, and fit between the side-frame assemblies, where indicated. Form and fit the top platform [19] between the side-frames, with the mesh detail on the under-side. Add the anti-slip overlay [20] to the top surface of part 19.

3. Cut 7 wire rungs 9mm long from 1mm dia. brass rod [not supplied], and fit these into the sets of holes provided in the side-frame units, other than the very bottom set. Cut one further rung approx. 11mm long and fit through the lower holes, with equal amounts protruding beyond the outer faces of the ladder sides. Laminate two wheels - each using parts 30-32, and fit these to the lower ladder rung extensions.

4. Laminate 1 each of parts 28 & 29 to create two handed ladder fixing brackets. These are fitted over a piece of rod approx. 8.25mm long, which is fitted between the holes provided in the side panels of part 19. The completed ladder is fitted to the port cockpit side of the aircraft, as shown.

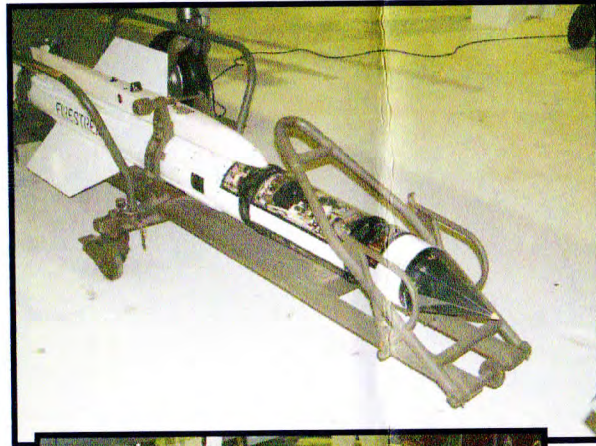
Note - that the top section of the ladder side-frames are bent outwards, as shown on the constructional drawings.

These ladders were painted in Traffic Blue at first, and have also appeared in red, yellow and [in the later period], dark green. Tyres were grey/black.



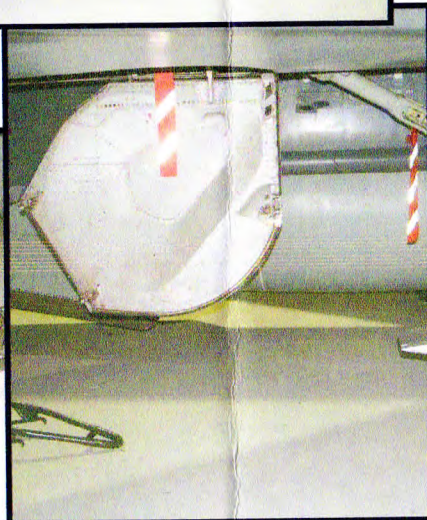
Trefacwn Fach,
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SA62 6DP, Wales, UK

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**Missile & Handling
Trolley Details +
Tailpipe, F6 Ventral
Strakes & Inside
Main U/C Door details**

