INNOVATIONS IN MODEL KITS

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SUKHOI SU-33 FLANKER-D

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Lost for Words!

I know I have said it before, but the model-maker’s art never ceases to amaze me, and sometimes the sheer brilliance of a concept leaves me speechless. Such was the case with this month ‘Scorpion on Deck’ diorama from Hyun Soo Kim, which left me lost for words. It is an object lesson in a complex build made to look both simple, stylish and jaw dropping at the same time. The carrier deck is superbly reproduced, but one of the real beauties of this piece is the clear Perspex stand that is housed on, which draws the eye to the main event without detracting from the overall look.

This month we also have a very vibrant look at the 2016 NATO ‘Tiger Meet’ and Jens Schymura took his camera to Spain for one of the most colourful events for many years. Elsewhere, and to compliment the recent release of our Skyraider MDF, Krystian Olgierd Ciechowicz builds a Vietnam War A-1J, and our War-Zone this month looks at the work of the ‘Spad’ in Southeast Asia. Moving back a while, Chad Summers brings another war bird with his F-84G Thunderjet ‘Ricepaddy Ranger’, and following on from the June issue, we present another in our occasional series of captured German aircraft, as Gerry Doyle adds some ‘Stars and Bars’ to the 1:48 HobbyBoss Me 262A-1a/U4. Other highlights this month are Mario Serelle’s ‘Shrike Shooter Scooter’, Tom Sunley’s EF-18G and our cover feature, a quite magnificent ‘Skywarrior from James Ashton. In fact with twelve build projects in our pages, you certainly get more in MAM than anywhere else!

Happy modelling

Andy
Scorpion on Deck
Hyun Soo Kim produces a stunning 1:48 Aircraft Carrier Diorama

Combat Edge – A-3 Skywarrior
With background details and a full model build by James Ashton

Sock It To ‘Em Spad!
Krystian Olgiard Ciechowicz builds the 1:48 Tamiya A-1J

Improving the Image
Pierre Baudru works his magic on the 1:72 Heller Mirage 5BA

Bug-Zapper
Tom Sunley takes a close look at the 1:48 Hasegawa EF-18G ‘Growler’

MIG Masterclass - ‘Shrike Shooter Scooter’
Mario Selle detailed a 1:72 IDF A-4 ‘Ayit’ with AGM-45 missiles

Ricepaddy Ranger
Chad Summers builds the 1:48 Tamiya F-84G
I am a big fan of the US Navy and its aircraft and aircraft carriers. Having previously built and super-detailed the superb Kinetic 1:48 EA-6B Prowler, I really wanted something a little different to display it on. I hit on the idea of a deck elevator section, which has carried an aircraft from the hangar to the deck, and is now being prepared for flight. The ‘Prowler’ was painted in the standard US Navy low-visibility greys and I opened up a lot of the panels to add interest. The aircraft is finished in the markings of VAQ-132 ‘Scorpions’ as seen aboard the USS John F Kennedy in 2004, during her Operation ‘Iraqi Freedom’ deployment.

As no kit of this type of setting exists, it was a case of scratchbuilding everything. So armed with a lot of reference images from various sources, the ‘Scorpion on Deck’ diorama was born.

**EA-6B Prowler**

Manufacturer: Kinetic  
Scale: 1:48  
Kit Type: Plastic injection moulded with etch  
Kit Number: 48044

Verlinden US Navy Carrier Deck Crew #310  
Skunk Works US Navy MD3 Tractor #48003  
Skunk Works US Navy Deck Fore Engine #48007
sources, and a copious amount of plastic sheet, box sections and Evergreen Strip, I set about constructing the section. To be honest, it was quite straightforward, and I constantly referred to my reference images to be as accurate as I could.

Not only did I need to construct the deck itself, but also the undersides, and the safety netting around the edges. Again, with a little thought and planning this was fairly easy to achieve. Once I had the shape I wanted, the entire section was then sprayed in 'Navy Grey', and once dry I marked out and drilled the holes for the deck tie-down points. The deck coating itself was some dark grey paint mixed with very fine sand and applied with a very broad brush. The smaller

As no kit of this type of setting exists, it was a case of scratchbuilding everything.
deck details were then carefully painted in. I then added some Verlinden etched carrier deck tie-down points and chains into the pre-drilled holes to complete the effect. The deck edges were suitably painted and I added the netting and safety rails and painted these according to my references.

