



ASIAN AIR ARMS Newsletter 35

January/February 2023

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Serving Asian Air Arm Enthusiasts and Modellers in 60 countries

Fairchild AC-119G/K Gunship

in VNAF service



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Introduction & New Kit Releases - 2023

Since we are just into the New Year of 2023, I have decided to forego my usual musings for this edition of the newsletter and focus on a brief coverage of some of the brand-new or revised kit releases that we can look forward to during the forthcoming year. First and foremost, however, I should like to extend a belated Happy New Year or Kong Hei Fat Choy to our readership !. This is, traditionally, the time when hobby companies first announce their new releases, and 2023 is no exception with the likes of Airfix, Great Wall Hobby and Kinetic providing an indication of what the modeller can look forward to. This short introduction is not intended to provide a comprehensive list of new arrivals but to focus on those that may be of interest to those readers in the short to medium term. I plan to make this news item, space permitting, a semi-regular feature of the newsletter. Some of those items listed here are already well-known; others are not, and I think it is also fair to say that fans of 1:48 scale kits will be the most pleased since these do appear to dominate the marketplace right now.

First up is Airfix, which have not produced as comprehensive a list of new releases as in previous years but have now underlined the popularity of 1:48 by announcing the forthcoming release of a Fairey Gannet AS.1/4 (AX11007). The Fairey Gannet is, by no means, a well known or particularly popular aircraft subject, so this has come as somewhat of a surprise, but the good news for Asian Air Arms fans is that the Indonesian Navy did actually operate the type, and although the initial release does not include Indonesian markings, I have little doubt that an enterprising aftermarket decal manufacturer will come to the rescue! Airfix are also planning to re-release their superb 1:48 Hawker Hunter with extra parts for the FGA.9 variant (AX09192) which will finally allow the modeller to build a Singaporean FGA.74 out of the box although, again, markings will need to be sourced from elsewhere.

AFV Club have announced a limited edition re-release of their excellent 1:48 scale Northrop F-5E Tiger II (AR48S010), which will include markings for at least one ROCAF example. Many will no doubt look forward to Avant Garde's recent announcement of a 1:48 scale Mil Mi-17 'Hip' medium-lift helicopter (AMK88010), which will be released in close cooperation with Annetra, the company that actually designed and developed the model.

Ukrainian kit manufacturer, Dora Wings, are also planning the long-awaited release of a newly tooled DHC-2 Beaver (DW48-2022D), which would look great in any of the colour schemes applied to those examples previously operated by at least 10 Asian Air Arms, including Laos, Indonesia, South Korea and Taiwan.

Great Wall Hobby have a busy year ahead by the look of things. In 1:48 scale they have plans to re-release their mighty Sukhoi Su-30 as the Su-30MKI variant (Kit Reference GWHL4826) complete with BramHos Missile and Indian Air Force markings, as well as a Limited-Edition re-release of the Su-27 with several PLAAF options. GWH are also planning a whole family of Mikoyan MiG-29 Fulcrums in 1:72 scale, which will presumably be based on their excellent 1:48 scale kits, and should allow those that model in the smaller scale to reproduce many of the different variants operated by Asian Air Arms, including Bangladesh, India, Malaysia and North Korea.

Legendary Japanese manufacturer, Hasegawa tend not to provide a comprehensive list of new or revised kits for the year but can normally be relied upon to provide a number of appropriate releases; we are already aware of re-issues of their excellent Boeing AH-64D Apache (HA07515) and Mitsubishi F-2A Kai Viper (HA07518) with additional parts to cater for upgraded examples in service with the JASDF/JGSDF.

A Hong Kong Models release that crept in towards the end of 2022 was a brand new kit of the North American B-25J Mitchell in 1:48 scale (HKM01F08) which has been on some modellers 'wanted list' for some time, to replace the rather dated Monogram/Revell version of the late-variant Mitchell. Most will, no doubt, want to use this kit as the basis for a WWII project but there will be some modellers that would inevitably like to produce a Post-War Indonesian or ROCAF example from this excellent kit.

Another Hong Kong based manufacturer, Kinetic, are fast becoming a dominant force in kit manufacturing with an extensive back catalogue of Asian Air Arm related kits. The General Dynamics F-16 Fighting Falcon was one of their earliest kits and the subject recently received a significant makeover with the release of US and NATO orientated examples incorporating a brand-new mould. It was, therefore, inevitable that this highly anticipated kit would soon feature a boxing which offered Asian markings and one of the early re-releases for 2023 (K48-133) will include markings for at least three examples operated by the Republic of Singapore Air Force, including a F-16C of the Black Knights Aerobatic Display Team. I have little doubt that subsequent boxings will include additional parts and decal markings to complete examples from the other five Asian Air Arms that currently operate the type.

Moving up to 1:35 scale, Takom have recently announced a brand-new family of Boeing AH-64 Apache attack helicopters with one of the releases (TAK3603), for a Boeing AH-64E variant, including decal markings for Indonesian Army and Republic of Korea Army examples.

Finally, for now, well-known Chinese manufacturer Trumpeter has announced the imminent release of a 1:48 scale kit of the Mil Mi-8MT medium lift helicopter (TU5817), which has seen service with a large number of Asian Air Arms over the years.

Mark ATTRILL – January 2023

We would like to take this opportunity to welcome all the new members who joined our SIG in 2022, namely:-

Richard Abbott, George Balin, Harold Corbin, Ray Engineer, Randall Heiler, Joe Ubert - USA; James Bamford, Christopher Buttigieg, Christopher Carr, Brian Chan, Julien Dixon, David Furness - UK; Ken Bowes - Indonesia; Jovi Castro - The Philippines; Jason Floyd - Italy; Thomas Gausmann - Germany; Johannes Linder - Sweden; Hashim Kamaruzaman - Malaysia; V Nitin, Tej Singh - India; and Ray Seppala - Australia.

Frontpenny Decals - RoCAF North American F-86F Sabres

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As an enduring fan of the North American F-86F Sabre, a relatively new decal release from Chinese decal manufacturer Frontpenny recently caught my eye, and has now arrived on my workbench for review. This new sheet is another welcome departure from Frontpenny's normal fare, in that it features the North American F-86F and RF-86F Sabre in Service with the Republic of China (Taiwanese) Air Force. By way of introduction, the RoCAF received 160 F-86F-1 through F-86F-30 Sabre aircraft between December 1954 and the end of 1956, and by 1958 they were operating no less than 320 F-86F and 7 RF-86F Sabre, with the vast majority upgraded to F-86F-40 standard by this time. This new decal sheet is very much in keeping with the previous release from Frontpenny, which provided a very comprehensive set of markings for the Lockheed F-104 Starfighter in RoCAF Service. This release appears to cover the entire early career of the F-86F/RF-86F in RoCAF service, from the initial supply of F-86F-1 variants through to the ultimate delivery of F-86F-30s and seemingly everything in-between. I should note at this stage that almost all of the very comprehensive Decal Placement Instructions (DPIs) are presented in Chinese characters, making it quite difficult to navigate, but Frontpenny appear to be providing decals to reproduce F-86Fs as they were delivered in each of the four years between 1954-58, with four distinct sections covering options for no less than 25 different aircraft. All of the featured aircraft have the prototypical natural metal colour scheme, with the first examples sporting fairly bland national and unit markings, although some had started to show a little more colour with the addition of broad yellow/red bands on the rear fuselage and nose surfaces, together with individual unit insignia on the tail. This section also includes markings for one of the more unusual reconnaissance-configured RF-86F Sabres. The arrival of additional -30 aircraft in 1955 appeared to facilitate the application of ever more flamboyant fuselage and tail markings, most probably in an attempt to better delineate the number of Wings and Squadrons that were then being equipped with the F-86F and, in an interesting aside, this section includes F-86F-30 52-4441/6272 which defected to the Peoples' Republic of China in 1963. Section 3 features some aircraft with very individual markings including one of my favourites, a F-86F-25 with a rather fetching 'sharkmouth' around the air intake, together with a yellow/black fuselage stripe and red/white checkers across the tail surfaces. The fourth section charts the history of the 'Thunder Tiger' Aerobatic Display Team of the RoCAF, with all of the variations of markings associated with this team and across the many sub-variants operated, but all including the very attractive yellow/black chequered fuselage and wing bands sported by these particular aircraft.

The decals are presented across four separate sheets with the largest dedicated to the vast array of stencilling that is applied to RoCAF F-86Fs. All of the variations in national markings, aircraft and unit codes are included, together with a very colourful array of Squadron insignia. It should, however, be noted that all of the major tail and fuselage bands, striping and chequers are presented on two pre-cut stencil sets which can be used to facilitate the standard Blue/White National markings applied to the rudder, along with all of the variations in fuselage and fin bands. The package also includes two sheets of clear masking material to aid with any masking tasks that the modeller needs to undertake. The decals appear to be a little on the thick side, but the printing density and registration are very good. As with the majority of Frontpenny releases, the decal sheets are a little 'bitty' and could have been better presented on one or two A5-sized sheets.

The major issue for most of us will be the Decal Placement Instructions (DPIs). As previously stated, and not surprisingly, given their origin, 99% of the information is presented in Chinese, but on the plus side, the colour side profiles and three-view drawings are excellent and provide sufficient information on the positioning of the various National and Unit markings, together with the safety and maintenance stencilling. For ease of reference, I have managed to track down an English language version of the list of subjects covered by this particular release and this is included below. The DPIs also include a number of reference photographs, although the majority of these are quite small so some further research will be required for each subject. On that note, I observed that one of the references quoted on some of the images was for a website that goes by the name of **yocumusa.com**. At first glance this would appear to be an



obscure reference, but further investigation revealed the website to be an absolute mine of rare, period photographs of RoCAF F-86F/RF-86F Sabres, with some absolutely superb material available; I particularly liked the sequence of photographs portraying technicians and armourers working around an aircraft, with others showing pilots crewing in.



I will readily admit that I always thought RoCAF F-86F Sabres, with the exception of the very attractively marked 'Thunder Tigers' Aerobatic Display team jets, to be rather bland in comparison with some of the more flamboyant examples operated by other Air Arms but this new release from Frontpenny certainly dispels that notion. It should be noted that this release is also now available in 1:72 scale (Item Reference FP72003C)

As before, Frontpenny would appear to think that their decals have limited appeal outside of the Far East, and my impression is that distribution is very limited so sourcing them could be a challenge. I found these sheets by returning to on-line retailers on E-Bay and I suspect production is limited, so I would urge SIG members to purchase them sooner rather than later if there is a particular subject of interest.

Highly recommended to anyone interested in the North American F-86F Sabre or the ROCAF.

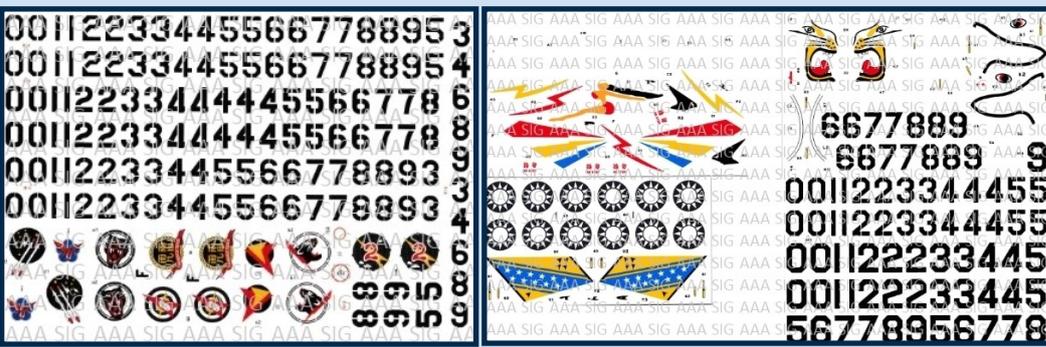
Mark Attrill
October 2022

List of ROCAF F-86F/RF-86F Sabre Options (FP48003C/FP72003C)

1. F-86F-30, F-86011(52-4589), 5th group, 17th squadron, Taoyuan Air Base.
2. F-86F-1, F-86001(51-2893), 5th group, 26th squadron, Taoyuan Air Base.
3. F-86F-30, F-86015(52-4596), 5th group, 26th squadron, Taoyuan Air Base.
4. F-86F-30, F-86021(52-4579), 5th group, 27th squadron, Taoyuan Air Base.
5. F-86F-25, F-86065(51-13185), 5th group, Taoyuan Air Base.
6. F-86F-30, F-86328(52-4419), 5th group, Taoyuan Air Base.
7. F-86F-30, F-86251(52-4546), 5th group, Taoyuan Air Base.
8. RF-86F, RF-86002(52-4857), 12nd squadron, observed at Hong Kong Kai Tak Airport.
9. F-86F-30, F-86359(52-4819), 11st group, Hsinchu Air Base.
10. F-86F-30, F-86365(52-4494), 11st group, 44th squadron, Hsinchu Air Base. First missile in air battle, 24 Sept 1958
11. F-86F-30, F-86262(52-4473), 11st group, 41st squadron, Hsinchu Air Base. Min River Estuary Air Combat in 5 Jul 1959.
12. F-86F-30, F-86272(52-4441), 11st group, 41st squadron, Hsinchu Air Base. R.O.C. pilot Tingze Xu defected to P.R.C. on 1 June 1963
13. F-86F-30, F-86137(52-4607), 11st group, 48th squadron, Hsinchu Air Base.
14. F-86F-30, F-86271(52-4433), 11st group, 43rd squadron, Hsinchu Air Base.
15. F-86-1, F-86078(51-2901), 11st group, 44th squadron, Hsinchu Air Base.
16. F-86-10, F-86156(51-2958), 11st group, 44th squadron, Hsinchu Air Base.
17. F-86F-30, F-86141(52-4545), 11st group, Shooting competition at Clark US Air Base in Philippines.
18. F-86F-30, F-86129(52-4388), 2nd group, Hsinchu Air Base.
19. F-86F-30, F-86075(52-4887), 2nd group, Hsinchu Air Base.
20. F-86F-25, F86167(51-3214), 3rd group, 7th squadron, Tainan Air Base.
21. F-86F-25, F86167(51-3214), 3rd group, 7th squadron, Pingtung Air Base.
22. F-86F-40, F86141(52-4545), 1st group, 1st squadron Thunder Tigers, Tainan Air Base.
23. F-86F-30, F86278(52-4446), 1st group, 3rd squadron, Tainan Air Base.
24. F-86F-25, F86405(52-5467), 1st group, 3rd squadron, Tainan Air Base.
25. F-86F-25, F86373(52-3387), 1st group, 9th squadron Thunder Tigers, Tainan Air Base.



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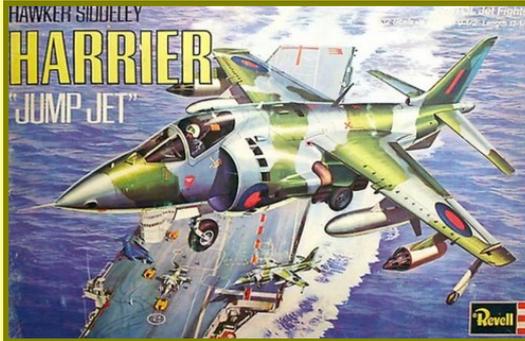


Building a Thai AV-8A(S) Harrier in 1/32

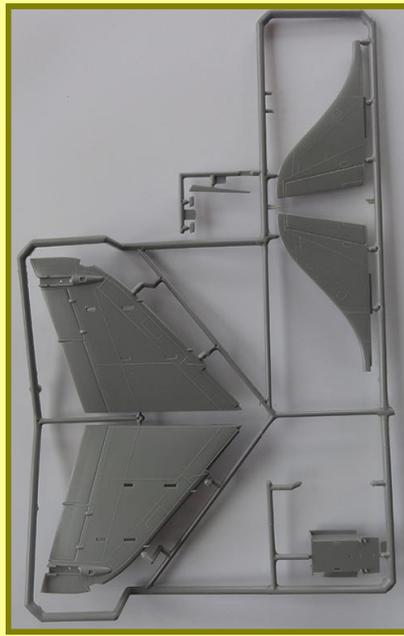
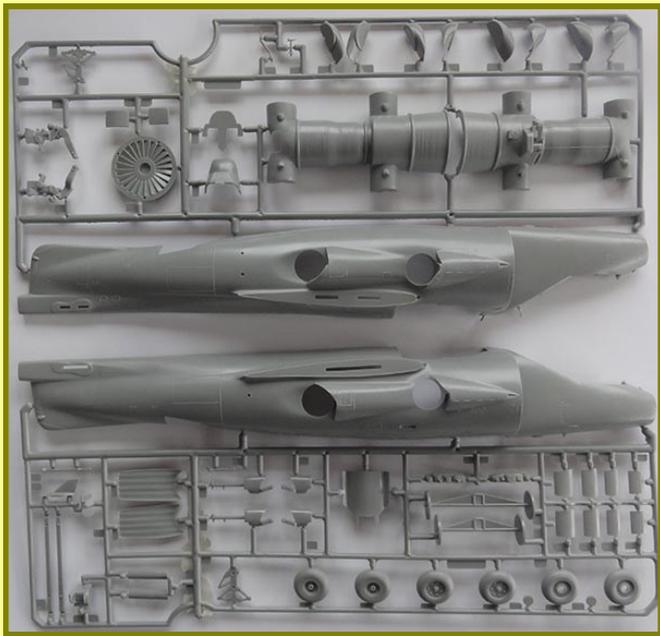
by Meindert de Vreeze



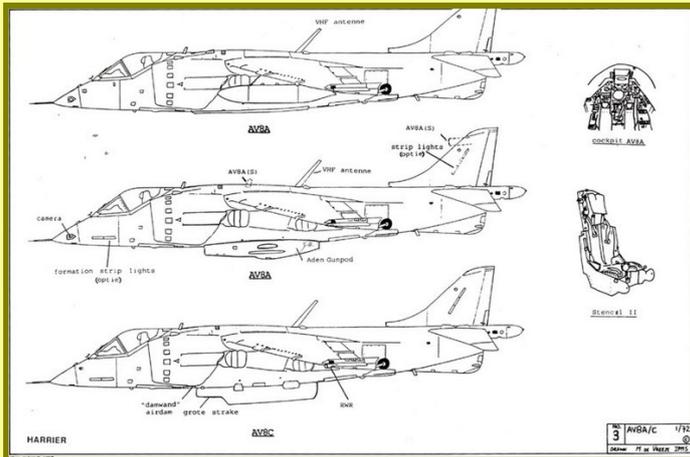
In 1972, Revell (USA) released a 1/32 kit of the Harrier "jump jet". The kit [supposedly] depicts a first-generation Harrier GR.1.