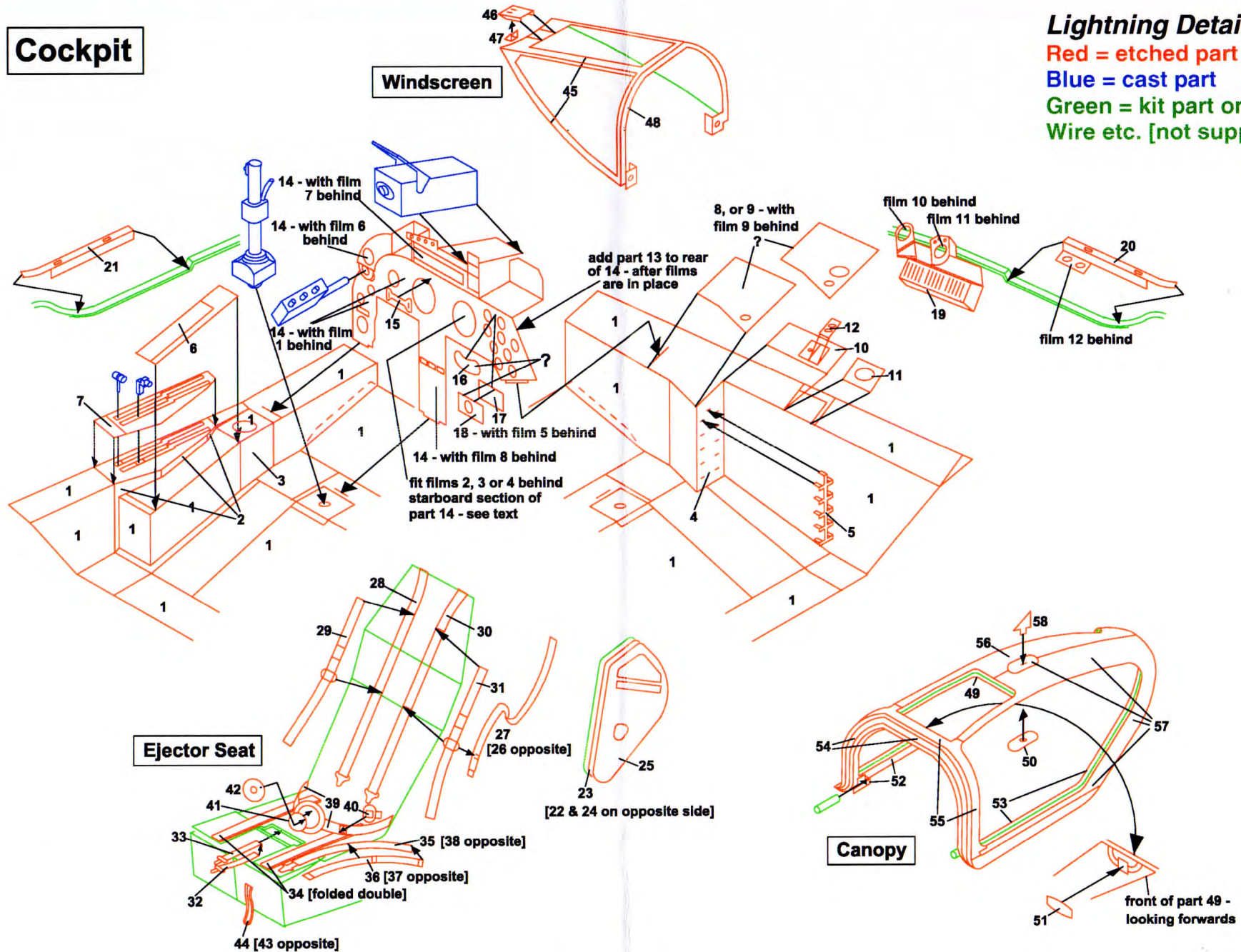
**Photographs -
David J. Parkins**



Cockpit

Lightning Detail Set
Red = etched part
Blue = cast part
Green = kit part or
Wire etc. [not supplied]