Now it was time to add the aircraft and deck accessories. I once again turned to Verlinden for their US Navy Carrier Deck Crew Set, and these were painted as per the instructions. For the deck tractor and fire truck, or the 'crash and smash' team, I used two Skunk Works Sets, again suitably painted and detailed. The deck warning cones came from Aires, as did the NWC-4/5 Late Type wheel chocks, and I scratchbuilt the nosewheel tow-bar. All of the items were then fixed into place and I then fashioned some clear plastic sheet to act as a stand. I truly hope that this project inspires you to try something a little different, as with care, planning and some imagination, you just don’t know what you can achieve!
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The Douglas A-3 Skywarrior

The A-3 Skywarrior was originally designed as a strategic bomber for the US Navy and was one of the longest serving carrier-based aircraft in history. It entered service in the mid-1950s and was retired in 1991, and throughout its service it was the heaviest operational aircraft to operate at from carrier decks, earning its nickname ‘The Whale. Its primary function for much of its later service life was as an electronic warfare platform, a tactical air reconnaissance platform, and a high capacity aerial refuelling tanker. The Skywarrior was one of only two US Navy attack aircraft intended as a strategic bomber to enter full-scale service, the other being its predecessor the AJ Savage. The A-5 Vigilante, which was also originally designed for strategic nuclear strike missions and initially, very briefly, supplanted the A-3 in that role beginning in the early 1960s. However, with the realisation that very high altitude missions over the Soviet Union was no longer feasible, and the transfer of the Navy’s strategic nuclear deterrence mission to their submarine force, the Vigilante saw its mission changed to carrier-based tactical air reconnaissance. The prototype XA3D-1 first flew on 28 October 1952, however, considerable development problems, largely with the original engines, delayed the introduction of the Skywarrior until spring 1956. The Skywarrior had a 36° degree swept wing two Pratt and Whitney J57 turbojet that could be supplemented by a provision for twelve JATO bottles. The aircraft had a largely conventional fuselage, with the engines in underwing nacelles, with hydraulic flight controls, and for storage below deck, the A-3’s wings folded outboard of the engines, lying almost flat, and its vertical stabilizer was hinged to starboard.

The early A-3 variants had a crew of three – a pilot, bombardier/navigator (BN) and crewman/navigator, and an unusual cockpit configuration was incorporated with the three crew sitting under a framed canopy. Later electronic reconnaissance variants could accommodate a
crew of seven with the flight crew consisting of a pilot, co-pilot and navigator plus four electronic systems operators occupying stations in the former fuselage bomb bay. Efforts to reduce weight had led to the deletion of ejection seats during the design process for the Skywarrior, based on the assumption that most flights would be at high altitude. A similar arrangement with an escape tunnel had been used on the F3D Skyknight, and aircrews began joking morbidly that 'A3D' stood for 'All Three Dead'.

The Skywarrior could carry a heavy load of weaponry in its bomb bay, which in later versions was used for sensor and camera equipment or additional fuel tanks. An AN/ASB-1A bomb-director system was initially installed, later replaced by a revised AN/ASB-7 with a slightly reshaped nose. Defensive armament consisted of two 20mm cannons in a radar operated tail turret, which was later removed in favour of electronic counter measure equipment. Although some bombing missions were out early in the Vietnam War, the Skywarrior would serve mostly as a tanker and electronic warfare support aircraft. For most of the Vietnam War, EA-3Bs of VQ flew from Da Nang Air Base in South Vietnam, providing continuous electronic reconnaissance capability over the area, including the Ho Chi Minh Trail and all the way north to Haiphong harbour. In addition, another version of the A-3B was modified into the RA-3B and used in Vietnam as a photo-reconnaissance, with the aircraft performing mapping and intelligence gathering flight over the Southeast Asia area. Other A-3s were modified to KA-3B tankers while some were modified into a multi-mission tanker variant, the EKA-3B, which was a real workhouse for the carrier air wing. Electronic warfare equipment was added without removing tanker capability so
the EKA-3B could jam enemy radar while waiting to refuel tactical aircraft. Eventually, the EKA-3B was replaced by the smaller dedicated KA-6D Intruder, which although it had less capacity and endurance, was deployed in greater numbers within the carrier’s air wing. The EA-3 variant was used in critical ELINT roles operating from aircraft carrier decks and ashore, supplementing the larger EP-3. Its last service was as the EA-3B ELINT platform during Desert Storm. The Skywarrior was out of Navy service by September 1991, with the last USN Skywarrior’s retiring on 27 September 1991.
Electric Warrior