The same kit reappeared in 1973 with decals for a USMC AV-8A. This is the kit I am building. Then, in 1982, the same kit was re-issued.



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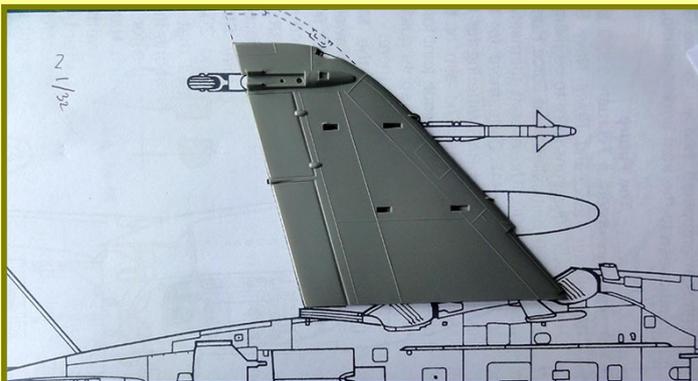


Shown here is an AV-8A drawing I made ages ago for Netherlands IPMS magazine: In those days, I made many drawings of the Harrier variants, as well as the AV-8A and the later-developed AV-8B family.

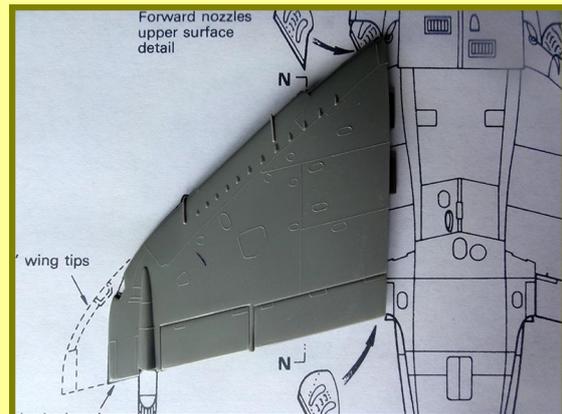
Over the years more information and books were gathered. To check the dimensions and shapes of this 1/32 Revell model, I was lucky to find good 1/72 scale Sea Harrier drawings by Mike Keep (Aircraft in Detail, Scale Aircraft Modelling, August 2002).

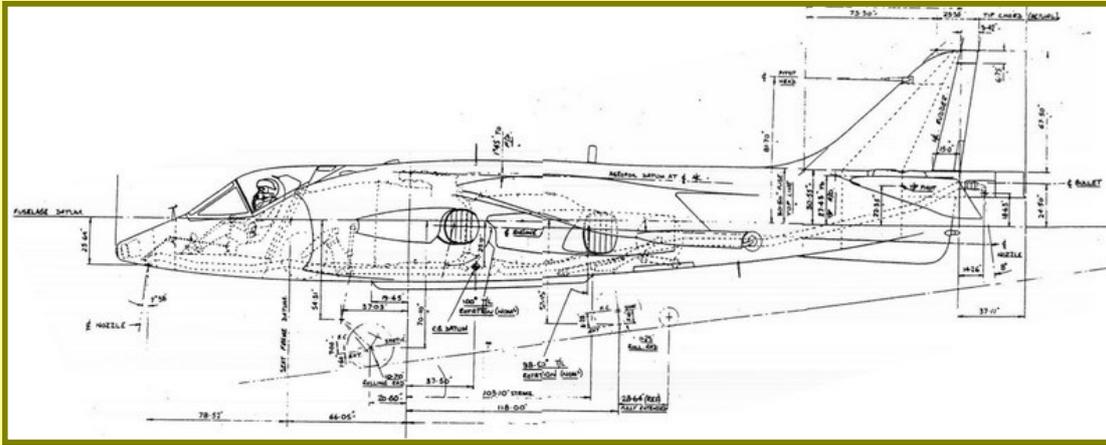
I enlarged a few of these drawings to 1/32 scale for further investigation of Harrier airframe sections.

Wing planform looks fine as per kit. The Revell kit itself is very basic, but checking the main dimensions and the shapes against many photos showed the main dimensions are OK for a GR.1 or AV-8A.



But some work will have to be done on the kit parts to get a more accurate model. It seems the old Revell kit has some characteristics of the original **Kestrel** development and pre-production aircraft:

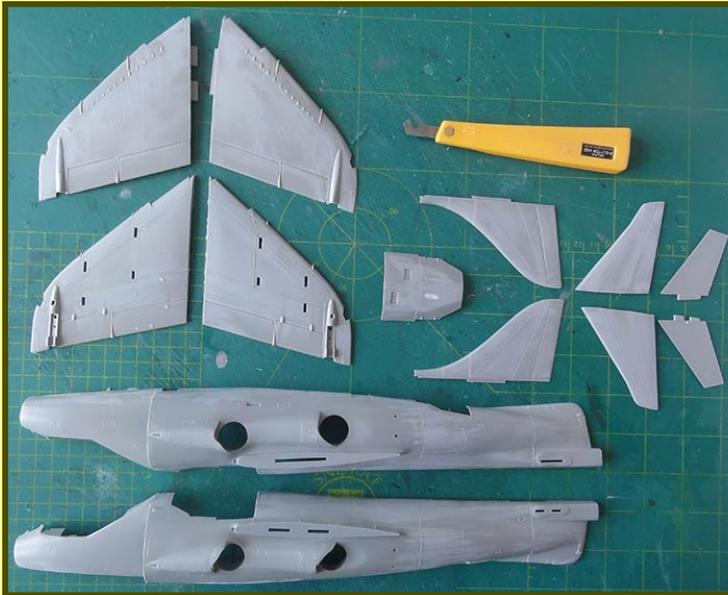




This is an old drawing of the Kestrel, note the different shape of the bulge forward of the front nozzle, which is seen also in the kit.

Preparations for improving the 1/32 REVELL HARRIER Kit

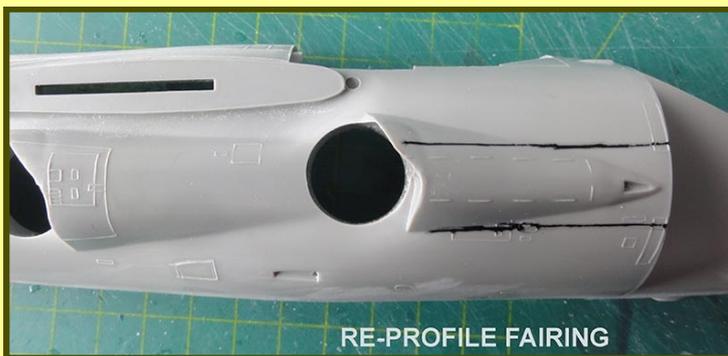
First, all the kit panel lines are raised, so it is recommended to rescribe these using the raised line patterns as a guide with a scriber; this is best done before assembly.



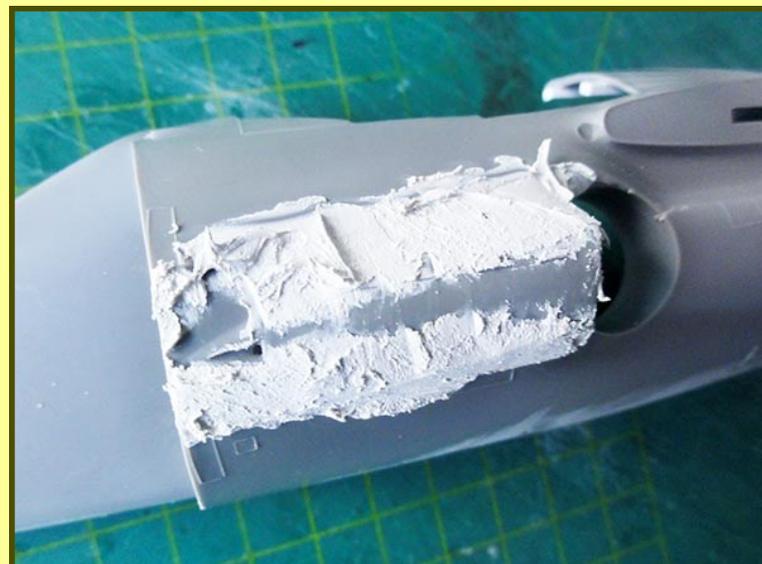
There are parts for the Pegasus engine, and a separate inspection hatch. Revell provide a sort of mechanism inside so that the exhaust nozzles rotate in parallel with a set of plastic rods. **DO NOT EVEN TRY THIS**, it's far better to fix the nozzles in place later on. So the engine will not be further detailed and the top hatch will be glued closed and blended in.

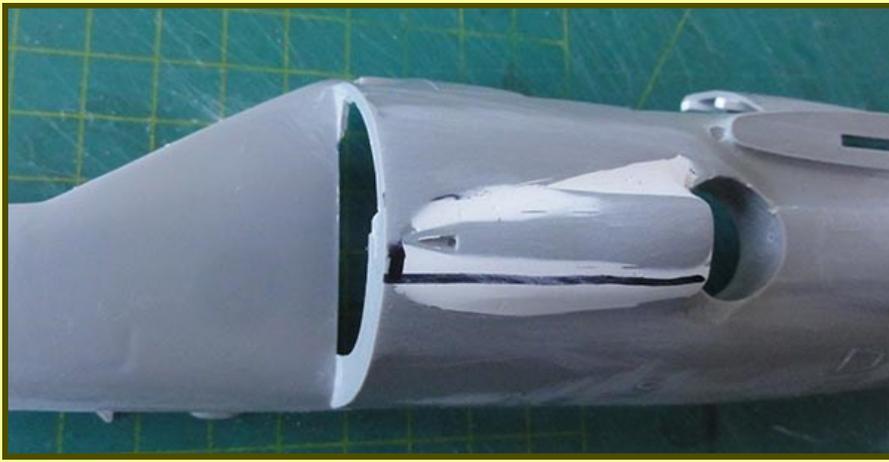
The bulges forward of the front nozzles are more appropriate for a Kestrel as noted above, and so need modification. On the Harrier this is NOT a pointed shape but more parallel and the height at the top is not that large. It's quite difficult to explain, so look at photos of the real Harrier. It should be done as it will have a great effect on how the model will look, but it will take quite a lot of effort to re-profile and achieve symmetrical port and starboard profiles

IMPORTANT NOTE: I could not verify whether the kit's large intakes, parts 37 and 38, are correct, as it is often reported that the Kestrel had smaller intakes. So the large intake openings were kept as per kit.



I cut away a section of plastic at the upper curve with a razor saw, then set card behind the gap and filled the sides with putty. Making symmetrical shapes left and right is not that easy, but doing it will vastly improve how the model looks,

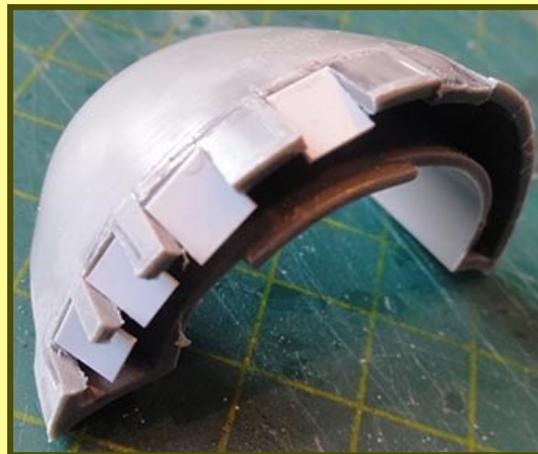




... and after sanding...

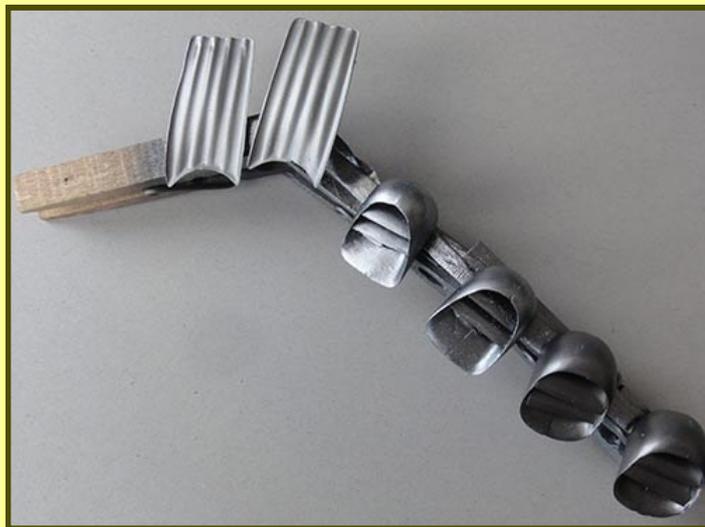
The blow-in doors on the outside of the large intakes need more detail. These doors provide more air when the Harrier starts hovering. On all Harriers, the upper 4 blow-in doors also droop due to gravity when the Harrier's engine is turned off.

Also, an extra door needs to be added as, on a standard production Harrier, there are 9 doors, not 8 as for the Kestrel, and which is the case in the kit. The doors also need repositioning, there should be a door directly in front of the small NACA intake.



So some razor saw work is necessary, and new doors will have to be made. Don't use the kit's panel lines here, as they need "shifting" to fit in the extra door. Making these doors and getting a good surface finish took a lot of measuring, cutting and filling, and is better done before construction.

The 4 swivelling Pegasus exhaust nozzles in the kit each consist of 2 halves, and have gaps at the grills. Filling is quite difficult and requires a lot of sanding. I did not get perfect nozzles, but they look good enough. The rear exhaust protection plates, 31 and 32, were shortened a bit by removing about 2 mm at their rear ends.



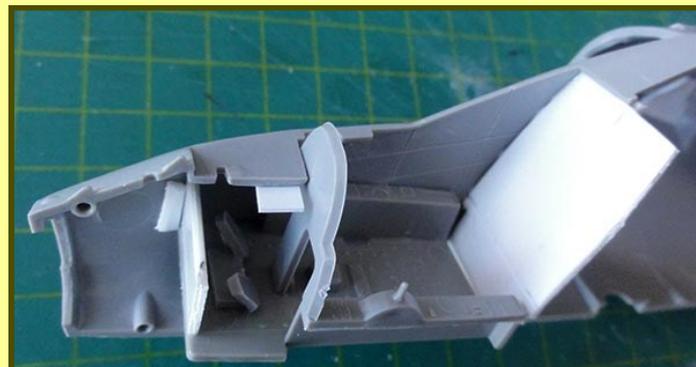
The kit's vertical tail is OK for a Harrier GR.1 or AV-8A (for later marks like the GR.3 and Sea Harrier, the vertical tail is higher).