Windscreen

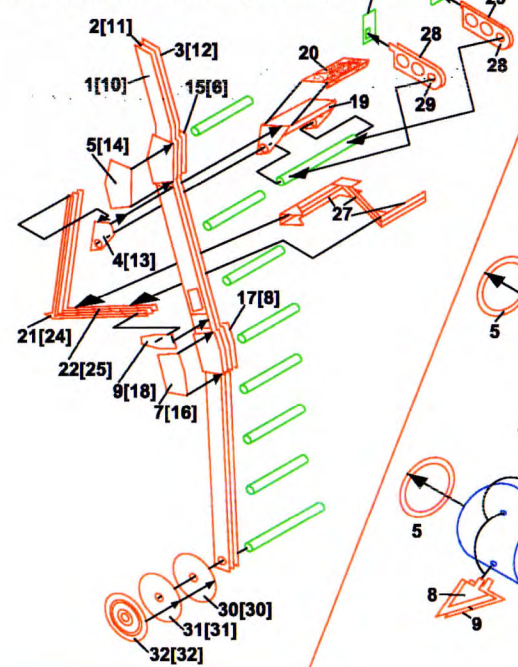


Ejector Seat

Canopy

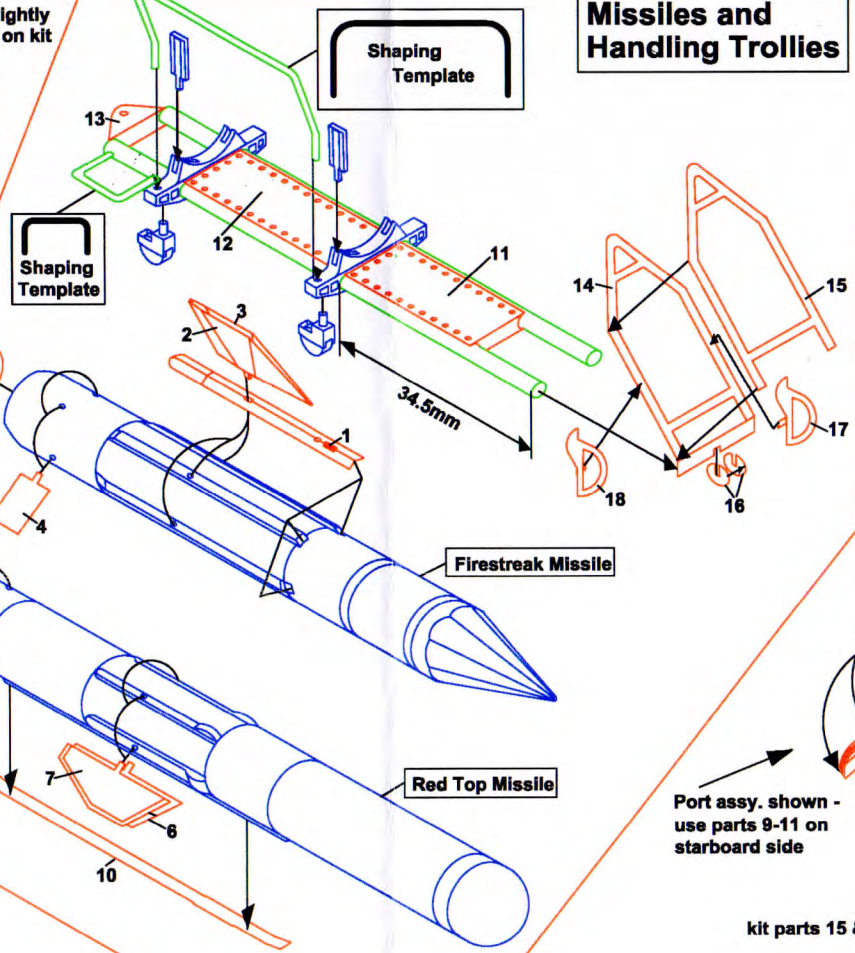
Access Ladder

alternate parts on RH side of ladder noted in brackets after LH part numbers



side of port cockpit - ladder locations slightly closer than marked on kit

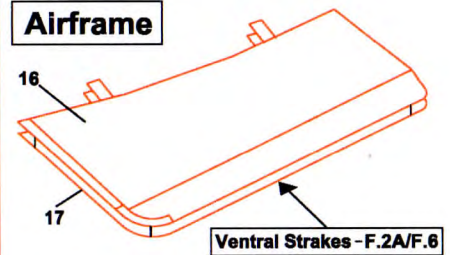
Missiles and Handling Trolleys



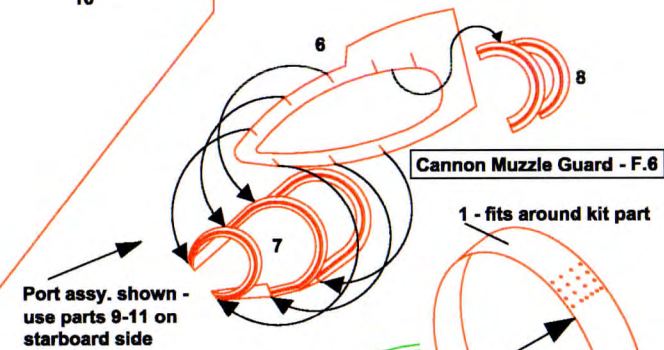
Lightning Detail Set

Red = etched part
 Blue = cast part
 Green = kit part or Wire etc. [not supplied]