James Ashton builds the superb 1:48 Trumpeter ERA-3B

Trumpeter has never been a company to shy away from producing both large-scale kits and esoteric subjects. For us modellers this has always been very much appreciated, as it is an exciting and refreshing break from the usual diet of familiar subjects that adorn our shelves. The Skywarrior or ‘Whale’ as it was nicknamed - due to it large size and weight - was amongst the longest serving Naval aircraft as well as being the heaviest. Originally conceived a bomber it was soon adapted to roles that made use of its size in the ever-changing scene of modern warfare. It served capably in the Electronic Warfare, Reconnaissance and Refuelling Tanker roles for most of its service life. In 1:48 this is an impressive kit that will require plenty of display space, although it does have the option of folding the wings and tail. However before I go into the details of the

To say that this model has some ‘acreage’ is an understatement!
model it would be best for me to start with what you get in the box. Trumpeter kits have always had the finest quality mouldings with crisp surface details and a high level of engineering that makes for pleasant construction. A good quality clear set of instructions are provided, sadly they do lack in the area of colour call outs, also the construction of the rather complex undercarriage could be better represented. The sprue gates are thin and cut away cleanly, though some are mounted to the mating surfaces and require sanding off. There are also an impressive set of etched parts most of which are for the wing folds and interior details.

As impressive as all the internal details are, such as the electronics suite, once the fuselage is closed up nothing of it is visible. The cockpit on the other hand is highly visible through the crystal clear and beautifully moulded canopy; here also there is a good complement of visible detailing. The excellent level of detail continues throughout the build with an optional radar array and one of the best undercarriage bays I have seen on any kit. Again there are etched parts that enhance these areas. I did find it necessary to strengthen the main undercarriage using some Albion Alloys metal tubing, as the plastic inserts were too weak to support such a heavy model. In all areas Trumpeter makes the construction process a joy, with some superb details such as two complete engines, which sadly are hidden once closed up. The option is there for the super detailer to open up panels to display these features, so all your efforts will not be in vain! Just a note on one feature that seems to be an omission and that is there are no ALQ-76 countermeasure pods for under the wings, these are clearly visible on any pictures I have found not to mention the box art. Personally I like to have my aircraft models with the wings deployed so apart from the airbrakes most things are closed up.

To say that this model has some ‘acreage’ is an understatement, nowhere is this more apparent than when you begin to paint the ‘Whale’, so I hope you like Grey and White! Although it was a positive delight to use some Red when it came to the slats. It was also a very satisfying feeling though to put this model down after a painting session, and look on the
I omitted the radar array and filled the nose with essential ballast to avoid tail sitting. The overall fit of the fuselage is also excellent with no gaps or misalignment.

The massive size of this kit becomes apparent when you get to the painting stage.……..The decals are of the highest quality because of the modular nature and wingfold options.

For metallic finishes I found nothing beats Alclad2 Lacquers, as you can achieve shading effects with multiple colours, giving a very authentic burnt metal finish. Because of this I used Mr Hobby 315 and Tamiya XF-2 just on the fuselage.

……..I went through two bottles of Alclad2 Micro filler to check the seams and fill any scratches left from sanding before the primer stage.
graceful lines and sheer size of this aircraft. Finally the stage that I feel brings the model to life had arrived, that is the application of the decals. Over the years Trumpeter have applied themselves to improving this area of their kits and I have to say they are of the highest quality. The colour saturation and register are excellent and they have an incredibly fine carrier film, which conforms to all surface details. Just be careful when applying them and do so with copious amounts of water as they grab the surface instantly. So now this 'Whale of a kit' sits proudly in my collection, and I cannot express enough what a superb build it is. Once again Trumpeter have provided us with a rare, and yet very desirable subject to add to our collections. Personally I have always been a big fan of US Naval aircraft especially the early jet era and this is the first time I have built a Skywarrior. Thank you Trumpeter and continue to surprise and delight us with more releases such as this one.

Most images I saw of the 'Whale' show moderate levels of weathering, so I used Alclad2 Hogwash and post-shading with paint to achieve a subtle weathered effect over the airframe. With so much grey and white it was a positive delight to use some Red.
ENGINES
 Following the launch of the new SAM Publications A-1 Skyraider Datafile Krystian Olgierd Ciechowicz builds the 1:48 Tamiya A-1J

This model is typical Tamiya, with some very nice material, good detail reproduction on fuselage and wings, and some delicate surfaces, and some nice details in the cockpit, on the wheels and glazing. The cockpit was good, but I decided to add an Eduard set #FE296 to make it even better. I then joined up the fuselage and added the wings and all the other larger parts, and being Tamiya, very little filler was needed.