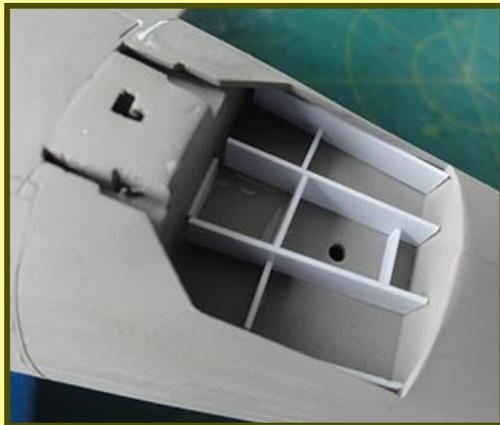
The kit cockpit requires more detail and a better ejection seat. The kit seat is rather crude and is better discarded, requiring surgery. For a British Harrier you will need a Martin Baker Mk.9, but for the AV-8A a U.S. Stencil SEU-3 ejection seat (more on that later on).

I started with a new rear bulkhead made from card. I used the kit tub but scratch-built a new panel and added more detail.

The kit instrument panel is just flat with a very basic decal. As usual with many large 1/32 aircraft models, all this can be improved with card, drilling holes for the instruments etc. and will be done later on.

The small vectoring exhausts (a.k.a. "reaction control valves") near the wing tips, rear tail boom and lower nose can be drilled out, which is what I did. Alternatively, you could 'suggest' each one with a dab of dark paint.





The outrigger wheel fairings at the lower wing tips can be made a bit deeper (or you can leave them as they are). Also, add a bit more detail on the outrigger gear at a later stage.

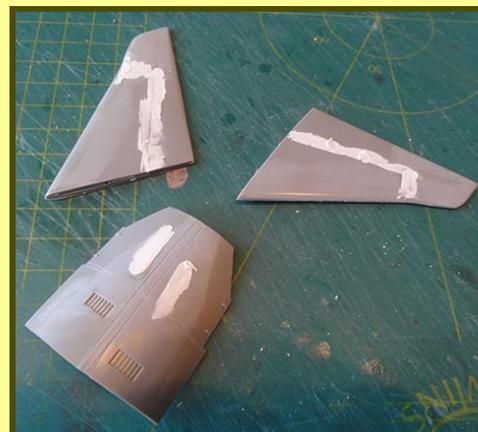
The kit wheels are a bit simplified, but not a lot can be done here except to buy the expensive Reskit 32-0211 wheel set. I kept the kit wheels!

The air brake is mostly seen open/drooped for a parked Harrier. The kit bay aft of the main landing gear is a bit basic, so I boxed it in and added some internal structural beam details.

On the upper engine panel, part 97, there are 2 faired exhausts (as on the Kestrel) but there should only be 1 for the standard Harrier or AV-8A, and in a different position.

So remove, fill, sand, and make a new one.

The horizontal stabilizers have the correct shape but need some filling and sanding as well. It is a good idea to drill holes and use a metal bar running through the fuselage to join the stabilizers, and to set these at an "neutral" angle as they tilt a little on parked aircraft. Their fixed side plates also move with them. So, fill the rear fuselage locating openings, remove the lugs, sand off the plates from the rear fuselage and make new ones from thin card. These were made using the raised pattern on the kit tail sides. Also drill open some vent holes that can be seen just forward of the horizontal stabilizers.



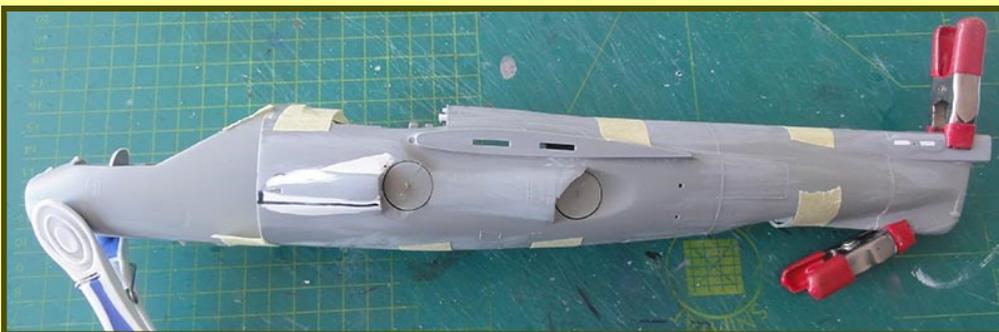
USMC AV-8As had the rounded end tail fairing as per the kit. (On other AV-8 aircraft and later Harrier GRs there seems to be a RWR antenna here). You should drill open some holes in this fairing and add some tiny knobs.

If you choose to fit the optional Aden gun pods on the fuselage belly, the gun nozzles can be made to look better by using a piece of tube and drilling the vents open. Alternatively, don't add the gun pods, and instead fit the correct small strakes that are included in the kit and look OK. Any small gaps can be closed with white glue though on a real aircraft, some gaps are sometimes seen.

The underwing fuel tanks had their rear fins removed in operational use. So cut these off the kit parts. Adding a bit more detail on the attachment pylon braces also makes these look better.

Nose gear doors can be either open or closed on a parked Harrier, and the main gear doors are then closed. The 2 thick, small gear doors are better replaced, and their mounting stubs removed. The strange nose gear leg gaps can be closed up and detailed a bit more with some hydraulics.

Assembly of the AV-8A is seen here. After adding the cockpit bits, the airbrake and the Pegasus engine parts, the fuselage was closed. I also added some nose weight.



Putty *is* needed with this kit, particularly around the engine hatch which is a separate part. I added some strips of plastic card inside the hatch opening to get more strength.

The prepared intakes with their corrected blow-in doors were fitted as well, and again putty is needed. The drooped doors are bits of plastic strip.



The wing pylon gaps were closed up as I was not sure if I would install all the pylons.





At the wing-fuselage joints, putty and sanding is necessary, and you should make sure the wings have the correct, considerable, dihedral angle. At the vertical tail base is a RAM air intake which is replicated in the kit.



The improved bulges in front of the forward nozzles are seen here with a straight outline.



The small intakes aft of the canopy were added.



Everything was given a base grey coat, airbrushing Revell Aqua 75 grey acrylic. Any imperfections will show up, so some passes with putty and sanding were again necessary.

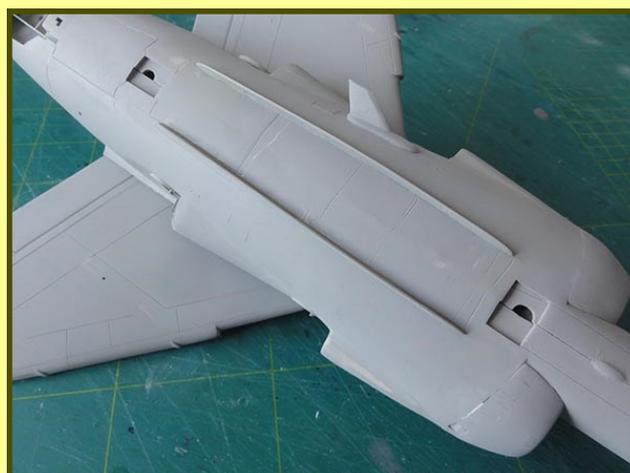
The lower fuselage strakes were added, closing the tiny gaps with white glue, as this model would not carry Aden gun pods.

A few more things were now done:

I drilled open the circular "fire access" holes in the wings at the leading edge junction, which are just shown as indents in the kit. (NOTE: the USMC AV-8A also had an air-to-air refuelling light in the left wing leading edge, next to the cooling hole).

I had to re-instate some tiny raised locks on the top fuselage engine hatch; these were moulded on the Revell kit but while filling and sanding the hatch, I had sanded them off.

I sawed-in and rescribed the trim tab on the vertical tail. I also added a tiny raised stiffener on the right side of the vertical tail just forward of this trim tab.



Further AV-8A notes:

- many USMC AV-8A aircraft were later fitted with low visibility formation lights, which can be added if desired from thin strip.

- many USMC AV-8As also had Sidewinder capability, so make a pylons with adapter/rail and add Sidewinder AIM-9s from the spares box.

NOTE: from 1976, later USMC AV-8A's were modified and designated AV-8C. They were fitted with "lift improvement devices"; which are strakes on the gun pods and a movable, droopable "dam" aft of the nose gear; if no pods were fitted, the AV-8C were fitted with other strakes that were larger in size.

Spanish, and thus Thai AV-8As had, on the vertical tail, a leading edge fairing with an antenna and a small bump on the spine next to the anti-collision light.



In the mid-1970s, Spain acquired AV-8A and TAV-8A aircraft. Due to the "Gibraltar dispute" with the U.K., the Harriers were manufactured in the U.K as Mk.53 and Mk.54, the sub-assemblies being shipped to McDonnell Douglas in the USA, where they were assembled. These airframes had U.S. BuNos 159557 to 159564 and 161174 to 161178. They were fitted with typical American systems and sold to Spain, designated AV-8A(S) and TAV-8A(S), the "S" denoting Spain.

In 1996 Spain sold their remaining Matadors, comprising 7 AV-8A(S) with codes 3103-3109 and 2 TAV-8A(S) two seaters coded 3101 and 3102, to Thailand. These were to be flown by the Thai Navy from the ex-Spanish carrier now renamed the "HTMS Chakri Naruebet". However, due to poor serviceability, the Thai AV-8 jets operated mainly from shore, and for only a few years. More info can be found in "Asian Air Arms SIG newsletter 33".

Two basic schemes were seen on these Thai AV-8A(S) aircraft:

- 1- A USMC-like scheme of FS16440 gull grey with white undersides;
- 2- A darker grey scheme, probably FS36118 grey with FS16440 gull grey lower surfaces. (Some sources suggest not FS16440 but FS16270 for the lower grey, but I think 16440 is more likely).

I chose the second scheme, and would be airbrushing Gunze Sangyo Mr Hobby acrylic paints, using H305 for the FS36118 and H315 for the FS36440. The Aden gun pods, when installed, were usually white, but I had fitted the strakes instead.

Masking was done and a black nose cone masked and airbrushed. Note that some antennas are moulded on the Revell kit but were removed following several sanding passes.

NOTE: I discovered a little late that I had forgotten that Spanish, and thus Thai, AV-8As had a leading-edge fairing with an antenna on the vertical tail, and a small bump on the spine next to the anti-

collision light. These were added from [plastic] card later on.....

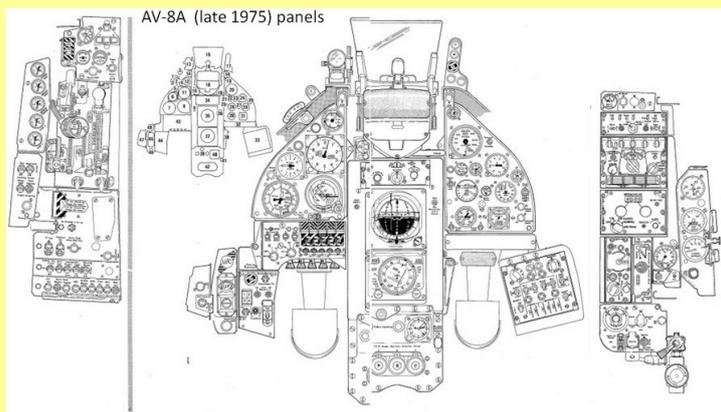


The model was now given several layers of Johnson Future/ Pledge varnish, although this can also be done later. Thai AV-8A jets appear quite glossy and it will help to adhere the decals, thus preventing "silvering".

Cockpit detailing is a lot of work and requires a lot of research, as the old kit parts are very basic.

NOTE: I assumed that the Thai AV-8A(S) had a similar cockpit to the USMC AV-8A jets (as they were ex-Spanish aircraft delivered through the USA).

The kit coaming, part 25, is inaccurate, so a new one was made from bent card. using the walk around photos and information in the 'Detail and Scale' book.



I found the "later style" cockpit drawings in a 1975 AV-8A flight manual. Note that these are different from those of very early USMC AV-8A's.

I also used the AV-8A cockpit photos that my modelling friend Cees Hendriks took in 2013 in the USA.



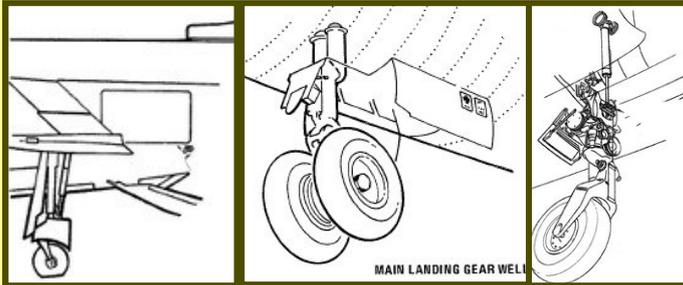
hatch, and the black-outlined intake warning triangles. Some lines were made with Xtradecal lines. (NOTE: The no walk "crosses" are still red). At the wing tips a few black NO STEP markings were seen with yellow warnings. These came from the spares box.

I opted to build the Thai AV-8A(S) coded "3107" with c/n 161174; I forgot to print the smaller serial numbers on the tail bump; these were composed using Xtradecal set X72157. After decalling was done, the final bits were installed.

Some hydraulic lines were mounted in the air brake bay and the actuator. I was not sure about the inside colour of the air brake, but decided on gull grey. The airbrake is always open on a parked Harrier.

The nozzles were now set in place after their rear holes were enlarged a bit. Note that rotating angles may vary, but all nozzles should have the same angle.

The landing gear was to be set "down" and needed refining. The tyres were airbrushed a mix of black and dark grey.



The rather thick small gear doors were replaced with thin card. The small aft nose gear has a different shape from the thick kit door with its 2 side bars. The strange open half-circular gaps in the nose gear leg #53+54 were closed up. Otherwise, the gear legs and wheels are OK. The colour of the wheel hubs and gear legs was not that clear on the Thai AV-8A(S): I painted them gull grey FS36440 with Gunze Sangyo Mr Hobby H325 acrylic, just like the insides of the open airbrake and small gear doors. Small sections of the oleos were enhanced with small piece of self-adhesive aluminium foil.



Installing the landing gear initially appears easy, but to get all wheels touching the ground needs careful alignment which took some time. The outrigger wheel struts are at 90 degrees vertical but were shortened 1,5 mm at the attachments to get a forward-tilted "sit".

The horizontal stabilizers had been improved much earlier on the build. The stabilizers are seen tilted on parked Harriers. A metal rod was run through the drilled holes in the fuselage and glued into the holes in each stabiliser. The white-painted fuel tanks were fixed on the inboard pylons. A little sanding was needed on the pylon mating edges to get a near vertical instalment.

FINAL DETAILS

The kit has transparent anti-collision wing tip lights #95 and 96 which are fine, but I drilled out a hole in these to suggest a light "bulb". The left wing-tip light received a dab of red paint, with blue on the right. Fitting these required some trimming and Micro Kristal Kleer to close gaps.

For the spine light and the light in front of the lower air brake, the kit has rather strange parts 76 and 94. These were replaced with clear plastic bits. The new red anti-collision light on the spine is set slightly off-centre to the left. (NOTE: the USMC AV-8A had an air-to-air refuelling light in the left wing leading edge, next to the cooling hole; but it was not installed as it appears that the AV-8A(S) did not have it).

For my chosen scheme, there are two UHF antennas aft of the canopy and a larger blade antenna slightly offset on the spine. These were made from card. (Note that on the USMC AV-8A, a large spine antenna should be added). On the lower tail bump, the various antenna panels like the altimeter antenna were painted brown/buff.

Other details:

- a fuel dump pipe, part 88, is in the kit, but it was replaced with a thinner pipe.
- yaw vane 92 was refined, I only used the vane. The vertical bit was painted in the airframe colour (FS36118) and the vane silver with a tiny red tip.
- a small IFF/SSR antenna was added in front of the wind shield.
- I added a windshield wiper made from black sprue.
- in front of the nose gear there is a tiny TACAN antenna.



The Stencil ejection seat was installed in the cockpit. Rescue arrows were applied on the lower canopy edge, . I could not clearly see the inside AV-8A canopy edges, but it appears a small rear- view mirror is present; this was made from scrap.

The last thing to do was airbrushing a gloss varnish coat with IPA-thinned Johnson Future/ Pledge, to which I added a drop of glycerine as a flow improver. I masked off the wind shield while airbrushing. The loose canopy was set in place and the model was ready!



