

Revell-Monogram F-4E Phantom II USAF

by Ben Brown & Thierry Laurent

TYPE: F-4E Phantom

SCALE: 1/32

COMPANY: Revell-Monogram

KIT Number: 4668

MOLD CREATION DATE: 1994 (Revell Germany) for RF-4E sprues 1995 (Revell Germany) for F-4F sprues 1998 for F-4E sprue

NOTE: This kit shares no part with the unslatted wing F-4E kit released by Revell USA in the sixties.

TWEAKS LIST VERSION 1.1 (publication date: May 2005)

The following list is intended to help modelers in improving scale accuracy of an airplane model replica. In no way is it intended to support or be offensive towards a scale model company.

As such, it is only the result of a progressive process and is in no way intended to be absolute or even comprehensive. Hence, it is intended to focus on commonly admitted discrepancies and will probably not cover some errors. It is up to the modeler to decide whether correcting the listed issues is worth the time and money he will have to invest in the quest for accuracy process.

No aftermarket correction or detail set is mentioned in this document as the availability of such items may be very variable. Hence, refer to other LSP sections to find relevant information. Moreover, aftermarket sets do not necessarily correct all listed issues. Please refer accordingly to relevant documentation.

#### 1. NOTICEABLE FUSELAGE ISSUES (from front to rear)

- Replace pitot tube (too short).
- F-4E nose is wrong from the windscreen forward. Top of nose has straight profile from the windscreen to the radome. The nose actually had a slight curve. There is the same problem from plan view. Note the kit radome is slightly asymmetrical, when viewed from above. The left side and right side curve a bit differently. Such discrepancies are fortunately not so noticeable because the shape of the radome is so bad it hides the rest of the nose's shape problems. At least correct nose radome profile (as the kit one is too tapered and pointy) or use aftermarket resin nose.

- Gun purge door is a little bit oversized. Sand it to decrease as much as possible its edges thickness or rebuild e new one.
- Fill steps erroneously molded on the front fuselage starboard side as real airframe only has them on the port side.
- Add the diagonal brace in the nose port side vent.
- The oval-shaped panel that covers the radome hinge on the starboard side of the nose has a panel line running vertically through it that needs to be filled.
- “Nose” of Midas gun muzzle is a little bit too blunt. It needs to be more rounded and swept back more (top to bottom).
- Gun bulge bottom is flattened whereas the real airframe part is rounded.
- The oval shaped vent on the rear nose gear door (right side of the bulge that matches up to the gun pod) is missing. Note this is hard to see with the door open, even on the real jet.
- Air conditioning large intakes on the sides of the nose should not taper, the sides should be parallel.
- Formation strip lights should protrude about 0,5cm from the surface of the actual airframe. Use thinnest styrene strip you find or photoetched parts.
- Area between door 19 and the rear canopy is too short. Door 19 is the panel just behind the rear canopy with the IFF antenna, upper fuselage nav light, and SST-181X Beacon antenna on it. The humped part of Door 19 is a separate part in the kit whereas it is part of the same panel on the real airframe. Hence, the seam should be filled in. Small circle on door 19 should be a clear position light. Large circle is IFF antenna and should be black. Position light on door 19 and the two under the intakes didn't have reflectors, so the inside was just a black hole when the lights were not on.
- Engine air Intake parts are 2-3mm too long. Moreover, take care adjusting them correctly as the assembly is a little bit fiddly. Check access panel lines on the side of the intake trunks as they have several errors.
- There is no intake duct part. Either use aftermarket parts, make them from plasticard or scratchbuild FODs to hide intake void. Probes mounts inside of intakes should be straight, not swept back. If you add ducts, note that part 40 should not be set vertically in the fuselage as engines have a positive angle. Hence, glue part upper edge behind the positioning tabs.
- Improve vari-ramps (air splitter plates) vents: thin edges and add two thin internal walls. The outboard panels of the vari-ramps were moveable, and they had a panel that slid over

the inboard section on the top and bottom of the ramp. Made them with very thin styrene. Also note angle of top of vari-ramp too steep as it goes up to intake. The inboard edge of the ramp is angled down, not straight across like every F-4 kit ever produced has. The one on the underside is straight across. Last but not least, the parts have a hollow rear face when it should be solid, remove locating pins and use plastic card to fill the void.