**A-1J Skyraider**
- **Manufacturer**: Tamiya
- **Scale**: 1:48
- **Kit Type**: Plastic injection moulded
- **Kit Number**: 61073

So, onto the painting stage, and to begin I applied a coat of Mr Paint BS Fine Surface Primer – Black using a sort of 'armour-style' pre-shade, before...
I chose to decorate my model as an aircraft from the 56th Special Operations Wing, 602th Fighter Squadron.
applying the camouflage, thereby allowing for some interesting colour effects. Next I painted the undersides with Mr Paint MRP-104 Light Grey FS36622, and then for the upper surfaces I applied successive thin coats of Mr Paint MRP-101 Dark Green FS34079, MRP-102 Green FS34102, and MRP-103 Brown FS30219. I then modulated these shades to suit on various areas by adding a little white of black to the mix. I then added a coat of Mr Color Super Clear GX100. I chose to decorate my model as ‘Sock It To ‘Em’ an aircraft from the 56th Special Operations Wing, 602th Fighter Squadron, based in Thailand, and the decals were applied without any issues. Then added a panel line wash of much thinned Van-Dyke Brown and once I was happy with the look I added a coat of Mr Paint Super Clear Semi- MRP-126, and then added the painted up landing gear, wheels and other smaller details. I then added the canopy and after a little tidy up here and there by Skyraider was complete!
Tigers under the Spanish Sun

Jens Schymura reports from Zaragoza

From 16 to 27 of May 2016, Zaragoza air base hosted one of the biggest assemblies of NATO squadrons for the annual ‘Tiger Meet’. Zaragoza air base, located between Barcelona and Madrid, is an excellent venue for all kinds of military exercises, and currently home to two squadrons of the Spanish Air Force, Ala 31 with its C-130 Hercules transporters and refueling aircraft and the Ala 15 with two squadrons EF/A-18A/B(M). Participation in the 2016 ‘Tiger Meet’ surprised many, with ninety aircraft from Belgium, Germany, France, Greece, Great Britain, Italy, the Netherlands, Norway, Poland, Switzerland, Spain, Czech Republic, Turkey and Hungary and some additional guests, making the event one of the biggest ever in its history. Next year’s ‘Tiger Meet’ will be held at Landivieseau French Naval Air Base.

This F-16C has been completely painted in yellow-orange with black stripes in the past year for the NTM 2015 at Konya

For the first time a Hungarian JAS-39C Gripen received a special marking

A very dramatic Gripen
Amongst the RNorAF machines was this F-16BM.

The F/A-18C J-5011 of Fliegerstaffel 11 from Meiringen.

A very colourful French Navy E-2 Hawkeye!

One of the four HAF F-16s present in Spain.

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One of the four HAF F-16s present in Spain.

Amongst the RNorAF machines was this F-16BM.
A Zaragoza based Ala 15 EF/A-18A(M) (C.15-14/15-01) with colourful tiger tail markings
With the slogan ‘we are back’ the 142nd Squadron of Ala 14 from Albacete brought six Eurofighters after the withdrawal of their Mirage F.1s.

An EF/A-18A(M) (C.15-14/15-01) with colorful markings.

French Flotille 4F from Lann-Bihoué came with two E-2C Hawkeye’s.

A Polish Tiger.

German Typhoon 30+35 – ‘Cyber Tiger’.

This F-16C has been completely painted in yellow-orange with black stripes.
Following on from the June issue of Model Aircraft, we present another in our occasional series of captured German aircraft, as Gerry Doyle adds some ‘Stars and Bars’ to the 1:48 HobbyBoss Me 262A-1a/U4

When HobbyBoss released their Me 262 family a few years ago I must admit I was skeptical. Being somewhat of a ‘Stormbird-snob’ I wondered if their simplified style would compromise accuracy. When I eventually succumbed to temptation and got their Me 262A-1a/U4 I was hugely impressed by the mouldings and detail. As far as I am aware this version had only been kitted before by Trimaster in the late 1980’s, and the same moulds were later used by Dragon.

I started the build with the cockpit tub. I gave the whole tub a coat of Lifecolor RLM66. When this was dry I dry brushed with light grey and picked knobs and bobs out with Citadel acrylics. The underside of the tub and lower interior fuselage were then given a coat of Alclad II Duralumin, and I also added an Eduard pre-painted seat harness. Then I gave everything a light wash with my usual brown/black oil paint mix and when this was cured I sprayed on a coat of semi-matt varnish to bring it all together. The fit on all parts is excellent and construction then went very quickly and with no major drama.