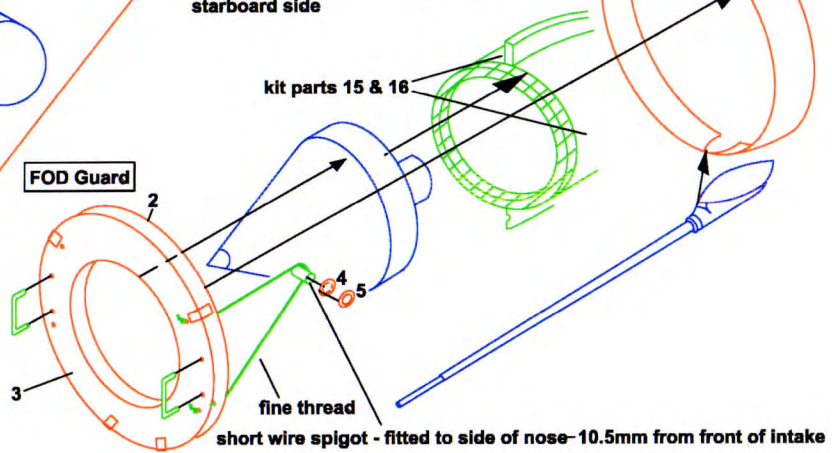
Airframe



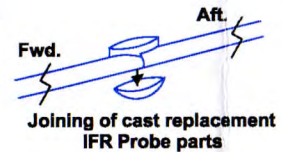
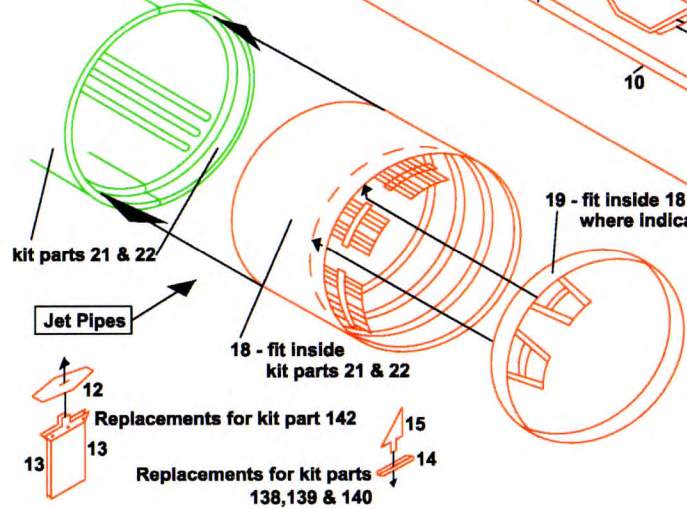
Cannon Muzzle Guard - F.6