Photos of the
completed
model



ASIAN AIR ARMS NEWSLETTER 35



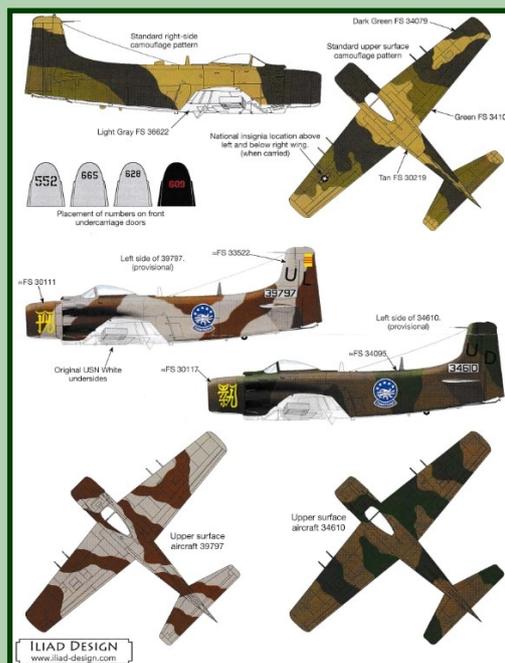
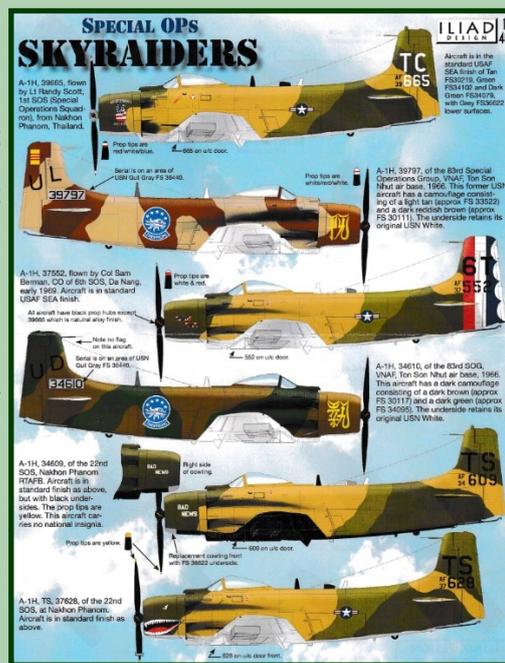
Iliad Design Decals – Special Ops Skyraiders

Iliad Design Decals are produced by Bob Migliardi, a fellow member of the Asian Air Arms who hails from Ottawa in Canada and specialises in producing decals of the more esoteric markings and colour schemes that adorn certain aircraft types that have seen widespread service; we have previously seen editions covering the Lockheed F-104 Starfighter, Mikoyan MiG-19 and Cessna L-19/O-1 Birdog that have all featured examples operated by Asian Air Arms. With this in mind, I recently acquired their Special Ops Skyraiders sheet which is one of Iliad's more recent releases, although it is actually a reprint of a decal sheet first produced in 2013. What makes this 'new' release particularly attractive is the addition of a second Vietnamese Nationalist Air Force A-1H option sporting the non-standard camouflage scheme and special markings applied to aircraft of the secretive 522nd Fighter Squadron of the 83rd Special Operations Group in the mid-1960s. For those that may be interested, the sheet still provides for four distinctively marked USAF examples operated from Thailand and South Vietnam during the conflict in Indo-China but I will obviously focus more attention on the two VNAF examples. The two aircraft featured originally came from USN stocks and retain the original White (FS17875) undersurfaces. The first of the 83rd SOG options, which was also included on the original sheet, sports an unusual upper surface colour scheme consisting of Light Tan (approximated to FS33522) and a Dark Red Brown (approximated to FS30111). The Unit had been officially 'sponsored' by Colonel Nguyen-cao-Ky, the Chief of Staff of the VNAF and quickly generated an air of exclusivity or elitism, which included defiantly rejecting the application of the standard VNAF national insignia on all but the tail surfaces, which featured the Red/Yellow fin flash. In place of the national markings on the fuselage, the Unit applied a large stylized Blue & White 'Than Phong' insignia. The literal translation is 'God of Wind' but many translated this as 'Divine Wind' and appended the title 'Kamikaze' to the Unit in a reference to Japanese flying Units during World War II. The aircraft also sported a large Vietnamese character on both sides of the engine cowling, which translates as 'The Best of the Best'. As an interesting aside this character, along with several other different designs on other 83rd SOG aircraft, originates from the Vietnamese card game known as *Co-Bai-Bat* or *Bat* for short. The second 83rd SOG option sports a much darker non-standard camouflage scheme consisting of Dark Brown (approximated to FS30117) and Dark Green (approximated to FS34095) over White (FS17875). This particular aircraft operated *sans* any national insignia but retained the 'Than Phong' insignia of the fuselage sides and another character (translated as 'The Best') from *Bat* on both sides of the engine cowling.

As we have mentioned in previous reviews, Iliad Design have built up an excellent reputation for the accuracy and standard of their decal sheets so their quality is assured. The decals are presented on a single A5 sized sheet, which provides all of the National insignia, codes/serial numbers and special markings applied to each of the options along with some 'peculiar to type' safety or maintenance markings. Further research may be necessary to determine whether any of these aircraft sported additional maintenance markings and stencilling and, if so, these will need to be sourced from the decals supplied with the particular kit. The decals themselves are nicely printed, with good colour saturation and in register. The decal placement instructions are presented in colour and are comprehensive, providing excellent colour side profiles and, where applicable, three-view drawings for particular camouflage schemes. The DPis also include full FS colour references (or approximates in the case of the VNAF examples) but do not include specific paint references so modellers will have to determine these through further research. Small differences, for example the colour of an individual propeller spinner or tips, are also called out, such is the level of attention to detail in the instructions. There are no kit recommendations included with the DPis although I suspect the decals were designed to fit the Tamiya Douglas A-1H Skyraider, which remains the best kit of this classic Post-War piston engine fighter-bomber in 1:48 scale.

Highly recommended to anyone interested in the Douglas A-1H Skyraider or the Vietnamese Nationalist Air Force

Mark Attrill
October 2022





The Fairchild-Hiller C-119 Flying Boxcar and AC-119G/K Gunship in service with the South Vietnamese Air Force (VNAF) 1968-75

The 'Flying Boxcar' was a twin-engined, twin-boom American military transport aircraft developed from the World War II-era Fairchild C-82 Packet, designed to carry cargo and personnel or air drop troops and cargo by parachute. The first C-119 made its initial flight in November 1947, and by the time production ceased in 1955, more than 1,100 C-119s had been built. The aircraft first saw extensive action with the USAF during the Korean War as a troop and equipment transport and was then used by the French Armée de l'Air on operations in South East Asia, North Africa and the Middle East during the 1950-60s as well as the Republic of China Air Force (ROCAF) in Taiwan, which often operated the aircraft in a clandestine role.

The aircraft was, therefore, a familiar sight in the skies over South East Asia, having operated with the French and USAF for several years, when the type was assigned to the VNAF in March 1968. The VNAF crews were trained at Ellington AFB in Texas with the maintenance crew trained both there and at Tan Son Nhut, the Main Operating Base from where the aircraft type would be operated. Sixteen C-119Gs replaced the ageing C-47 Skytrains that equipped the 413th Transport Squadron of the 33rd Tactical Wing. The C-119 proved to be an excellent aircraft, providing the VNAF with increased range and payload capacity. The aircraft design, with its distinctive rear clamshell doors, was easier to load with bulkier equipment and stores and more suited for air-dropping cargo. The only real issue was with the aircraft's poor short or rudimentary airfield landing characteristics which limited its utility in some of the more remote areas of South Vietnam. By early 1970, further deliveries had boosted the number of aircraft in VNAF service to 25, which was fortuitous since the Army of the Republic of Vietnam (ARVN) had embarked on large scale incursions into Cambodia to interdict the North Vietnamese Army (NVA) safe havens that had been established along the border with Vietnam. This campaign continued throughout the year, with the VNAF C-119s providing the ARVN with an enhanced level of re-supply and tactical mobility. At the end of the year South Vietnam embarked on *EAGLE JUMP*, a very ambitious airborne operation that initially involved the deployment of an ARVN assault group using VNAF rotary-wing assets to secure the airfield at Kompong Chan before C-47s and C-119s followed up by landing additional troops at the airhead. In a concentrated two-week period the VNAF conducted well over 400 fixed-wing sorties, airlifting over 1700 troops and 1000 tons of cargo. In early 1971, the ARVN conducted a similar operation into neighbouring Laos, codenamed *LAM SON 719* and although the U.S. Army provided the bulk of the rotary wing airlift, the VNAF C-47s and C-119s were, once again, used on re-supply missions. The remainder of 1971 proved to be relatively quiet for the VNAF transport Squadrons but this all changed again in early 1972 when the NVA launched a series of daring assaults across the Central Highlands in what became known as the *Easter Offensive*. At this time, the 413th TS were actively involved in supporting the ARVN with aircraft engaged in resupplying ARVN positions including at Kontum and An Loc. Several aircraft were fitted with beacon transponders in order to conduct High Altitude, Low Opening (HALO) drops as the threat levels from enemy Anti-Aircraft Artillery increased although this did not prevent the loss of several aircraft either to AAA or on the ground. During this period, the VNAF also received an unexpected boost to its air transport assets since the US had also planned to supply a number of specially-configured RC-119s for night surveillance coastal patrol duties, utilising specialized sensor equipment. A total of thirteen aircraft, initially designated as the RC-119L, were assigned to the newly formed 720th Reconnaissance Squadron in December 1972. Unfortunately by mid-1973 the maritime reconnaissance project was abandoned due to lack of funds although the 720th RS was retained for transport duties and would ultimately outlive the dedicated and original C-119 equipped 413th Transport Squadron in VNAF Service.



In spite of the enlarged VNAF Air Transport fleet of C-7, C-119 and C-123 aircraft, there were still insufficient assets to support the widely dispersed ARVN units, so the US Government included the Lockheed C-130 Hercules in their first Project Enhance Plus programme. The original plan called for the much larger, more capable C-130 to replace all of the C-119, C-123 and C-47s still in Service with the VNAF by early 1973, in order to reduce the drain on resources and the number of transport aircraft at Tan Son Nhut Air Base. The VNAF were directed to place the majority of dedicated C-119G Flying Boxcar transport aircraft into storage although some aircraft were reallocated to the 720th RS in early 1973. It was not long before the re-designated and enlarged 720th Transport Squadron was called to action; in the summer of 1973, the 22nd Division of the ARVN was re-deployed from the coastal province of Binh Dinh to Pleiku in an attempt to thwart yet another North Vietnamese offensive in the Central Highlands. Although it was not realised at the time, this was probably the last time that the VNAF would mount an air bridge of this sort to redeploy major elements of the ARVN. The remaining C-119s of the 720th Squadron soldiered on throughout 1974 and by early 1975, with the war going in favour of the North Vietnamese, it was decided to take further C-119s out of storage to bolster the hard-pressed VNAF C-130 fleet. As the North Vietnamese Army pressed home their advantage in early 1975 and overran the Northern part of South Vietnam, the 720th Transport Squadron became actively involved in the evacuation of several



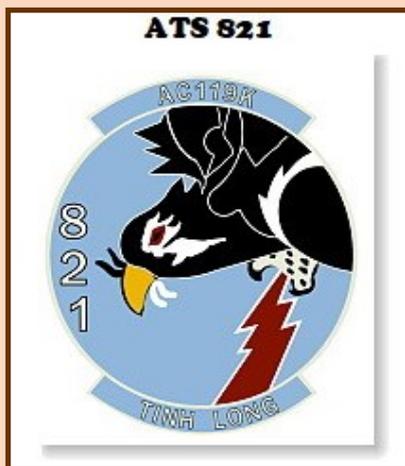
VNAF Air Bases including Pleiku in mid-March and Bien Hoa over 26-27 April, with the C-119s continuing to provide air transport support until the very last days of the war.

The second major variant of the Fairchild C-119 that operated in Vietnam was the AC-119 Gunship. The USAF had achieved considerable success with their WWII-era Douglas AC-47 Spooky Gunships but limitations with the size and load carrying capacity of the aircraft led the USAF to identify and develop a



larger aircraft that could carry more surveillance equipment and weaponry. The AC-130 Spectre Gunship, developed from the C-130 Hercules tactical transport aircraft, was their preferred choice but demand for the cargo optimised variant was still very high and there were insufficient airframes available for conversion. The USAF filled the gap by converting redundant C-119s into AC-119s each equipped with four 7.62 minigun pods, armour plating, a Xenon searchlight, night observation sights, flare launcher and night capable infrared equipment including a fire control computer. The new AC-119G variant was re-named "Shadow" in 1968 with the even more capable AC-119K Stinger variant following shortly afterwards. The AC-119K featured the addition of two General Electric M61 Vulcan 20 mm cannon, improved avionics, and two underwing-mounted General Electric J85-GE-17 turbojet engines, adding nearly 6,000 lbs of thrust, which proved extremely useful when operating from some of the more challenging airfields in South Vietnam. The aircraft were used successfully in both close air support missions in South Vietnam and interdiction missions against trucks and supplies along the Ho Chi Minh Trail. In line with the overall US policy and their Improvement & Modernisation Programme for the VNAF, the USAF transferred all of their remaining in-theatre AC-119G and AC-119K Gunship assets to the Republic of

Vietnam Air Force in the early 1970s; The 819th Attack Squadron was established in September 1971 and equipped with 24 AC-119G Shadow Gunships, to complement the earlier AC-47D 'Spooky' of the 417th Attack Squadron. A third fixed-wing gunship squadron was added by December 1972 when the 821st Attack Squadron was established with some 22 examples of the improved AC-119K 'Stinger' variant, although the more sophisticated sensors and radar were removed from these ex-USAF aircraft which subsequently hampered their ability to be operated in adverse weather. All of the gunship squadrons operated under the auspices of the 5th Air Division from Tan Son Nhut AB. For the most part, the AC-119 Gunships operated from their Main Operating Base during the early part of their service career but as the threat level increased it became necessary to re-deploy these precious attack assets around the country. For example, the 821st AS deployed around eight aircraft to Da Nang AB for base defence, where the aircraft were kept on regular ground alert to provide fire support to the ARVN, interdict enemy combat and logistics formations or to double as flare ships to counter night attacks on remote ARVN outposts.



By the summer of 1974, and against the backdrop of a worsening situation on the ground and a shortage of offensive air assets, the VNAF AC-119s were heavily involved in an increasingly wide variety of fire support and base defence missions. In the closing weeks of the war, with the NVA advancing southward, some of the AC-119s were also used for the evacuation of personnel and families from northern air bases. Inevitably, and as the VNAF became more desperate, these high value attack assets were put at risk so that by March 1975, the night interdiction role over Air Bases in the Central Highlands was abandoned. A VNAF AC-119K became the last aircraft to depart from Da Nang, when this vast Air Base fell to the North Vietnamese on 28 March, as the end game for South Vietnam approached. When Phan Rang was overrun on 15 April, the VNAF abandoned two C-119Gs and two of the sophisticated AC-119Ks gunships to the North Vietnamese.

By the last week of April the rout of South Vietnam had begun in earnest. VNAF AC-119s were lost or captured at Bien Hoa on 26/27 April with several more lost during air strikes on Tan Son Nhut on 28 April, although some aircraft made it further South to Con Son Island, where they were abandoned. An AC-119K of the 821st Attack Squadron became one of the last VNAF aircraft to be lost in combat when it was shot down over Tan Son Nhut on the morning of 29 April 1975 with a SA-7 MANPAD. According to USAF sources, three AC-119 Gunships and three C-119G transport aircraft managed to escape to Thailand before the fall of Saigon and were eventually turned over to the Royal Thai Air Force. It is understood that the North Vietnamese captured some



37 AC-119G/K Gunships together with nine C-119G transport aircraft although the overall serviceability status of many of these aircraft was unknown since some had sustained damage during the last, heavy, days of fighting in and around Tan Son Nhut Air Base. It has been subsequently reported that several of the C-119G transport aircraft entered service with the 918th Transport Regiment of the VPAF and were operated until maintenance and technical support became problematical. There are no records on the fate of the more sizeable fleet of AC-119 gunship aircraft although some of these may have been reconfigured to fulfil a transport role or provide a source of spare parts.

VNAF Fairchild C-119G Flying Boxcar and AC-119G/K Shadow/Stinger Colours and Markings

By the time that the C-119G Flying Boxcar entered service with the VNAF, the vast majority of USAF and VNAF transport aircraft in Vietnam had adopted the standard 'South East Asia' (SEA) camouflage scheme. The camouflage consisted of Dark Green (FS34079), Green Olive Drab (FS34102) and Tan (FS30219) for the upper surfaces with Light Grey (FS36622) for the lower surfaces. In spite of the adoption of a less conspicuous colour scheme, the aircraft retained the Type F national insignia, together with full-sized Red/Yellow Fin Flash, with the aircraft serial number also located on the fin. The 'last three' of the aircraft serial was also applied to the forward fuselage surfaces underneath the cockpit and the majority of aircraft also sported the 33rd Tactical Wing badge underneath the cockpit. In later years, and with the expansion of the VNAF, it became necessary to adopt large two-letter Light Grey or White Unit locator codes on the fin.