You get a simplified but usable version of the cannon, however, I decided to close it all up and at this stage I made up the sub-assemblies such as the engine nacelles and undercarriage etc. I also added some hydraulic lines to the struts with some wire and then painted them and the wheel bay well doors with Lifecolor RLM02. I dipped the clear parts in Future and let them cure thoroughly before masking them with strips of Tamiya tape and PVA. Before I knew it I was ready to paint, and I gave the entire model a coat of Mr Surfacer to kick things off. Next I painted the cannon with a mix of Alclad II Burnt Steel and Jet Exhaust and when dry I masked off. I decided to do a captured machine with the name ‘Wilma Jeanne’ on the side of the nose. This aircraft was part of the ‘Watson’s Whizzers’ Squadron who brought Axis equipment to the US for evaluation post-war.

The under surface was then given a coat of Lifecolor RLM76 and I added Lifecolor RLM 81/83 to the upper surface. The fuselage sides were built up with overlaying mottles until I was happy with the effect. I then blanked out where the Balkenkreuz would be with Neutral Grey underneath and Olive Green on top. The tail Swastika was also painted out in Olive Drab.

HobbyBoss Me 262A-1a/U4

Manufacturer: HobbyBoss
Scale: 1:48
Kit Type: Plastic injection moulded
Kit Number: 80372

Uncle Sam’s Stormbird

I also added some hydraulic lines to the struts with some wire and then painted them and the wheel bay well doors with Lifecolor RLM02. I dipped the clear parts in Future and let them cure thoroughly before masking them with strips of Tamiya tape and PVA. Before I knew it I was ready to paint, and I gave the entire model a coat of Mr Surfacer to kick things off. Next I painted the cannon with a mix of Alclad II Burnt Steel and Jet Exhaust and when dry I masked off. I decided to do a captured machine with the name ‘Wilma Jeanne’ on the side of the nose. This aircraft was part of the ‘Watson’s Whizzers’ Squadron who brought Axis equipment to the US for evaluation post-war.

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This aircraft was part of the `Watson’s Whizzers’ Squadron
then gave the model several coats of Johnson’s ‘Future’ in preparation for the markings. Here I used a mix of kit decals and a few from an old Eagle Strike set I had in my spares-box. When all was settled down I sealed everything in with another coat of ‘Future’. All panel lines were then given a pin-wash of my well-diluted brown/black oil paint mix and any excess was wiped front to back with a moistened paper towel. I repeated this until I achieved the effect I was happy with.

All the sub-assemblies were then brought together and the whole model was given a coat of Xtracolor Semi-Matt varnish. I took off the masking and I had a fine looking captured Me 262 on the bench!
Market Garden Competition

Model Aircraft has got together with Casemate Publishing to bring you an exclusive monthly competition to win one of their latest military titles. Founded in 2007, Casemate UK is a major specialist publisher and book distributor in the UK, European and Commonwealth markets. The publishing arm of Casemate is one of the leading publishers in the fields of military history, defence studies, and military science worldwide. Casemate’s publishing list covers subjects as diverse as Roman History, Napoleonic Wars and the Iraq and Afghanistan conflicts of today.

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George Roidis details the 1:48 Airfix Kit

Much has been written about the Airfix Sea Harrier F/A-2, and after a painless build, and the addition of one or two etched upgrades to the basic kit I was soon ready to paint.

First I washed the model with soapy water to remove any grease and then applied a coat of Ammo of Mig Primer.

The canopy and cockpit are well produced by Airfix.
The fuel tanks were painted with the same mix of colours used and the front section was painted with Tamiya XF-4.

The next stage was to give some shadow effect using the pre-shade technique, and here I used Ammo of MIG Tyre Black.

For the main colours I used the Ammo of MIG UK Aircraft Set, and for the nose I used a mix of Medium Gunship Grey A.MIG-204 and White A.MIG-050 in a ratio of 90:10. Some tonal corrections were then made by adding some drops Matt Black. For the rest of the fuselage I used a mix of A.MIG 205 and A.MIG-050 in a ratio of 95:5 and did some small touch ups with A.MIG-207.

Chipping effects were done with Ammo of MIG Chipping Fluid.
After placing the decals weathering began using A.MIG-1602 Deep Grey Panel Line wash.

A coat of Ammo of A.MIG-091 gloss prepared the surfaces for the decals.

... and after a couple of hours any excess was removed with a cotton bud and thinners.
Navy Hawks
The T-45 Goshawk

The T-45 is a rare example of the US Armed Forces adopting in large numbers an aircraft of non-US origin. A version of the world beating BAE Hawk trainer and light strike aircraft has, despite a protracted development, evolved into a training aircraft with virtues which are significantly different from those of its original design. In the late 1970s the US Navy began formulating the requirements for a new training aircraft to replace the faithful but aging T-2C Buckeye intermediate trainer and TA-4J Skyhawk advanced trainer. The new aircraft would form part of a fully integrated training system for undergraduate jet pilots – including aircraft, simulators, training aids and logistics support to be furnished by a single contractor. The programme was called V/STOL.