FOD Guard



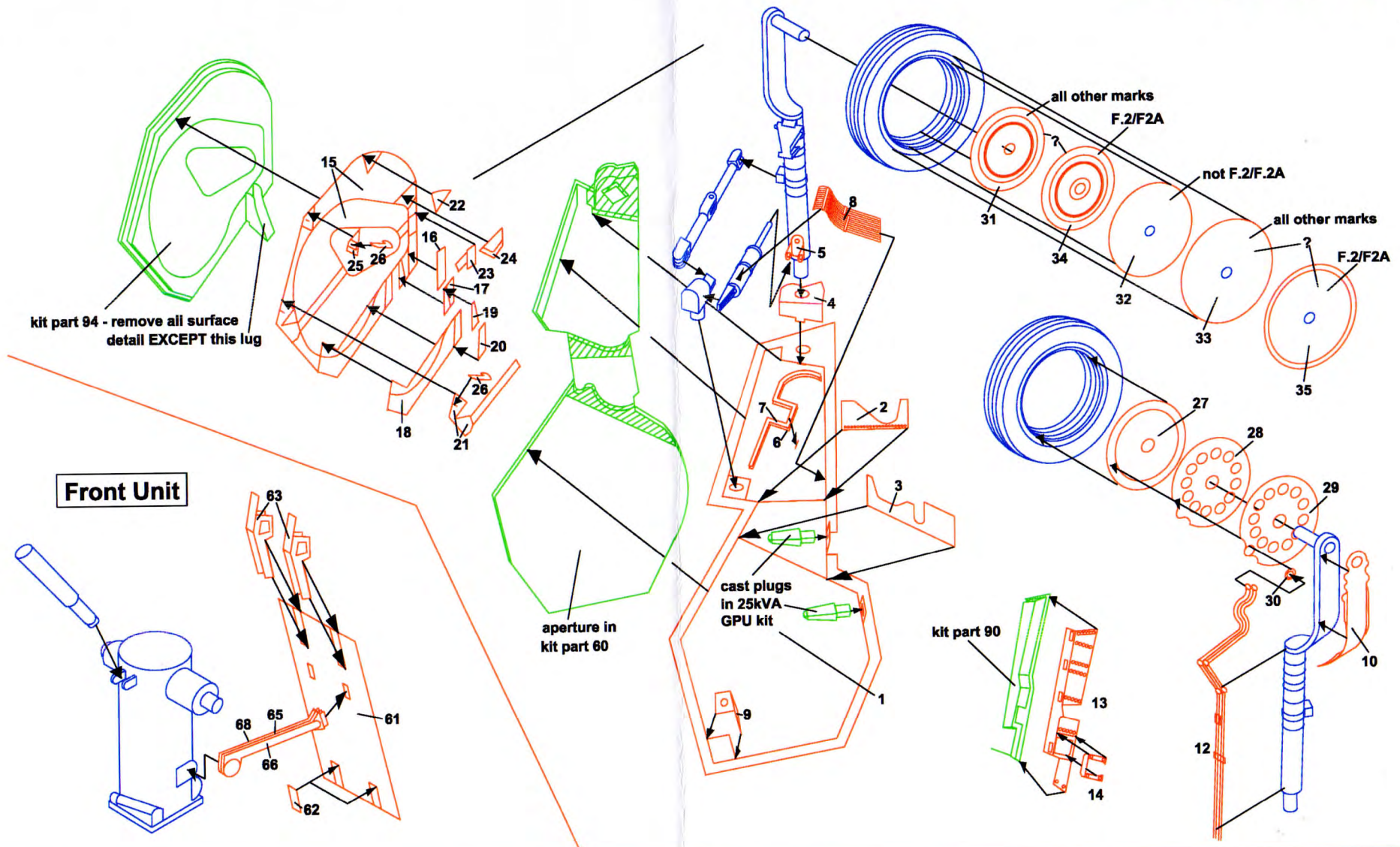
Jet Pipes



Undercarriage

Main Unit [Port] - [mirror image for starboard assembly]