The RC-119L variant, originally optimised for maritime surveillance and operated by the 720th Reconnaissance (late Transport) Squadron sported a standard USAF Light Grey colour scheme with the upper section of the fuselage in Gloss White with a Dark Blue or Black cheat line. These aircraft wore large Black three-digit numbers on the forward fuselage surfaces, ahead of the crew access door on the Port side, and a two-digit letter code on the nose. This colour scheme was retained throughout their service with the VNAF, as documented through images of examples captured by the North Vietnamese Army in April 1975. The AC-119G/K Gunships operated in the same SEA camouflage scheme as the C-119G transport aircraft of the 413th Transport Squadron but received black (FS17038) lower surfaces in recognition of their primarily nocturnal air attack operations. In spite of the adoption of a less conspicuous colour scheme, the aircraft retained full colour, though reduced-size, Type-F national insignia, together with full-sized national flag. The aircraft serial number was applied in Gloss Black on the fin surfaces, and repeated, in Yellow, on the nose surfaces.

VNAF Fairchild C-119G and AC-119G/K Units/Identification Codes – 1968-75				
Unit	Variant	Air Base*	Tail Code	Notes
413 th Transport Squadron	AC-119G	Tan Son Nhut	N	Operational March 1968 – January 1973
720 th Reconnaissance Squadron	RC-119G	Tan Son Nhut		Operational December 1972 - 1975
819 th Attack Squadron	AC-119G	Tan Son Nhut	HR	Operational September 1971 – April 1975
821 st Attack Squadron	AC-119K	Tan Son Nhut	F	Operational December 1972 – April 1975

*Main Operating Base. The VNAF maintained detachments of AC-119 Gunships at the majority of VNAF Air Bases from the outset and as the war evolved, some of the C-119s were also dispersed.

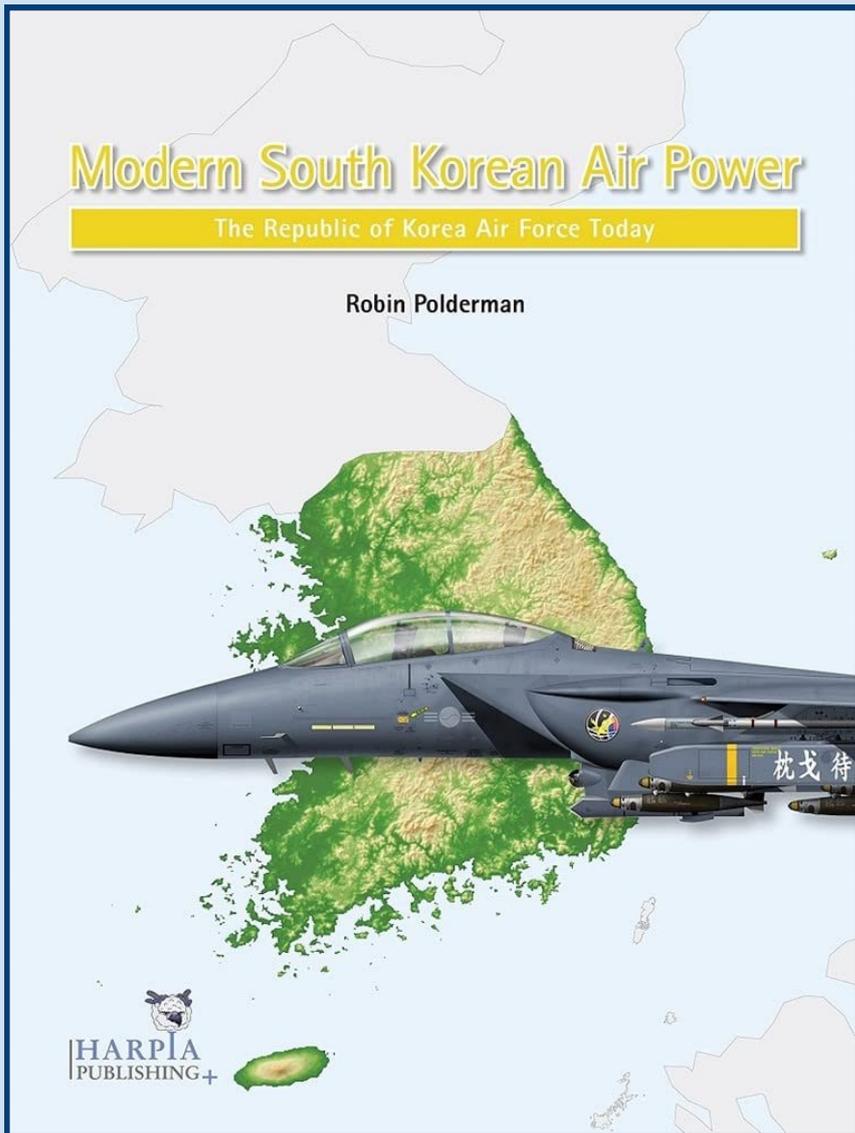
The Fairchild C-119G Flying Boxcar and AC-119G/K Shadow/Stinger in Miniature

Space precludes me from providing a comprehensive list of kits and accessories for the C-119 family of aircraft so I will focus on providing some recommendations based on my previous experience and that of other modellers that I know who have tackled these subjects. Although the Fairchild-Hiller C-119 is a rather unusual subject, its fairly widespread use in a number of roles has seen the type fare quite well in miniature with some high-quality kits available. Aurora brought out one of the first 'mainstream' kits during the early 1960s in a rather unusual 1:77 scale in the days when kit manufacturers tended to design kits to fit a particular size of box. We would then have to wait almost twenty-five years before Italeri treated us to a rather nice 1:72 scale kit of the C-119G Flying Boxcar (Kit Reference: IT146) which was subsequently followed by the AC-119K variant (Kit Reference: IT153) with all of the additional parts necessary to build the Gunship version. These kits were also released under the Testors label, primarily for the US market (Kit Reference 675 and 678 respectively). The kits were typical of Italeri kits of the period, with raised panel lines and a very reasonable level of detail inside and out. The design of the prototype, with its twin-boom layout is always a challenge for kit manufacturers but Italeri did a reasonable job with the complex design and shapes. As a result, I have over the years seen some very nice examples of both variants gracing Model Competitions and Club Tables. Neither of these kits provide decal options for VNAF examples although it should be noted that the C-119G kit does offer decal markings for a ROCAF machine. In the smaller 1:144 scale we would have to wait a further 30 years for a mainstream kit with Roden releasing kits of both the transport and gunship variants in 2014. These are typical Roden kits - high quality plastic parts that make up an accurate representation of the original although it should be noted that the cargo version is for a C-119C Flying Boxcar (Kit ROD321). The AC-123K Stinger kit (Kit ROD322) includes all of the additional parts necessary to complete the Gunship variant including the jet-engine pods and armament. Aftermarket decal sheets for these kits appear to be few and far between although I did manage to track down three that will be of use. Carpena have previously produced markings for a VNAF C-119G on their 'South Vietnam Part 2' (Decal Reference CA72.07) although these are long out of print. AOA Decals of the United States have, in more recent times, produced a very comprehensive decal sheet covering USAF/VNAF AC-119 Gunships in both 1:72 and 1:44 scale (AOA72-006 & AOA144-01 respectively) and these should be more readily available.

Mark Attrill, October 2022

Editor's note: The more sharp-eyed among you may have noticed that the aircraft depicted on the cover is, in fact, a USAF example. This is solely due to the fact that I was unable to find a decent photo of an aircraft in VNAF service!

Modern South Korean Air Power by Robin Polderman



This is one of the most recent books in the ongoing series of publications from Harpia on the organisation and aircraft of a number of modern air arms.. Regular readers of this newsletter will have read several earlier reviews from this series.

So what do we find in this volume, is it very different to what we have seen before? The simple answer to that question is no, not really, with chapters covering the history, markings, weaponry, and perhaps more relevant to these times, a chapter on the nature of the relationship between South Korea and its neighbours, friends as well as those with whom relationships are not so friendly. The thirty plus pages of this part of the book, while not an exhaustive study of the geopolitics of this part of Asia, provide a concise and informative background to the more significant regional relationships, and could generate useful pointers to further areas of study for any interested readers.

What really made this book stand out for me, however, was that not only did it pique my interest in a major Asian air arm, but it seriously appealed to me as a modeller of Asian aircraft.

First and foremost, the Air Force of the Republic of South Korea is a major Asian ally of the United States and as such has primarily made use of American built aircraft, and, despite the evolution of a domestic aircraft industry, that remains true with the recent addition of the F35 Lightning II. This means that the vast majority of its inventory are available in model form in most of the major scales. A little bit of research on the net will quickly show what kits are on the market in whichever scale you build. Similarly, there are a number of decal sheets to be found which would enable you to build any one of your favoured machines.

As a further aid to the modeller, the book, as with all of this series, is lavishly illustrated with great photos drawn from a variety of sources. They are extremely

useful for anyone who decides to produce a model of any of the current South Korean aircraft.

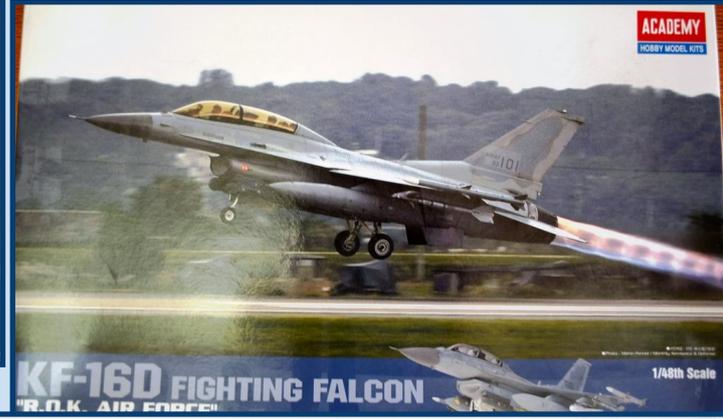
In summary, what we have here is a book which delivers on two levels. Firstly it will be of interest to those of you with a straightforward interest in the growth, current outlook and possible future challenges to this well equipped, modern air arm. At the same time, it provides a stimulus to those of us interested in modelling the aircraft of an interesting air arm using aircraft familiar to so many people but being used in what for some may be unfamiliar markings.

Perhaps not surprisingly I highly recommend this book to all and anyone with interest in this air force, students and modellers alike,now where is my Academy ROKAF F-4D?

David Thomas, January 2023

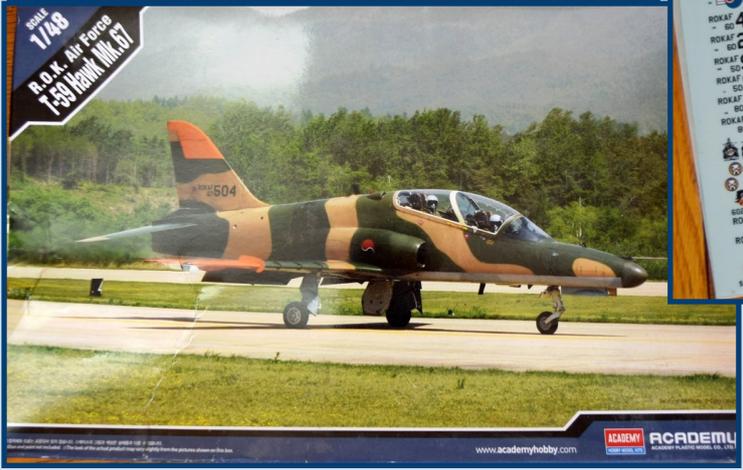
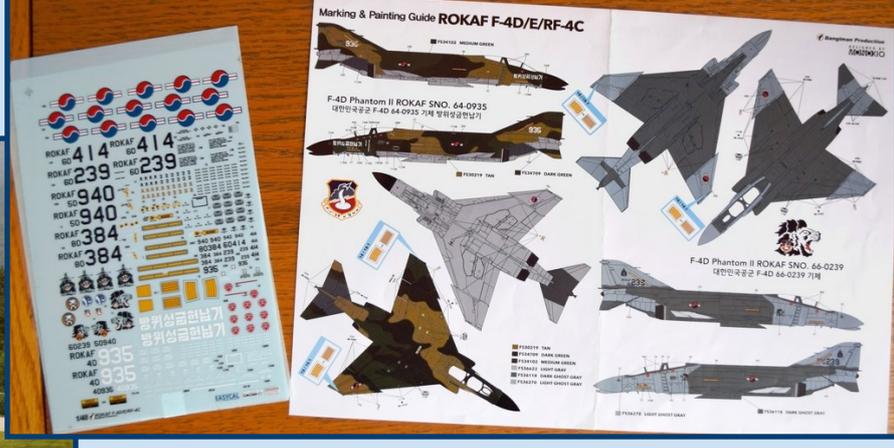
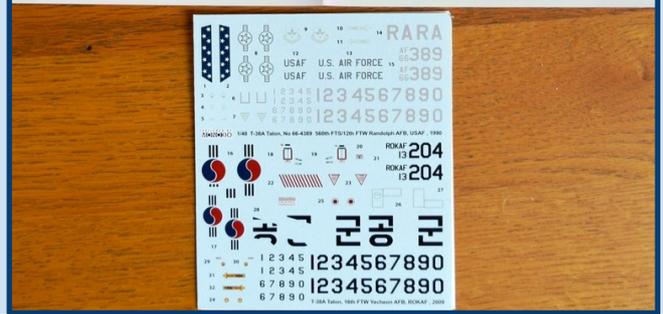
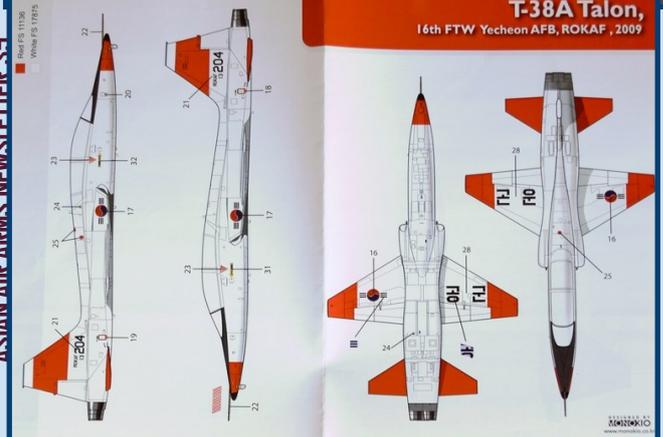
Ed: What follows is a selection of images taken from the book, along with photos that David has kindly provided of some models from his own collection, both built and unbuilt, as well as some decal sheets covering RoKAF subjects.





ASIAN AIR ARMS NEWSLETTER 35





ASIAN AIR ARMS NEWS LETTER 35

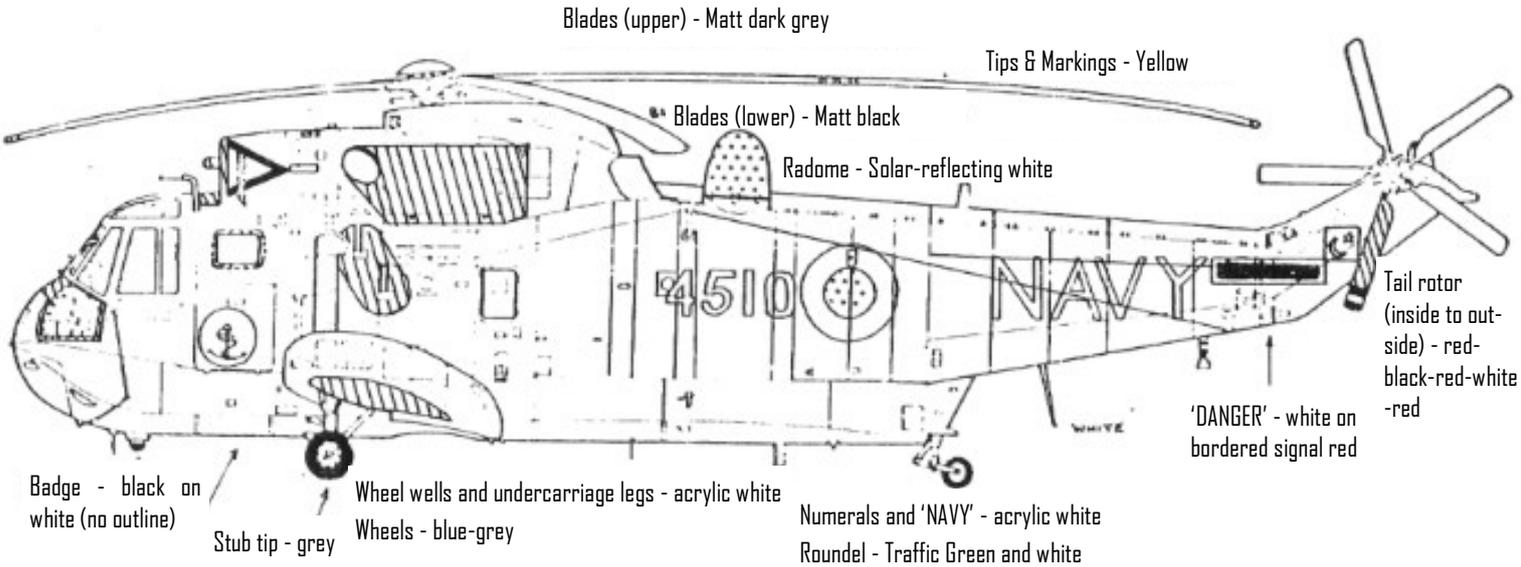
Pakistani Helicopter Duo



Westland Sea King Mk.45 ASW

Basic colours: Acrylic RAF Blue-Grey (No. 633 BS381C) overall
 Interior: Semi-Gloss Grey (No.632) epoxy