In January 1978 British Aerospace and the Douglas Aircraft (DAC) division of McDonnell-Douglas Corporation (MDC) agreed a teaming arrangement to compete for V/STOL. McDonnell-Douglas and British Aerospace were already co-operating very successfully on the Harrier II, and so MDC was a natural US partner for the new programme. Early in the evaluation the Hawk demonstrator, ZA101/G-HAWK, had paid a month-long visit to the USA, during which it flew a total of eighty-five evaluation sorties. On 18 November 1981 the proposed naval Hawk variant was declared the winner and given the designation T-45. The Hawk was chosen on the basis of its flying quantities, design maturity and low fuel consumption. McDonnell-Douglas was designated the prime contractor, with BAE responsible for the airframe, Rolls-Royce for the engine and Sperry for the simulators. Following completion of detailed engineering design; full-scale development was launched in mid-1984, for the production and flight testing of four pre-production aircraft. To speed up introduction into service, it was initially planned to buy fifty-four non-carrier capable minimum change T-45B versions, before moving on to the more extensively modified T-45A. After review it was decided that producing all aircraft as T-45A models would give better overall value for money, at the cost of a short programme delay. The T-2 and TA-4J trainers remaining in service received life extension programs to bridge the gap.

The Hawk was chosen on the basis of its flying quantities, design maturity and low fuel consumption.
The export Hawk Mk 60 was chosen as the base for the T-45, and changes comprised of a deeper profile forward fuselage to accommodate a new stronger twin-wheel nose landing gear with catapult launch bar, improved nosewheel steering, a new long-stroke main landing gear stressed to withstand carrier deck landings, main landing gear doors sequenced to close after wheels locked down, twin lateral perforated air brakes on the sides of the rear fuselage, in place of the single ventral air brake, a substantially strengthened airframe and intermediate engine casing, revised US Navy standard cockpit instruments and radios, On-Board Oxygen Generation System (OBOGS) and Martin Baker Mk 14 NACES ejection seats. Also SMURFs (Side-Mounted Under Root Fins) – small curved surfaces mounted ahead of and below each tailplane – provided a beneficial aerodynamic tweak, which was soon introduced on the Hawk Mk 100 and Mk 200. The resulting aircraft was renamed ‘Goshawk’ to avoid any possible confusion with the US Army ‘Hawk’ missile system.

The first development T-45 aircraft BuAer 62787 was rolled out at Long Beach, California, on 16 March 1988, and made its maiden flight on 16 April. A second development aircraft BuAer 162788 followed in November 1988. These two aircraft have sometimes been erroneously referred to as YT-45s. Flight-testing was carried out at Yuma, Arizona and then at NATC Patuxent River, Maryland. Although the T-45 met the original VTX requirements, detailed operational flight-testing and evaluation by NATC identified a number of performance and flying shortcomings, which would adversely affect its ability to safely conduct day-to-day training operations. Accordingly a modification programme was put in place to rectify the perceived deficiencies. The Rolls-Royce F405-RR-400 turbofan originally fitted was replaced by the F405-RR-401, based on the Adour 871 used in the Hawk 100 and 200. The -400 engine had been derated to meet Navy demands for fuel economy and longevity, but it was determined that more thrust was needed in the critical high drag carrier approach configuration. Full-span wing leading edge slats were added, and the wing tips squared off, while a six-inch extension to the tail fin was also applied, and an increased span tailplane with squared tips fitted. A single ventral fin was added in front of the arrestor hook hinge fairing, and control harmonisation was also improved, and the airbrake/tailplane movement interconnected.

Flight testing of the modifications at NATC from September 1990 showed a marked improvement in handling characteristics, and on 4 December 1991 the first pre-production aircraft conducted a successful series of carrier trials aboard the USS John F Kennedy. At this time the T-45 test fleet consisted of the two original (Long Beach built) Full Scale Development (FSD) aircraft with interim uprated F405-RR-400A (Adour 861)
engines, and two (Palmdale built) Pre-Production aircraft (BuAer. 163599 and 163600) with F405-RR-401 (Adour 871) engines. On 16 December 1991 the first St Louis built T-45A achieved its maiden flight. Built to full production standard, this aircraft was formally handed over to the US Navy on 23 January 1992. Introduction of the type into service at NAS Kingsville, Texas, with VT-21, commenced soon afterwards. Undergraduate training on the new type commenced in early 1994, and on 11 February 1994 the first student pilot flew in the T-45. The first class to earn its wings on the T-45 graduated in October 1994.