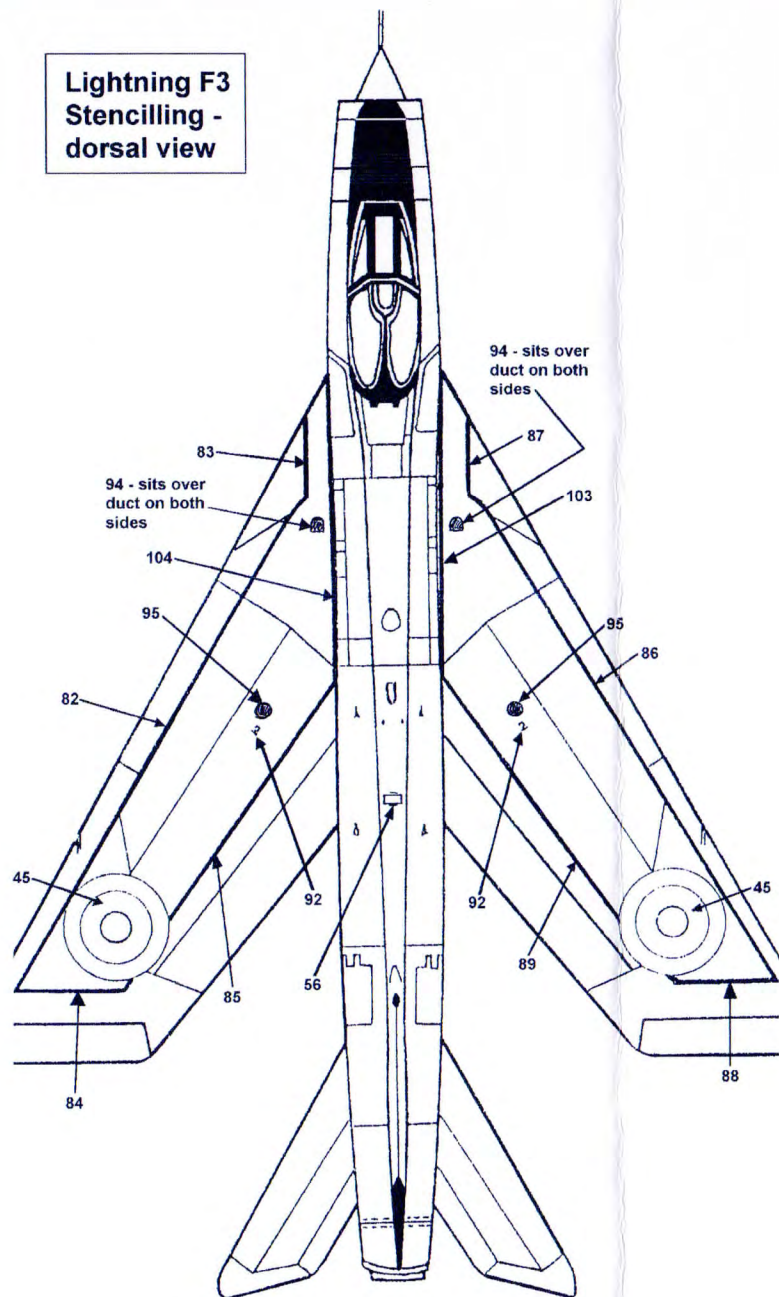
Lightning Detail Set
Red = etched part