PAKISTAN NAVY



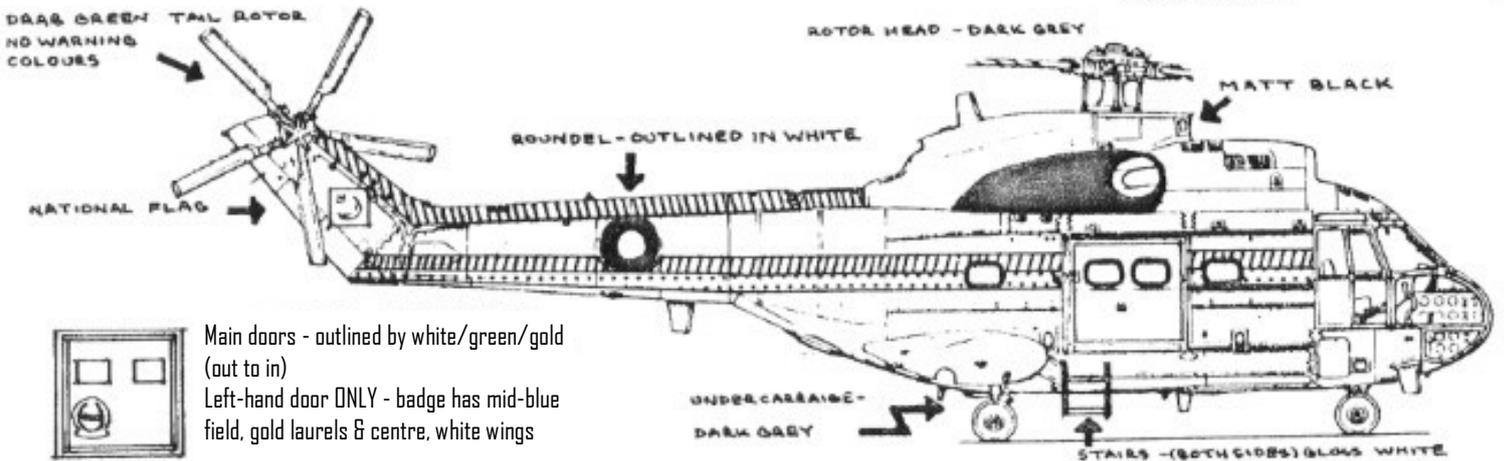
The Pakistan Sea King was equipped for ASW and ASV, by the fitting of Exocet missiles for air-to-surface strike



PAKISTAN AIRFORCE

SA330 PUMA (FROM AEROSPATIALE PHOTOS)

OVERALL GLOSS BROKEN WHITE
 GLOSS SIGNAL RED
 GLOSS EMERALD GREEN
 GLOSS GOLD



Black and white plates extracted from Small Air Forces Observer

ASIAN AIR ARMS NEWSLETTER 35



Blue Diamonds Models – 1:72 & 1:48 Scale Accessory Sets – P.A.F. KAI FA-50PH and Rockwell OV-10M Bronco

As I mentioned briefly in our recent Scale Model World 2022 Show Special newsletter, AAA SIG member Paul Fernandez made a welcome visit to the SIG Display Stand to catch up with the work of the Special Interest Group and to deliver some of his latest resin accessory sets, optimised for Philippine Air Force subjects. All of the sets outlined in this review are optimised for the relevant Academy kits of the subject matter although, in one case, the set is generic and could be used on an alternative donor kit (please see below).

Blue Diamonds

1/48 FA-50PH Conversion, Weapon, Pylon and Fuel Tank Set

Thank you for purchasing this resin conversion set to convert and improve the Academy 1/48 T-50 (kit number 12231).

It is possible that some of the resin parts may have become warped, but this can easily be corrected by placing in warm water, or using a hair dryer, for few minutes then gently adjusting. Dipping straight away in cold water will fix its shape. Use a cyanoacrylate glue (commonly known as "super glue"), or Gorilla Clear to fix the new parts.

Conversion Instruction:

1. Attach the new Vertical fin to the base.



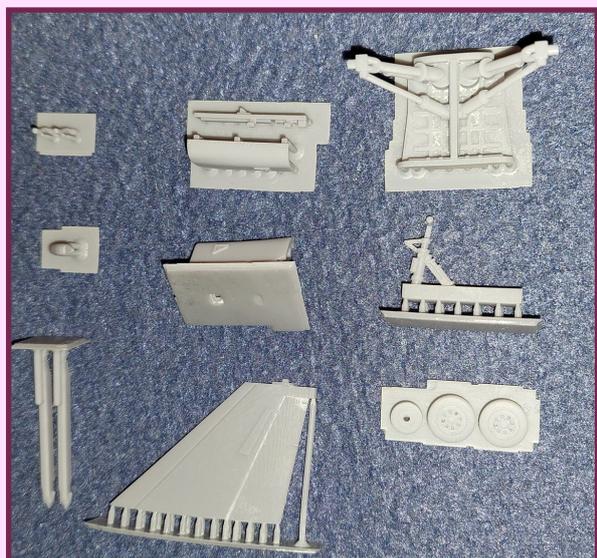
2. Add the Aerials on the outside of the front landing gear door.



3. Add the RWR on the leading edges of the wing approximately middle third. The short tab should be on top, and the long tab will be on the bottom of the wing. The base should be also aligned with the leading edge. Also, use part A24 for the gun cover and A26 for the vent.

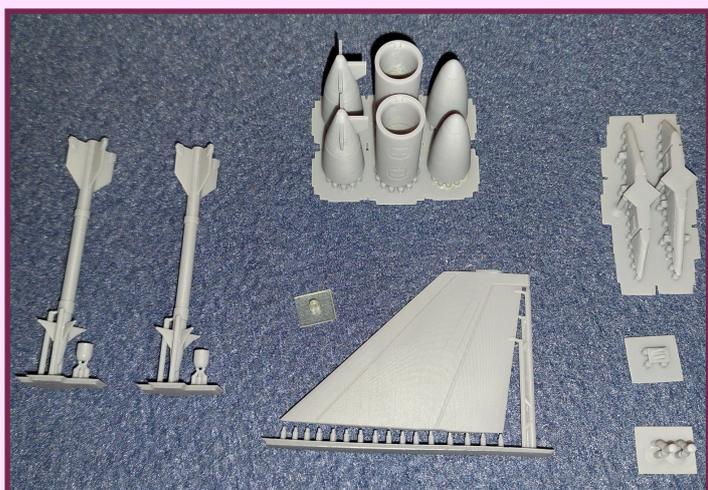


There are three sets for the South Korean-manufactured KAI FA-50PH Light Strike Fighter in both 1:72 and 1:48 scale. The first of these is the 1:72 scale FA-50PH conversion set (Item Reference: PMSM72-001) for Academy Kit AC12519, which includes a comprehensive array of resin parts for the nose and main landing gear & wheels, vertical fin, Radar Warning Receivers, gun shroud and wingtip Sidewinder rails. This set is a very welcome addition to the donor kit since the latter appears to be one of Academy's attempts at a starter kit, with a minimal number of parts and the complete absence of any landing gear; the completed kit has been designed to sit on a display stand that is included with the original kit. A set of detailed instructions provide illustrated and written guidance on any modifications that need to be made to the donor kit to accommodate the new or revised parts including the 'drop fit'

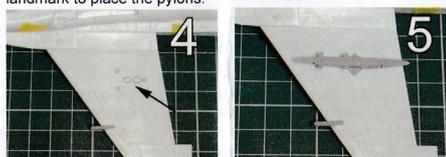


main undercarriage array. This set also includes decal markings to produce one of two Philippine Air Force FA-50PHs operated by the 5th Fighter Wing.

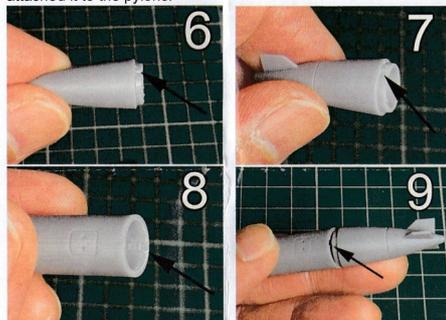
The second set is optimised for the 1:72 scale kit (Item Reference: PSMS72-002) is labelled as a FA-50PH weapons set and this includes 2 drop tanks, 2 each of AIM-9 Sidewinder and Python 5 Air to Air Missiles, 2 x Mk 82 bombs and four stores pylons. All of the parts have been superbly rendered in resin; the AAMs are particularly fine with commendably thin fins and, in the case of the AIM-9s, fin caps.



4. Locate these details on the lower part of the wings, this will be your landmark to place the pylons.



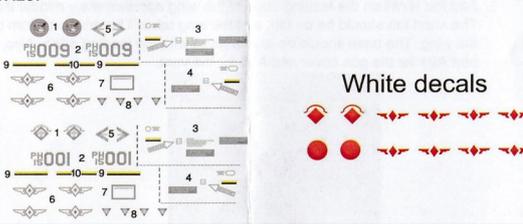
5. Locate the tabs on the front and back end of the fuel tank, carefully insert them on the slots of the middle part of the fuel tank. Once assembled, attached to the pylons.



The third 1:72 set presented for review (Item Reference: PSMS72-003) is a conversion set for the Rockwell OV-10M Bronco, again in service with the Philippine Air Force.

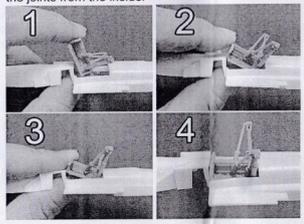
The aircraft has been a particular favourite with this Asian Air Arm with over 40 examples sourced from the USA and Royal Thai Air Force over the years. The surviving examples of the OV-10A/C were subsequently modified to OV-10Ms with four-bladed propellers, new engines, a cockpit upgrade and new weapons. The conversion/detail set includes a new main landing gear, propellers, spinners and drop tanks, and although it has been optimised for the Academy kit (Kit Reference: AC1665), the generic nature of this set will probably allow it to be used with the forthcoming ICM kit, which will undoubtedly be based on the same firm's superb 1:48 scale kit. This set also contains a small decal sheet with markings for a Philippine Air Force OV-10M operated by the 15th Strike Wing in a low visibility dark grey colour scheme which is somewhat compromised by the presence of large full colour sharkmouth markings.

DECALS:





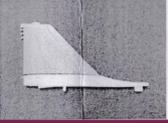
3. For the main landing gear, insert the rear of the assembly (Part 3) into the widest part of the wheel well (pic. 1), then gently slide it backwards making sure that the back wall of the part is true and against the inside of the model (pic. 2). Gently bend the front fuselage down and snap the front of the gear well in place (pic. 3). Finally slide it forward into the correct position (pic. 4) and glue the joints from the inside.



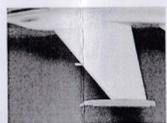
4. Once installed, add the middle plate (Part 4) to the main landing gear assembly.



5. Remove the vertical fin above the base and replace with the new (Part 7).



6. Remove the wingtip rails and replace them with the new Sidewinder rails (Parts 1), and add the Radar Warning Receivers (Parts 5) to the centre of both wing leading edges.

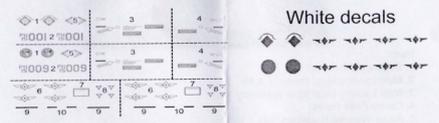


7. Add the new gun shroud (Part 11) to the port side of the cockpit.



8. Add the wheels (Parts 6 & 10) and attach the landing gear doors (Parts 2 & 8) in place.

Decal placements and painting instructions:



1. The artwork is printed on continuous decal film. With the fin logos and roundels, place the white decals first, applying the colour artwork on top.
2. The model should have a glossy surface prior to applying the decals.
3. Dip each design in warm water for few seconds, then place it on a tissue. This prevents the decals sliding off the backing paper while in the water and curling over.
4. Once released slide the design just enough to hold the backing paper with tweezers, being careful not to damage the decal film.
5. Gently slide the decal on to the model with a clean wet brush. Strong decal solvents are not necessary, but a more benign liquid such as Daco mild may be used over engraved detailing.
6. Seal with a gloss or matt acrylic varnish as required.

illustrated and written guidance on any modifications that need to be made to the donor kit to accommodate the new or revised parts, together with a decal sheet offering the same options as those included in the 1:72 scale kit.

In spite of the limited-run status of these highly specialised and niche kits, the presentation and quality of these sets is commendable. The sets come individually bagged in robust cardboard boxes. The quality of the resin parts is very high with the majority, if not all, of the parts reproduced using the 3D printing process; there are no signs of the 'ridging' often found on parts of this nature and the frames are not overly complicated so the parts should be relatively easy to remove. As previously stated, the AAMs are

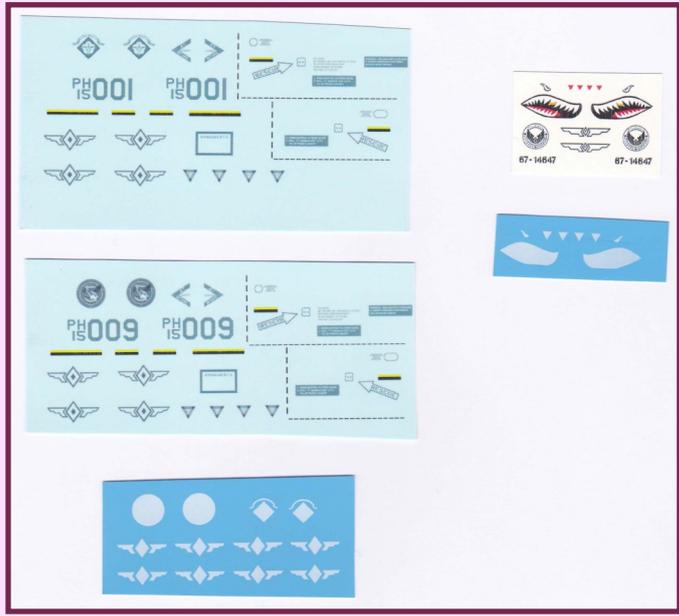
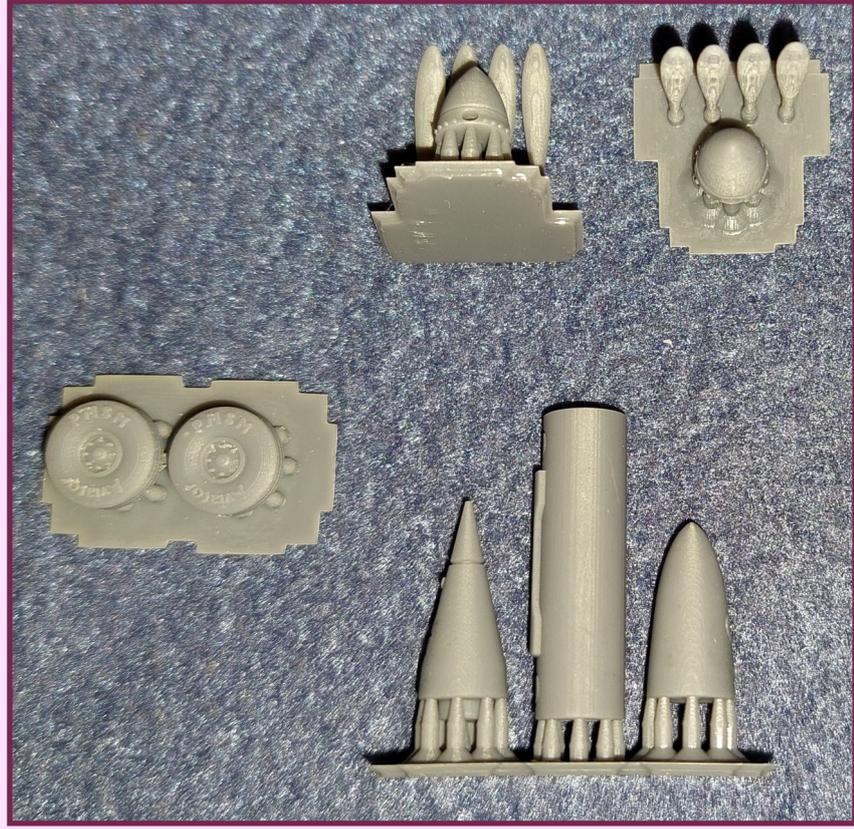
particularly good and the main landing gear from the 1:72 FA-50PH set is a work of art in its own right. As one may expect, the decals are printed on a single sheet and would benefit from a layer or two of varnish before they are cut and separated from the master sheet. It should be noted that white backing sheets for the national markings and unit insignia are also included to aid their application to the completed model.