Further development of the T-45 has continued. One production aircraft BuAer 163635 was fitted with an experimental digital ‘glass’ cockpit known as ‘Cockpit 21’. Many of the normal dials on the instrument panel were replaced by two monochrome Multi-Function Displays (MFDs) in each cockpit to better represent the type of cockpit now seen in modern front-line aircraft. Additional avionics include a MIL-STD-1553B databus, Rockwell Collins GPS and a Litton ring laser gyro INS. Flight trials commenced on 19 March 1994, and were sufficiently successful that the change was adopted on the production line from the 73rd aircraft BuAer 165081. Aircraft with ‘Cockpit 21’ are designated T-45C, and it is anticipated that all production T-45As will also be retrofitted to this standard and redesignated T-45C. US Navy dissatisfaction with some aspects of the F405 engine led in 1996 to one T-45A being fitted with an AlliedSignal F124 engine for flight testing. The F124 engine was offered to some potential T-45 export customers, particularly Australia, but not taken up. The US Navy’s engine concerns were eventually tackled by an F405 engine modification programme put in place by Rolls-Royce. T-45s now in service are based at NAS Kingsville, Texas and NAS Meridian, Mississippi, and are permanently based ashore and flown out to a training carrier for deck landings.
Carrier Hawk

Rob Ludlow builds the 1:48 Kinetic T-45

Kinetic's T-45 Goshawk is nicely moulded in their typical light grey plastic with crisp recessed panel line detail. An early analogue instrument T-45A or later glass cockpit T-45C version can be built with the kit offering alternative instrument panels. You will need to choose which version you wish to build at an early stage as the instrument panels are difficult to insert once the fuselage halves have been closed up. Unfortunately, Kinetic does not provide any instrument decals, which is a shame but with a bit of dry brushing and detail painting the instrument panels will look good. The cockpit tubs are also nicely detailed and again,

careful dry brushing will help here. The NACES ejection seats are near aftermarket quality and the only details that they lack are harnesses but these can easily be fabricated from lead foil as I opted to do. The cockpit components fit together nicely and in my view requires very little in the way of detailing to bring it up to the standard that aftermarket resin sets offer.

Construction of the fuselage assembly is straightforward with only the intake seams needing some work to make them presentable. The intake exteriors feature heavy engraved riveting that is not visible on reference photographs of the real thing. The engraved riveting was filled with Gunze Mr Surfacers 500 and sanded smooth. The one and only real problem area that I discovered was with my example of the kit was the wing to fuselage joint. When mating the wings to the fuselage there was a gap of around 1mm at the forward joint. This required filling with plastic sheet. Milliput epoxy putty and several applications of Gunze Mr Surfacers 500 to obtain a reasonably smooth join. From this point on, the build is a relative breeze. Some nice options are the parts to enable the flaps and undercarriage to be modelled retracted or deployed and I opted for the latter. Take care when removing the main undercarriage parts from the sprue, as these are very delicate and easily damaged. I would recommend a fine razor saw for removing these parts.

Markings options are provided for a US Marines T-45A or US Navy T-45C both of Training Air Wing 2, NAS Kingsville, Texas. These are both

I would thoroughly recommend this kit, particularly to those who are fans of modern US naval aviation.
to the eye. I have always been reluctant to apply glossy finishes when it comes to painting models as it can be particularly difficult to get consistent results. In an attempt to obtain a nice even coverage of the X-1 White I did something counter intuitive. I primed the model overall in Badger Stynylrez black and then gradually built up the white thinned 50:50 with X-20A thinner in light coats, allowing each one to dry for a few minutes before applying the next. It took some time to get the finish that I wanted but the end result was a nice glossy white finish with an even coverage. After being left overnight to dry, the International Orange panels and red areas of the flaps were masked off and airbrushed. A few touch ups were required here and there where overspray had managed to creep through onto the gloss white areas.

One of my favourite parts of any build is the decal application. At this stage you know that a build is coming together and near completion. The decals are of high quality having been designed by Two Bobs and printed by Cartograf. For a relatively small aircraft there are quite a lot of markings to apply, including plenty of stencil data. Kinetic’s decal placement guide was generally well laid out but you were at times left scratching your head as to where some of the smaller stencils were meant to go. The decals are thin and bedded down well onto the glossy surface. An application of Micro Sol was needed on some decals, such as the under wing national insignia and Navy titles that are applied over the aileron actuators but they snuggle down well. The finishing touch was to apply a coat of satin acrylic varnish over the entire model, remove any remaining masking, paint the navigation lights with clear colours and add the smaller parts. I enjoyed this build review immensely, the fit was generally good, and there is plenty of detail and the decals performed flawlessly. The finished T-45 Goshawk kit certainly looks the part in its high visibility training scheme. I would thoroughly recommend this kit, particularly to those who are fans of modern US naval aviation or training aircraft.
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The US Air Force had shown interest in the Skyraider as early as 1949, but the interservice rivalries prevented production of the Skyraider for the USAF. However, as American involvement in Vietnam began to increase, the USAF found it lacked an aircraft that able to be used in the close air support role. In April of 1962, a Special Warfare Centre was established at Eglin AFB in Florida to test various aircraft that might be useful in this role. B-26s and T-28s were tested for suitability in the role, as well as Navy Skyraiders. The results with the Skyraider were sufficiently favourable for Air Force to acquire some 150 surplus two-seat A-1Es, which were to be overhauled for service in Vietnam. Making this option even more attractive was the fact that the Republic of Vietnam Air Force was already flying the A-1.