- Add some strips of plasticard (+/- 1,5mm) around the cut in part 58 where the front fuselage parts will have to be glued to ensure the nose section will be correctly located.
- If you use a centerline drop fuel tank, add on the belly its sway locks and their hinged doors. The locks are intended to secure the tank. Also add the missing plumbing hoses between the belly and the tank.
- Engine auxiliary air intakes on either side of the centerline belly rack are closed. Actually, they are opened on any parked Phantom. Open them, scratch them as well as their actuator and the undersides of the engines (with various pumps, pipes, and wiring added). Note that, except the doors, this area is far from being really visible on a model.
- The little triangular NACA intake forward of the right side auxiliary air door does not exist on the full scale airframe. Actually, this should be a protruding antenna.
- Diamond-shaped AIM-7 missile guidance antennae need to be added to aft ends of aft Sparrow missile bays. That NACA duct on the belly is where the forward AIM-7 missile guidance antenna should be. It's the same shape as the two aft ones.
- A small drain exhaust is missing on each fuselage side (above the root of the leading edge of the wing).
- Add the two missing small refueling lights, side by side just forward of refueling door.
- F-4Es have never been fitted with Ram Air Turbine (on left side of fuselage in the center of the walkway) and just had avionics placed there under a screw-down panel. Accordingly, fill the middle line that runs front to back on the port side. Also note that no F-4 had these doors on the starboard side. The two doors for the RAT were changed to one large panel, and this area was used to house a receiver-processor for the RHAW on the F-4E. Hence, fill accordingly panel lines.
- Fill Sparrow wells slots as even if you use missiles, they are visible. If you use Sparrow missiles, you will conclude that they do not fit rear wells. Hence, move rear slots as Sparrow radome has to be at the forward part of the well. Check also missile position to ensure their fins will not foul the main flaps. Cut off the upper fins on the missile and fill the location holes which you sealed earlier then sand them smooth with wet and dry wrapped around a paint brush handle, the missiles will now fit fully forward in the bays clearing the flaps and the air brakes.

- Blade of “splitter plate” on intake at base of fin is too thick. Intake needs to be opened above the little horizontal splitter.
- Small bare metal bleed air exhaust located on each fuselage side just above the engine exhaust is not totally correct but slots shape error is not very noticeable.
- Add details behind the little window located up to the front titanium area on the starboard fuselage (forward of the right stabilator). This is door 62 on the full scale airframe. Add the arresting hook gear hydraulic oil servicing gauge and the air filler valve with a yellow cap: Some plastic sprue lengths with a spare gauge decal behind the transparent part will mimic this.
- Check that elevators have the correct  $23^\circ$  anhedral angle (use a paper template if necessary).
- Engrave missing panel lines (panel 106R) on the right side just aft of the stabilator pivot assembly.
- Fill access panel lines on the vertical fin right side (the round panels and the one just under the fin cap).
- Add missing small drain pipe under tail, between the stabilators.
- Add V shaped part behind the arresting hook end (scratchbuilt or photo etched part).
- Add missing pull rod for opening the drag chute door, under the aft fuselage, between the stabs.
- The drag chute door/ aft fuselage cross section is too square, but not really noticeable.
- Afterburner nozzles are not very detailed. Detail them with photoetched parts or replace them with identical diameter resin ones. Afterburner cans are far too short. Replace them with home-made (not easy) or aftermarket parts.

## 2. NOTICEABLE WING/WEAPONS ISSUES

- Dihedral of outer wing panels is not correct: it should be 12.5 degrees, not 8.
- Outboard slats missing triangular plate on their inboard ends. This should create a slot that the wing fence fits into. As-is, there is just a cut-out in the inboard end of the slat that the fence fits into. The wing fences actually protrude out past the leading edge of the wing panel and have a rounded forward edge. This is hidden by the outer slat so it may not be a problem with most modelers. By the way, the wing fences are too thick, and should be replaced with thin plastic card or photoetched parts.

- The panel lines between the inboard slat actuators on the bottom of the wing are wrong for a slatted wing. The bottom of the outboard wing at the outboard end of the slat has the same indentation just aft of the slat as the top of the wing; this doesn't exist on the real airplane. The bottom surface should be continuous and smooth.
- The panel lines on top of the wings outboard the wing folds are also mostly incorrect.
- Wing tips RWR antennae parts (211) are molded in clear plastic when they should be black (fiberglass painted with black Neoprene rubber on the real jet). Moreover, they are much too large. Sand them down to less than half of their original height before attaching them to the model. Alternately, use the two clear antennae as the wingtip rear lights (red on port, blue on starboard) and use the two grey plastic domes as RWR antennae!
- Aft ends of wing tips should be nav lights (red port, blue starboard).
- Cut out wing flaperons, add detail on their side edges and wing corresponding edges. Reinstall them in a slightly down position.
- Oval fuel tank vents just outboard of ailerons should be hollow.
- Move holes for the inboard pylons as they are supposed to line up with the rib that runs through each MLG wheel well (the pylon rear actually bolts to this rib on the real jet)
- LAU7A/5 (FRG) AIM-9 rails are wrong for an USAF F-4E. They are longer and more rounded than Aero3B rails (official length: 87 inches) intended to AIM-9E/J. Modify rails shape or possibly use Tamiya parts (even if their length is not correct either, this is not too noticeable).
- Improve rear of AN/ALE 40 chaff dispensers mounted on inboard pylons sides: either open the rear end (make a square hole with a file) or add the cover plate with its four bolts.
- Add missiles exhausts.
- The 370 gallon wing tanks likewise are slightly too narrow but this is not really noticeable.
- The ALQ-119 ECM pod nose is a bit too blunt. Moreover, the pod mounts are located too far forward (+/- 15 mm) on the pylon. To correct this, use front one as the rear and move the rear one where it should be.