It is my understanding that Paul is not planning to release these sets through any retail outlet or importer, and that they will only be available directly from him via his Facebook account. I was unable to determine the pricing structure for the sets at Telford since Paul had only just completed his initial production run. Given the specialized nature of these superb little conversion/detail sets, and that they will be of a limited-run, I would encourage those modellers with an interest in completing their Philippine Air Force models with these products to contact Paul Fernandez about availability, pricing and shipping without delay, in order to avoid disappointment.

That said, one or two lucky readers will have the chance to win some of these sets in one of our forthcoming competitions so keep a look out for an announcement in the future.

Highly recommended to modellers with an interest in modern Philippine Air Force subjects.

ASIAN AIR ARMS NEWSLETTER 35



Mark Attrill – January 2023

Wolfpack Models – 1:48 Scale KAI T-50TH

'Golden Eagle' RTAF (Reference WP14818)

ASIAN AIR
ARMS



As sharp-eyed readers of our last issue of the SIG Newsletter will recall, one of the few items I purchased during the Scale Model World show at Telford last November was the recent Wolfpack re-issue of the 1:48 scale Academy T-50 Advanced training aircraft, with new parts and decals to reproduce one of the twelve T-50TH Lead-In Fighter Trainers (LIFT) serving with the Royal Thai Air Force (RTAF). This kit is one of two Asian Air Arm related kits from Wolfpack, since they have also released the TA-50 LIFT variant operated by the Republic of Korea Air Force (ROKAF) to serve alongside the 'standard' T-50 advanced trainer. This second kit also contains additional resin and photo-etched parts, together with appropriate decals, to reproduce several of the ROKAF T-50LIFT examples. The attractive T/FA-50 'Golden Eagle' family of Advanced Trainer/Light Combat Aircraft has obviously struck a chord with kit and aftermarket manufacturers in recent times, since Paul Fernandez of Blue Diamond Models has also produced a 1:48 conversion kit (reviewed elsewhere in this issue) for the FA-50PH variant operated by the Philippines Air Force.

It is not my intention with this short review to provide a comprehensive look at the donor kit, since Jon Bryon recently produced an excellent in-depth article on the Academy 1:48 T-50 in Issue 33 (Jul/Aug 22), which highlighted the pros and cons with the Academy kit. I will, therefore, focus solely on the Wolfpack add-ons with much of what I say applicable to the ROKAF version of the kit. The kit comes in one of Wolfpack's familiar white boxes with a nice illustration of a RTAF T-50TH flying alongside a JAS-39 Gripen, one of the RTAF combat aircraft types that the T-50TH is optimised to support. The Academy donor kit is thankfully presented in the company's familiar medium blue/grey plastic and clear parts rather than white, which is notoriously difficult to work with. The box also contains two photo-etched frets, one multi-coloured to take care of the cockpit details and including instrument panels, side consoles and seat harnesses. The second one provides for several external airframe details. There are eight grey resin parts, one part in clear resin and one white metal part, together with a set of masks and a decal sheet. All in all a very nice package.

The excellent Wolfpack instruction sheet is clearly based on the Academy original, adjusted to cater for the additional resin and photo-etched parts, and liberally illustrated with close-up shots of some of the more important details associated with the T-50TH airframe. The resin parts cater for the new tailfin, with a squared off rather than tapered fin top, which accommodates some of the avionics equipment associated with the more advanced version of the T-50. Two wing-mounted RWR fairings are also included together with a full set of split airbrakes. The T-50 family shares many design features with the F-16 Fighting Falcon, and this includes the distinctive airbrake arrangement which is oversimplified in the kit. The new resin parts will allow these airbrakes to be displayed open with fully detailed interiors.

Wolfpack have a very good reputation for producing high quality aftermarket decal sheets in their own right and this remains the case with those included with this kit. The decals cover the T-50TH as operated by the 401st Squadron of the 4th Wing based at Takhli Air Base, with individual serial numbers to produce any one of the first eight aircraft delivered to this unit by 2018. The decals are nicely printed with excellent colour density and registration. The accompanying full colour decal placement



The KAI T-50 Golden Eagle is a family of South Korean supersonic advanced jet trainers and light combat aircraft, developed by Korea Aerospace Industries (KAI) with Lockheed Martin. The T-50 is South Korea's first indigenous supersonic aircraft and one of the world's few supersonic trainers. Development began in the late 1990s, and its maiden flight occurred in 2002. The aircraft entered active service with the Republic of Korea Air Force (ROKAF) in 2005.

The T-50TH is a LIFT aircraft designed to replace the Thai Air Force's aging L-39 Albatross trainers. The first T-50TH No.1 aircraft made its first flight on August 10, 2017, and the first two will be delivered to the Royal Thai Air Force in January 2018. Deliveries began in January 2018. From 2018 to 2020, a total of 12 T-50THs were delivered from KAI to the Thai Air Force. After that, two additional orders were placed in 2021. The Royal Thai Air Force plans to finally be fully organized into 16 T-50THs.

KAI T-50 Golden Eagle은 한국항공우주산업(KAI)이 록히드마틴과 함께 개발한 한국의 초음속 첨단 제트 훈련기 및 경전투기입니다. T-50은 최초의 국산 초음속 항공기이자 세계에서 몇 안 되는 초음속 훈련기 중 하나입니다. 1990년대 후반에 개발이 시작되어 2002년에 시제기의 첫 비행이 이루어져 첫 양산형인 T-50이 2005년 대한민국 공군에서 운용이 시작되었습니다.

T-50TH는 태국공군의 노후화한 L-39 알바트로스 훈련기를 대체하기 위해 제작된 LIFT 비행기입니다. 최초의 T-50TH 1호기가 2017년 8월 10일 최초비행을 했고 2018년 1월 태국 공군에 최초의 두 대가 전달됩니다. 2018년부터 2020년까지 총 12대의 T-50TH가 KAI에서 태국공군에 공급되었습니다. 이후 2021년에 2대의 추가주문이 발주 되었습니다. 태국공군은 최종적으로 T-50TH 16대로 완전 편제할 계획입니다.



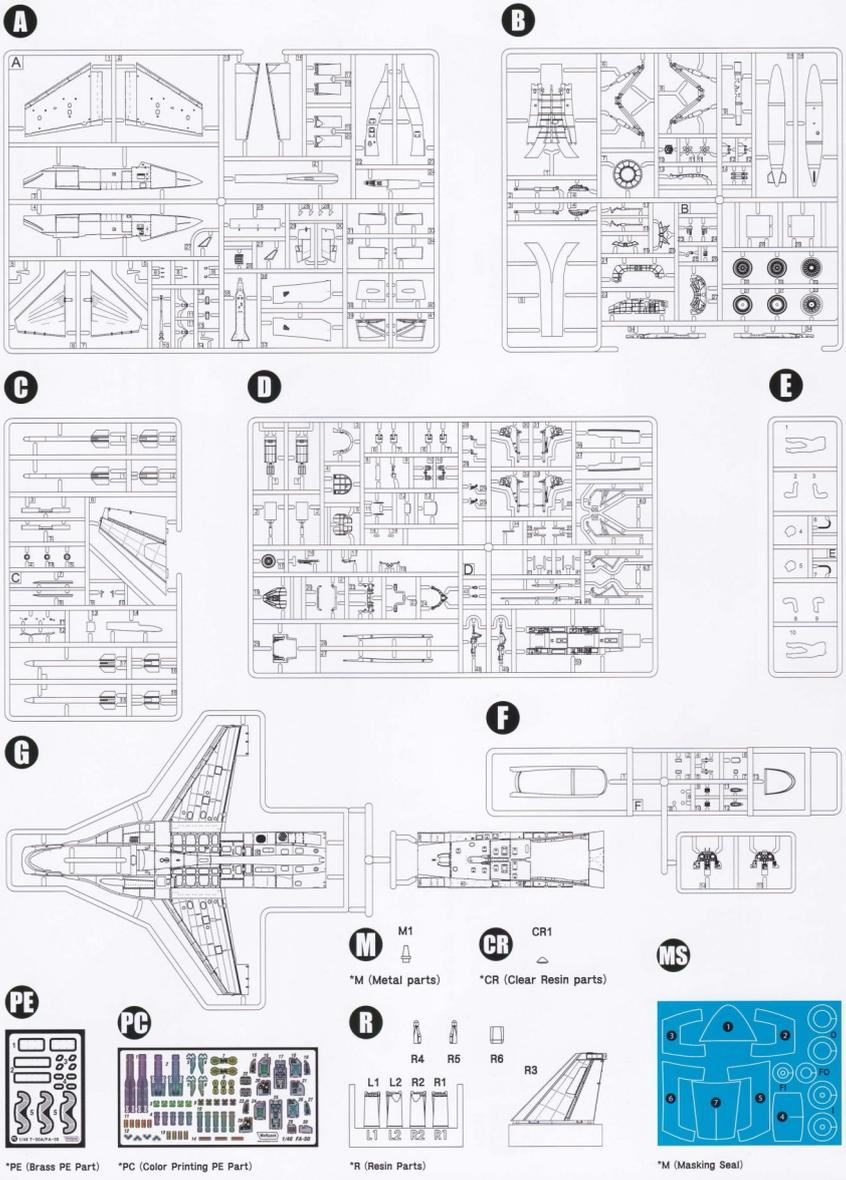
Contains one unassembled model kit only.
No Paint and Cement in box.
Kit suitable for Age to Adult.
조립되지 않은 키트가 들어왔습니다.
접착제와 도료는 들어있지 않습니다.
15세 이상 판매용

Wolfpack-Design Co. Ltd.
F2, 352, Gwangdoek 4-ro, Sangroku, Ansan-si, Gyeonggi-do, 15489, Republic of Korea
출판권리저인
경기도 안산시 상록구 광덕4로 352, 2층 (우 : 15489)

ASIAN AIR ARMS NEWSLETTER 35



I Parts



instructions (DPIs) also provide colour callouts for GSI Creos Mr. Color paint numbers, along with the FS Numbers for the two-tone grey camouflage scheme applied to the T-50TH. The comprehensive masking set will help with the application of the paint scheme, and includes a full set of both canopy and wheel masks.

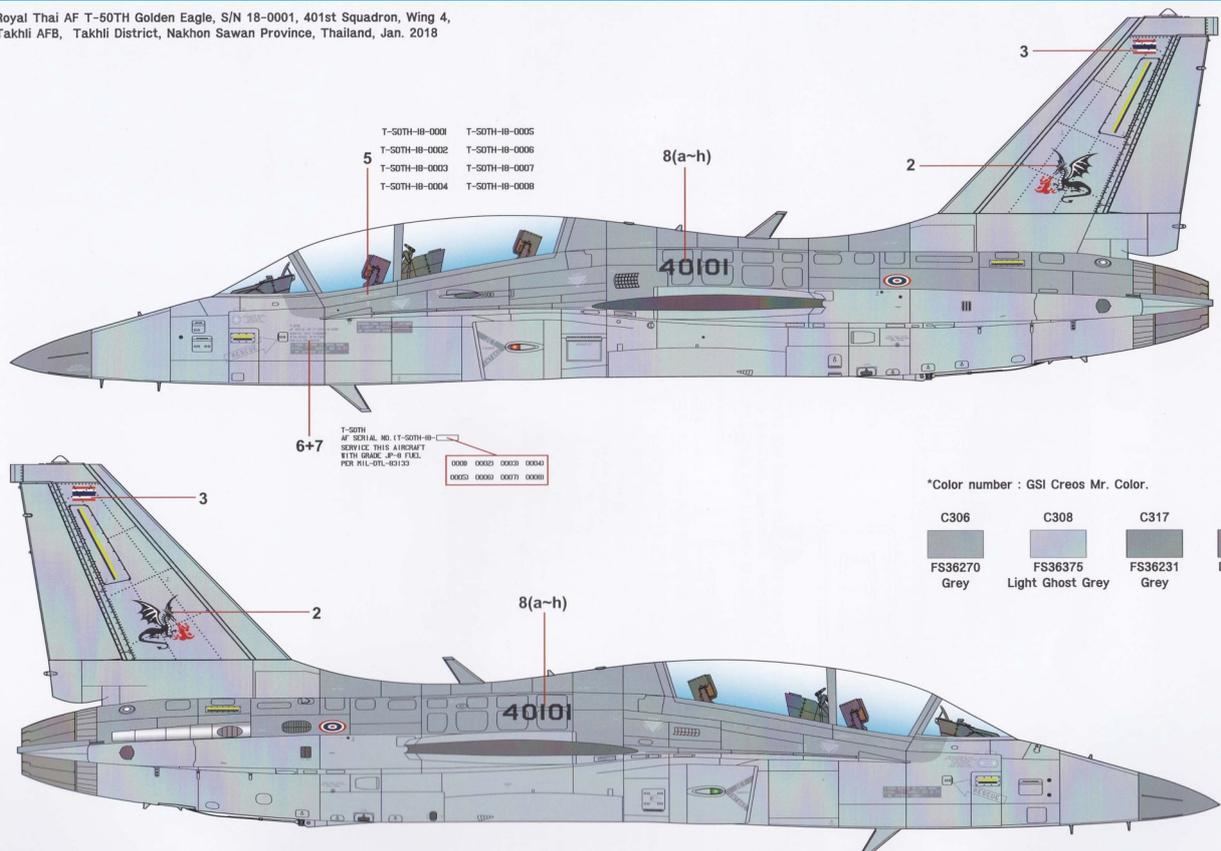
The ROKAF TA-50 kit (WP14816) is a less comprehensive offering since it shares more in common with the original T-50 advanced trainer. As a result, the kit includes a smaller photo-etched fret and a single turned brass part (to replicate the Elbit EHUD AACMI Pod), although it does provide decal markings for no less than six aircraft with or without individual unit markings.

These two recent releases from Wolfpack provide the modeller with some nice options to complete the baseline Academy T-50 kit with some modest aftermarket enhancements and in some attractive colour schemes, all in one package. It should be noted that for those modellers that wish to go to the next level in terms of detail, Wolfpack also produce two aftermarket resin sets optimised for the Academy kit, catering for the special-to-type ACES ejection seats and F404 jet engine nozzle respectively.

Highly recommended

Mark Attrill, January 2023

1 Royal Thai AF T-50TH Golden Eagle, S/N 18-0001, 401st Squadron, Wing 4, Takhli AFB, Takhli District, Nakhon Sawan Province, Thailand, Jan. 2018



- T-50TH-18-0001 T-50TH-18-0005
- T-50TH-18-0002 T-50TH-18-0006
- T-50TH-18-0003 T-50TH-18-0007
- T-50TH-18-0004 T-50TH-18-0008

T-50TH AF SERIAL NO. 17-50TH-18-0001
SERVING THIS AIRCRAFT WITH GRACE, FAITH AND COURAGE
FOR ALL-OTL-021123

*Color number : GSI Creos Mr. Color.

C306	C308	C317	MC214
FS36270	FS36376	FS36231	Dark Iron
Grey	Light Ghost Grey	Grey	



Against All Odds – Pakistan Air Force in the 1971 India-Pakistan War

Author: Air Commodore (Retired) Kaiser Tufail

I have recently re-read John Fricker's excellent book 'Battle for Pakistan' – The Air War of 1965, published by Ian Allan in 1979, which provided a great segue into this book (published by Helion as part of the 'Asia@War' series) that Tom Cooper recently passed on to me, and which covers the operations of the Pakistan Air Force (PAF) during the subsequent conflict between India and Pakistan six years later. During the writing of his book, John Fricker had gained direct access to the top echelons of the PAF leadership and, as he alluded to, the relatively new Air Arm had learned much from the bruising air campaign that had been conducted against the Indian Air Force. [I thought] it would therefore be fascinating to see if this more recent book addressed these lessons, and whether they had been successfully implemented.