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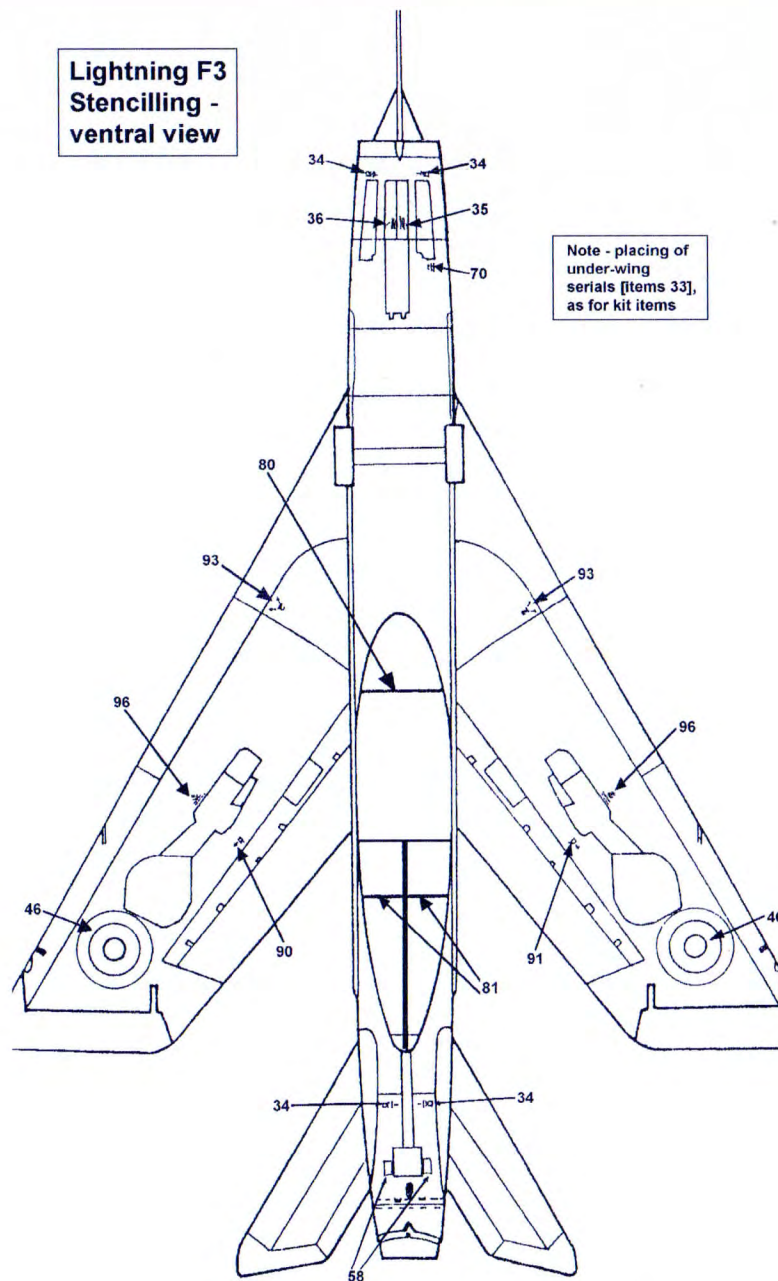
RAF Lightning F.3 Decals