### 3. NOTICEABLE COCKPIT ISSUES

- Front instruments glare shield is misshaped. Reshape it, use one from an aftermarket cockpit set or modify a leftover Tamiya F-4D part. Gunsight (LCOSS) is not really correct either.

- The cockpit floor is far too low (front tub: 6mm & rear tub: 9mm to remove!). To bring rear seats up above the cockpit sills, separate front and rear tubs and modify them to put them higher. Also modify rear bulkhead of aft cockpit as it should be vertical. In this case take care as the abovementioned 9mm refer to the incorrect sloped rear bulkhead. A correct vertical one will even be shorter. The slant of the rear wall in the front cockpit is also incorrect (too far forward). This results in the floor shifting forward which throws of any other details like instrument panel location. Another solution implies rebuilding more correctly sized cockpit tubs from scratch.
- Note that in the rear cockpit, the consoles did not go all the way back to the rear bulkhead, but stop about even with the middle of the seat. Aft of these, there were shelves with the various black boxes on them. Consequently, add missing black boxes at the rear of side instrument consoles and on rear bulkheads if you do not use an aftermarket cockpit.
- Cockpit sills are a little bit too narrow and have no holes corresponding to canopy hooks.
- Whereas F-4F kit has new parts, F-4E kit has only “old” Mk-H7AF seats parts from the RF-4E (parts 1 to 6 and 19). Correct and detail them or use aftermarket resin seats.
- Turn the pilot control column (part 10) through 180 degrees as it is depicted the wrong way round.
- Fit part 189 directly onto the bridge (part 74) not the control panel as suggested in the instructions.
- There is a seam between both sides of the centre bar linking both front fuselage parts between pilot & WSO stations. Use the canopy bridge part (74) to determine which thickness of plastic strip should be added rather than squeezing both fuselage parts to meet in the middle.
- There is no detail behind the WSO front panel (part 255). Add lengths of sprues to mimic instruments rear faces or possibly use modified left-overs from a Tamiya kit. Add other details in front of rear side of upper WSO panel (many conduits and circuits wires are missing between the stations).
- Add similar wires behind the WSO station.
- Throttles part locators are too large for corresponding holes in side consoles (parts 183-185).
- Kit has APG-65 radar antenna control stick on the WSO right instrument console. F-4E used a differently shaped one (LRU-10 for APQ-120 radar).
- Add map reading lamp in each cockpit station (a length of sprue with a coiled wire).

- Add circuit breakers, other details and insulated panels on sidewalls if you do not use an aftermarket cockpit.
- Add oxygen hoses, map case as well as landing gear, brakes and other missing levers if you do not use an aftermarket cockpit.

#### 4. NOTICEABLE CANOPY ISSUES

- Windscreen is slightly misshaped, front canopy is too short and rear canopy is too long. This is fortunately not really noticeable when canopies are opened. Canopies are also slightly squashed. The canopies can be displayed closed or open but in the latter case the hinges are so tiny they will not support the parts. The rams are best replaced but even then the leverage is too great so file an angle to match the raised frame between the hinge slots on the bridge and rear fairing and use a dab of superglue to fix them strongly.
- Fit part 189 directly onto the bridge (part 74) not the control panel as suggested.
- There are no canopy hooks. Use photo-etched ones.
- Add canopy knives, data cards and other details on canopy internal sides.
- Add some rear-view mirrors. F-4s generally have the mirrors mounted to the underside of each canopy.
- The "Canopy Interdictor Block" (keeps the seat from firing until the canopy has been jettisoned) wire is missing. This is a small coiled wire that goes from the right rear of the ejection seat to the rear of each canopy.

#### 5. NOTICEABLE LANDING GEAR ISSUES

- Do not use bulged tires. Just look at pictures and you will see that kit “weighted” tires rather depict deflated ones!
- Main wheels are a little bit too narrow but this is not really noticeable. Drill a hole on the brake side (inboard facing halves) of the main landing gear wheels to avoid installing them backwards (as stated in the instructions). Moreover, the outboard side of the main wheel is completely incorrect. However, this is not really noticeable as for the most part it is hidden behind the gear door. Possibly replace wheels with aftermarket ones.
- The nose gear strut is much too thin. Either scratchbuild another one (look at the Tamiya one) or replace it with an aftermarket one. A lot of wiring and additional details are also missing. The front landing gear linkage rods (parts 94) should fit to the door approximately half way up the lamp box not on the end of it. However this asks for increasing the width of the leg location to get a comfortable fit.