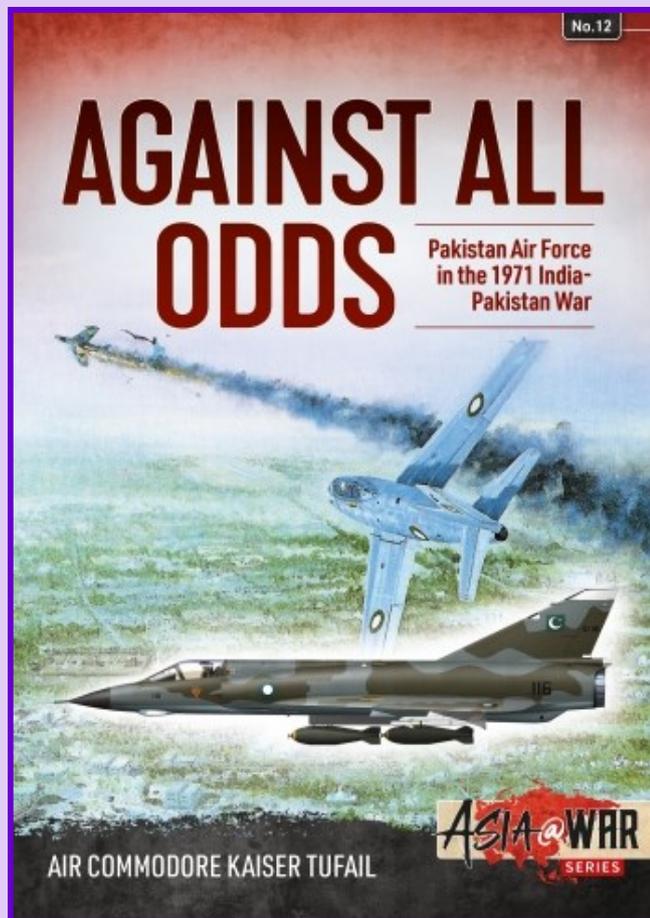
In keeping with previous titles in this excellent series of books, the author provides a very useful 'scene-setter' with an overview of the geo-political situation on the Indian sub-continent in the late 1960s, and in particular the rising tensions between East and West Pakistan and their respective relationship with their larger neighbour. The dominant Bengali majority in East Pakistan wanted independence from West Pakistan, and were supported by India in this endeavour. Pakistan had considered this support to be an unacceptable provocation, and as a result ordered its numerically inferior Air Force to mount a pre-emptive strike, code-named Operation Chengiz Khan, which had been inspired by a similar Israeli action during the Arab-Israeli Six-Day War of 1967. The initial operation, conducted on the evening of 3rd December 1971, was of limited success since Pakistan had pitted just over 50 combat aircraft to strike several Indian Air Force targets. Not surprisingly, India considered this a declaration of war and rapidly responded with a series of retaliatory strikes before unleashing a massive joint operation which resulted in the occupation of a significant part of East Pakistan, and cut a large swathe through the Western side. Throughout the next 12-13 days, the Pakistan Air Force were forced on the defensive and although heavily outnumbered, acquitted themselves well in combat with the Indian Air Force. The short conflict ended on 16 December, when Pakistan surrendered and later accepted the creation of the new State of Bangladesh out of what had formerly been known as East Pakistan.

The author, obviously well-versed with the workings of the Pakistan Air Force and with a vast network of contacts, has done a masterful job in weaving together the 'big picture' with individual accounts of particular missions or sorties, in order to provide the reader with a clearer understanding on how the Pakistan Air Force worked 'against the odds'. The accounts are truly fascinating, as are the anecdotes, many of which are in the form of footnotes, and they articulate how the PAF overcame individual operational limitations. One particular example explained how the rather limited combination of range, manoeuvrability and firepower found in the Lockheed F-104A Starfighter was overcome in order to maximise its utility in combat, and there are many other examples throughout the text.

The book also provides a liberal and extremely helpful number of maps and tables to assist the reader with referencing the complexity of the subject, with numerous references to Air Bases, Order of Battle, combat effectiveness, sortie rates and kill/loss data. Where this book really scores heavily, however, is in the presentation of its illustrations, both in terms of photographic content and a comprehensive set of colour side profiles, another great feature of the @War series of books. For the modeller and aviation researcher in particular, the inclusion of an excellent selection of aircraft CSPs, all expertly drawn and presented by Series Editor Tom Cooper, is a definite highlight. Tom has not only tackled the well-known combat aircraft types from both sides, including the Dassault Mirage III, F-86 Sabre, Mikoyan MiG-21FL and Hawker Hunter but also some of the lesser known types that were pressed into service, particularly by the Pakistan Air Force, to shore up combat capability or perform useful and key combat support roles, such as the Lockheed T-33 Shooting Star and C-130 Hercules. My particular favourites in this book were the aforementioned C-130B, portrayed in at least three different colour schemes used during the conflict, and the camouflaged T-33A, together with a rather worn looking Indian Air Force Su-7BMK and a Dassault Mystere IVA which had received a rather hastily applied and distinctly non-standard three-tone camouflage scheme on the upper surfaces. The photographic content is also excellent. This reviewer has read a considerable number of books and periodicals on both the Pakistan Air Force and the air wars between India and Pakistan over the years, but noted that many of the photographs contained in this book appear to have never been previously published, and these too provide extremely good reference material for both aviation researchers and modellers alike.

This volume was another great read and extremely valuable addition to the Helion and Company Asia@War series where, once again, the Series Editors' have combined the written talents of a well-informed author with a host of previously unpublished imagery sourced from personal collections and archives, along with a superb selection of colour side profiles, maps and tables to produce a high quality reference book on an unusual and little publicised subject.

Mark Attrill, January 2023



Competition Time!



As promised in one of my last editorials of 2022, we launch the new year with the first in our series of mini-competitions, which we are able to bring to you through the generosity of both some of our sponsors and, you, the Asian Air Arm SIG membership.

For this edition, I have two prizes which will be made available to the first correct respondent 'out of the bag' in each case following the closing date of the competition.

The first prize I have up for grabs this month is a 1:48 scale decal sheet for the Soviet-era Ilyushin Il-28 'Beagle' medium bomber which has been provided courtesy of Diego Rogoz, proprietor of Hi-Decal Line decals and an Asian Air Arm SIG member. To enter into the competition I would like the answers to the following questions:

1. How many Asian Air Arms have operated, or continue to operate, the Ilyushin Il-28 'Beagle' or its license-built derivatives?
2. What is the name/designation given to the Chinese license-built derivative of the original Ilyushin design?



The second giveaway for this month is the excellent Blue Diamonds 1:72 scale FA-50PH Golden Eagle resin detail/conversion set that has been reviewed elsewhere in this Newsletter and has been kindly provided by Paul Fernandez of the Philippine Military Scale Models Group and another fellow AAA SIG Member. To win this superb set, I would like the answers to the following questions:

1. The South Korean manufactured T/FA-50 Golden Eagle family of advanced training/Light Combat Aircraft (LCA) incorporates many of the design features found in which popular Western manufactured fighter aircraft?
2. How many Asian countries have currently received, or have on order, the KAI T/FA-50 Golden Eagle to equip their Air Forces?



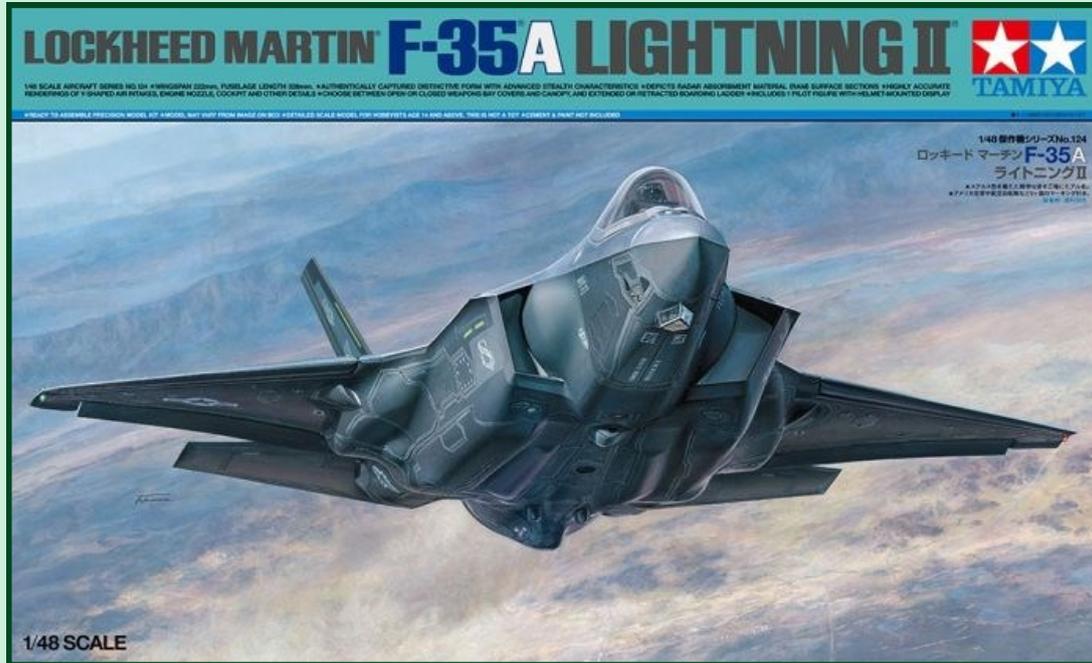
The closing date for the two competitions is **Monday 3 April 2023**. Answers should be forwarded, **via e-mail only**, to the Asian Air Arms SIG Leader at aaasig2021@gmail.com. **Please do not forget to include your current mailing address so we ensure the prizes are received.** Immediately after the closing date all correct respondents will be placed in a 'lucky bag' and the winners for each competition will be drawn out individually. The prize winners will be notified directly, via e-mail, and announced in the next available AAA SIG newsletter.

Please note that neither the AAA SIG Leader or Editor will enter into any additional correspondence with regard to this competition.

Lockheed-Martin F-35A Lightning II



In an age dominated by the Internet and social media it is becoming increasingly difficult for kit manufacturers to keep planned projects or new releases 'under wraps' for very long, although Tamiya are one of the few companies that do seem to manage this quite well, and they have over recent years surprised us from time to time with a relatively short timeframe between announcements and actual release dates. This appears to be very much the case with the surprise release of their brand-new

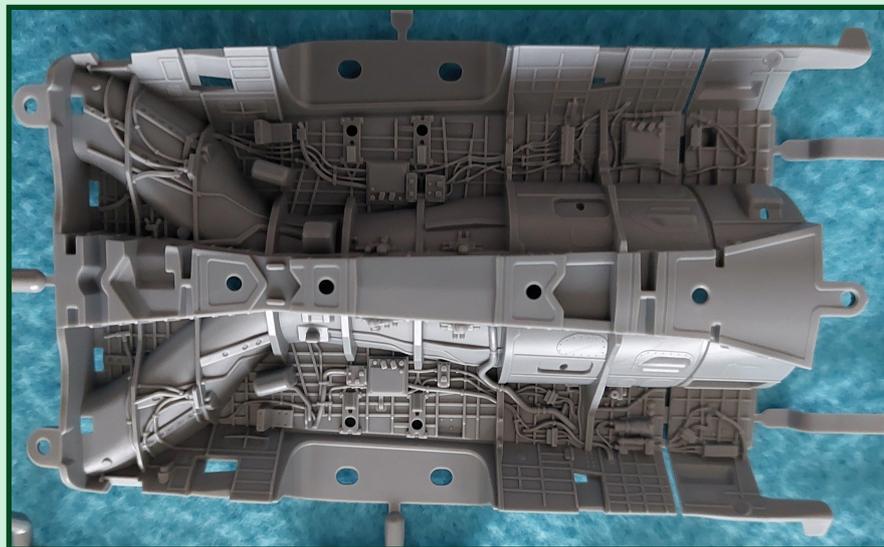


1:48 scale Lockheed-Martin F-35A Lightning II, especially taking into account the relatively recent release of hitherto highly-acclaimed kits from both Meng and Italeri (albeit the latter kit is for the VSTOL F-35B variant); What would the new Tamiya kit bring to the table ?.

We got a glimpse of what we could expect during the Scale Model World show at Telford last November, where The Hobby Company, the UK importer for Tamiya kits, displayed the contents of the kit, although I will admit that I was unable to spend any time during the show to complete a thorough examination. That has now changed with the receipt of the kit and I must say that Tamiya have, once again, excelled with this latest in their growing range of high

quality 1:48 scale kits. It is very much a case of quality over quantity with Tamiya, with a glacial rate of new releases, but what they do produce is always worth the wait. I was initially surprised with the size of the box which is similar to that containing their hugely successful family of F-14 Tomcats, but on opening it, I discovered it to be packed with parts along with this company's familiar presentation of instruction and information sheets, colour scheme and decal placement instructions, decals and a masking sheet.

My eye was immediately drawn to the surface detail on the one-piece upper fuselage/wing assembly; the Radar Absorbent Material (RAM) sections of the airframe assembly on the vast majority of kits of the F-35 have been the subject of endless discussions on the internet, as well as at model clubs and shows, so it was going to be interesting to see how Tamiya approached this. I have to say that their interpretation is the best I have personally seen so far and is probably going to be the benchmark going forward. The other element that caught my eye was **THAT** one-part weapons bay which is, without doubt, the most comprehensive piece of injection moulding I have seen on any of the hundreds of 1:48 scale kits that I have examined over the years. The detail is truly sublime and one simply cannot believe that any modeller will want to display this model with the weapons bay doors closed.



Once I had overcome my initial wonderment, I took a more critical look at the rest of the kit. As you would expect, the craftsmanship is excellent, and in spite of the relative simplicity of the prototype aircraft, the kit is surprisingly complex and has some very neat features. Quite early on in the assembly sequence the modeller needs to make a decision with regard to the weapons options. Three are offered covering the stealth mode with two AIM-120C AMRAAM and two GBU-31 JDAMs carried in the internal weapons bay, Air Defence mode with the addition of two externally mounted AIM-9X AAMs, and the so-called 'Beast' mode with the aforementioned AIM-9X and four externally mounted GBU-13 bombs. The kit includes optional open or closed weapons bay doors and a tinted canopy; the latter is actually interchangeable which is a nice touch, together with a choice of closed or deployed flying control surfaces and an extended or retracted cockpit access ladder. Optional parts include the Radar Cross-Section (RCS) enhancers that are fitted to aircraft for training exercises, and the drag chute fairing that is peculiar to those aircraft operated by the Royal Norwegian Air Force, one of the nine marking options included in the kit. The relatively simple cockpit design is faithfully reproduced, and is dominated by an impressive multi-part Martin-Baker US16E ejection seat and an equally impressive optional seated pilot figure complete with Helmet-Mounted Display headgear.



Assembly appears to be relatively straightforward, with several sub-modules that will all fit neatly into place within the main airframe, leaving no 'air gaps' or open space present. The two-part main fuselage/wing structure is another piece of impressive engineering and will ensure that clean up prior to the application of paint is kept to a minimum. I do not anticipate any major issues with the assembly sequence or fit of parts, given Tamiya's enviable reputation in these areas of kit design.

formed 302nd Hikotai of the 3rd Wing based at Misawa AB in 2022. The second Asian Air option is for a Republic of Korea Air Force (RoKAF) machine from the 152nd Fighter Squadron, 17th Wing based at Cheongju AB in 2021. My only *minor* reservation with this kit, and it is one that is common to all Tamiya aircraft kits, is the presentation of the cockpit and airframe masks.



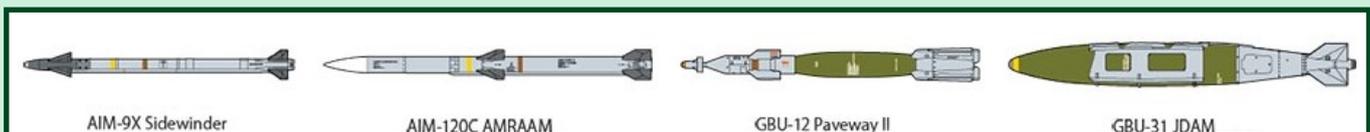
While they are produced using Kabuki tape, which is in my opinion much better than vinyl, they are not pre-cut so each individual element needs to be carefully removed and trimmed from the one-piece sheet. Initial impressions suggest that Tamiya have, once again, raised the bar with their latest 1:48 scale aircraft release and that this is now the definitive F-35A kit in this or any other scale in 2023, although it does come at a price. The Meng kit of the F-35A is considerably cheaper and although it is a little less refined, with a simplified design and less options, it still makes a nice replica and will suit many looking to add this aircraft type to their collection. Where the Tamiya kit scores highly is in the presentation of the surface detail which is a key element of the aircraft's design and in the presentation of the weapons and undercarriage bays. Add to this the overall quality of the parts, the weapons options and the multiple decal marking choices, including two Asian schemes, and I believe Tamiya have



another winner. I expect to see many of these gracing the tables of model club meetings and shows over the coming years. Thoroughly recommended!

Review sample courtesy of my wallet!

Mark Attrill, February 2023



AIM-9X Sidewinder

AIM-120C AMRAAM

GBU-12 Paveway II

GBU-31 JDAM



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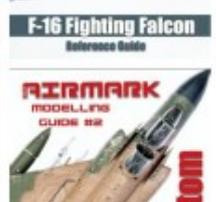
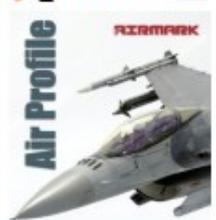
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