Painting & Finishing
All machines featured on the F3 decal sheet are natural metal, with other colours as noted in the individual diagrams.

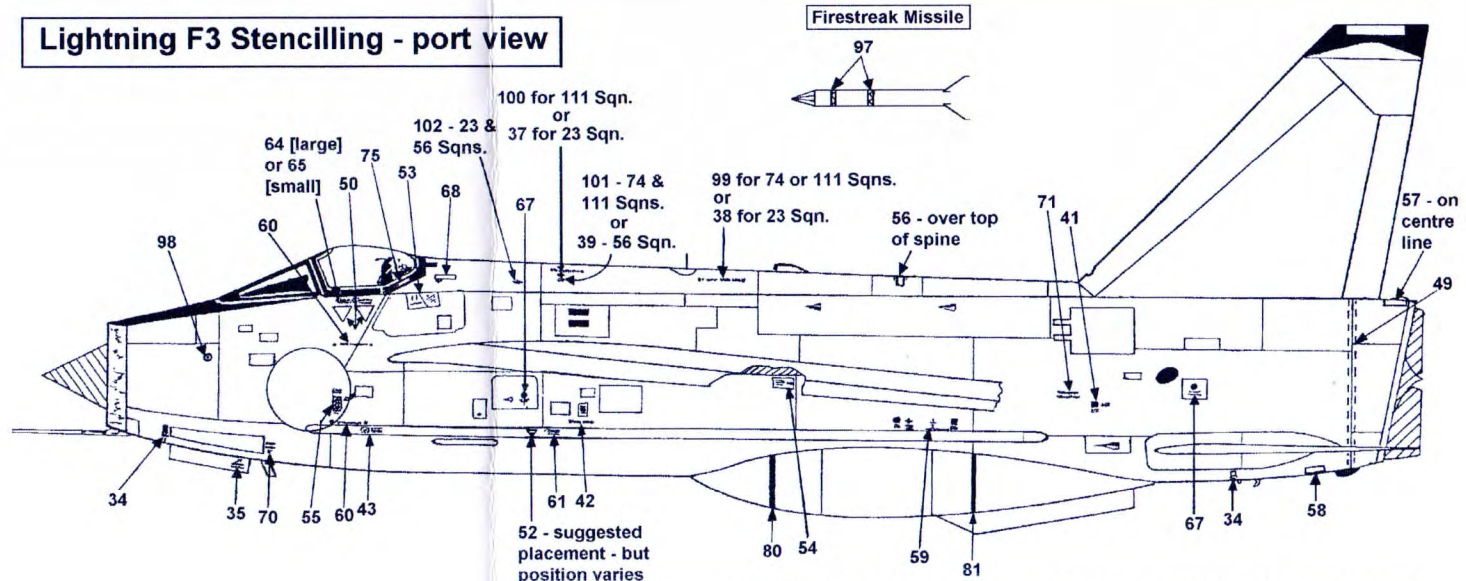
Lightning F3
Stencilling -
dorsal view



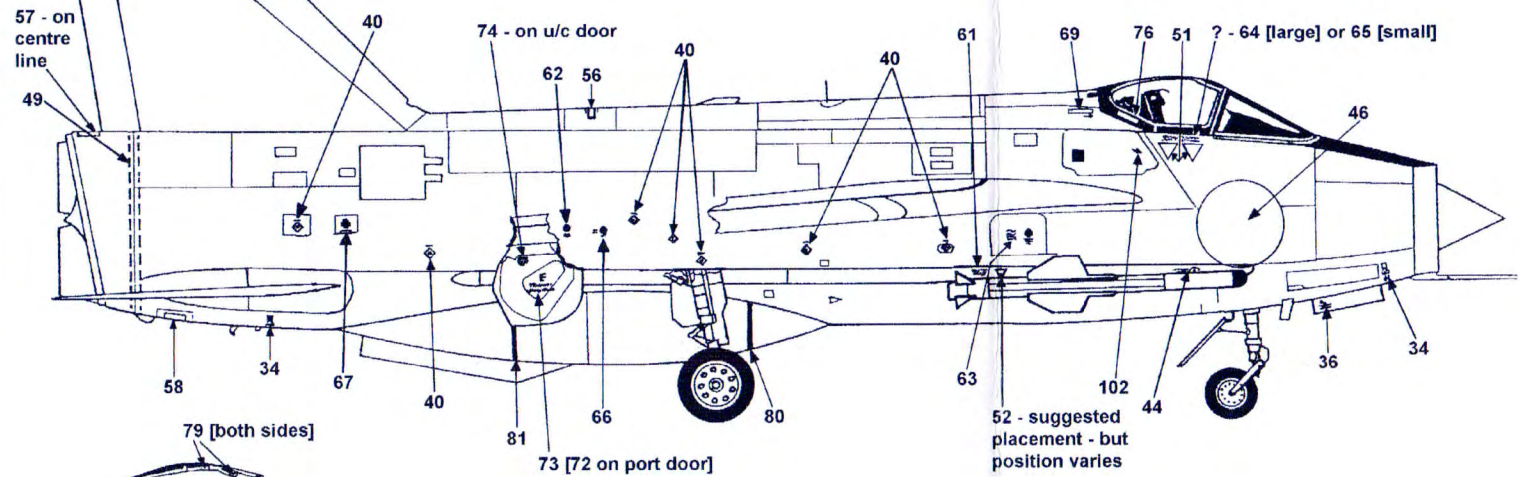
Lightning F3
Stencilling -
ventral view



Lightning F3 Stencilling - port view



Note on spine of 56 Sqn. aircraft - we cannot find any references that show standard spine markings on these machines. If present in black, they might be difficult to spot in photographs, but they were certainly not present in either white or yellow



Lightning F3 Stencilling - starboard view