- Nose wheel front door should be more rounded. The landing light oval lens in nose gear door should be larger and slightly frosted. It is also positioned wrongly as is its window in the door. Remove the location and the rivets from the inside of the door, fit the window (part 217) from the inside of the door then add the lamp box (part 219) so that the top light can be seen through the window and the bottom one below the door itself.
- Sand inner faces of rear door parts 220 & 221 to give a thinner section simulating metal sheet thickness.
- Nose wheel well is too shallow and needs detail added (lots of hydraulic lines, structural formers, CNI bay door, etc.). Alternately, use correction aftermarket set.
- Main landing gear struts are 3mm too long. Add hydraulic lines on gear legs.
- Main wheel wells are also too shallow. Cut away top surface and rebuild up sides with plasticard. Add wiring & linkages detail, hydraulic lines & servicing connectors, structural formers, uplock latches on rib, refuel control panel (right MLG) and communication panel (left MLG) in landing gear bays. Alternately, use a correction aftermarket set. The main landing gear door linkages (parts 110) will not fit as shown. It is necessary to drill a 1mm hole a little further outboard in the wheel bay, in line with the rivets.
- Possibly replace landing gear tie-down rings with new ones made from brass wire.

## 6. OTHER NOTICEABLE ISSUES & MISCELLANEOUS REMARKS

- The F-4E kit is an adaptation of the F-4F model (without the German MB seats sprue) but with an additional sprue (correct upper fin part with RHAW antenna, slotted stabilators, cockpit front and side instrument panels and two Sparrow missiles). However, many specific F-4F details have not been modified to depict an accurate F-4E.
- Light/medium grey plastic has no or very little flash. Canopies parts are crystal clear and their fit to their frames is near perfect. Surface detailing is superb, all engraved with excellent fine lines to just the right depth. Fit of parts is generally very good.
- Kit offer centerline drop tanks option (early “Royal Jet” or late “a la F-15” high-G style).
- The crew ladder has no "hooks" at the top to locate it into the cockpit. However, using it needs solving the air intakes length issue.
- No landing gear down locking jack is provided.
- If building a pre-1984 F-4E, do not install the upper UHF antenna (offset from the centerline of the fuselage) as it was inside the fin cap. Note this does not apply to

AN/ARN-101 F-4Es as they already have this antenna fitted on the fuselage centerline, just forward of the tail.

- Do not use the APG-65 radar parts if you build an USAF F-4E. Radar in the box may only be used to build upgraded Luftwaffe ICE F-4Fs or Hellenic Air Force upgraded F-4Es (Peace Icarus 2000). By the way, opening the radome is not so easy because of the odd way Revell choose to mold part of the nose cones with front fuselage halves.
- Do not use AMRAAM missiles (only for Luftwaffe ICE F-4F).
- F-4E kit depicts a late block (with slatted wings and structural reinforcement plates on wings but without TISEO, ARNIE or other later modifications). Converting it into an early F-4E asks for some major modifications.
- Do not use AIM-9L missiles on USAF F-4Es. If you want Winders, use aftermarket ones or modify Tamiya phantom ones (e.g. to depict J ones). As aforementioned, the kit rails for the AIM-9s are for very late 80s through current F-4Es only. Such rails are necessary to launch the AIM-9L/M (with seeker coolant carried in the rail). Earlier Phantoms used the AERO-3B rail, which has a much different shape.
- Throttles should be put on the full aft (“idle/cut off”) position.
- Revell-Monogram decals (F-4E) are good but far from comprehensive regarding stenciling. Moreover, they give no panel number.
- European 1 camo painting instructions are partly erroneous. It seems Revell copied errors of the original USAF T.O.-1.1.4 reference document. Bottom profile is correct but Medium Green and Dark Green colors call-outs are switched in the side and top profiles.

The following sources were used to build this list.

Modelling essentials:

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Other used books:

- Thornborough, Anthony, Davies, Peter, The Phantom Story, Arms & Armour Press, 1997.
- -, Phantom – A tribute to the F-4 Phantom Combat Fighter, Classic Aircraft series N°1, Key Publishing Limited, 2004 (?).

Other references:

- Some magazines articles (more particularly from Scale Models, IPMS USA & Replic)
- Some web pages (more particularly LSP pages (Menelaos Skourtopoulos Phantom kits) and various internet workarounds such as ARC ones)

- “F4Sforever” newsgroup old posts (special thanks to Scott Wilson, ex-USAF Phantom crew chief)

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