As such USAF units operating the Skyraider in Vietnam in 1964, and of interest is the fact that the first USAF A-1Es remained in VNAF markings.
for eight months until February 1965. This was done in an attempt to hide the US combat presence, though advisors had been flying with the VNAF for many years. In eight years of operations, the Air Force used the Skyraider for a variety of missions. There were A-1 units, which flew exclusively at night to interdict truck traffic along the Ho Chi Minh trail. Other squadrons were supporting General Vang Pao and his loyalists in Laos, and army special operations were also supported by A-1s on priority missions. In attack missions the Skyraider’s would work with a Forward Air Controller, or FAC, flying...
the Cessna O-1 Birddog and Cessna O-2 Skymaster and later the OV-10 Bronco. They were responsible for finding suitable ground targets, then relaying the location information to the command and control centre. The FAC would mark the target; direct the attack, then stay afterward to assess the damage.

However, the most influential role of the A-1 over Vietnam was that of Combat Search and Rescue or CSAR, and there was no better aircraft for the mission than the Skyraider, which had all the necessary attributes required for the role. Slow speed, excellent ordnance carrying capabilities, good communications, and the ability to withstand punishment were the Skyraider’s greatest asset. For ‘Spad drivers’ on CSAR missions there was only one speed - 120 knots, and weapons deliveries were planned at higher airspeeds, up to 250 knots. The Sandy CSAR load included such special munitions as CBU-22 and CBU-25 within SUU-14 dispensers. The SUU-14 ejected small bomblets out the rear of a six-tube unit and was specially designed for the A-1. High Explosive 2.75 rockets and 20mm rounds to dispatch trucks and other light skinned vehicles could also be carried. Also loaded was
the highly accurate, high rate of fire 7.62 mm SUU-11 mini-gun pod, M-47 ‘Willie Pete’ smoke bombs, CBU-22 and WP rockets within pods. One notable rescue mission took place on March 10, 1966 in which Major Bernard F Fisher landed his A-1E on an unused runway at the A Shau Special Forces camp, and whilst under enemy fire picked up a downed fellow Skyraider pilot. For this act of heroism, Major Fisher was awarded the Medal of Honor. His aircraft, 52-132649, is now on display at the Air Force Museum at Dayton. The USAF continued to use Skyraiders throughout most of the Vietnam War, and the last USAF A-1 rescue mission was flown on November 7, 1972.
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The Seafire was a navalised version of the iconic Spitfire, and Airfix have done a nice job recreating the aircraft lines in plastic. As with most builds, work began with the front office, and this is certainly good enough to not need an aftermarket replacements, or a lot of added etch. That said, there are definitely enhancements that could be made if you wanted to go to town with your build, but to be honest, the only thing I added was a set of Eduard etched seat belts. I did cut out the access door on the side of the fuselage with a razor saw as this had been moulded shut, but Airfix have supplied a rather nice replacement door as a separate piece if you want to show it open as I did.

Once the cockpit was finished, the two fuselage halves were joined together, trapping the cockpit tub between them. The front half of the cockpit that includes the instrument panel, rudder pedals, and control stick are glued to one half of the fuselage.
While the rear bulkhead and seat are glued to the other half. The fit between the fuselage halves is pretty good, and only required a little sanding to remove the seam line. The instructions would have you fit the propellers at this stage of the build, but of course I left them off for now to ease in painting, and to ensure the propellers weren’t damaged through handling. Unfortunately, attaching them later means you’ll not be able to have a rotating propeller. Seeing as I’m not making a toy, but a model, I’m happy to just glue the propeller into position when it suits me later.

The wing assembly was next and this is when you need to start making a few choices about which scheme you want to do. If you want to display the model with the wings folded or left down, or if you want to display your model with the landing flaps extended. There are different under wing stores depending on your scheme of choice.

There are rockets, or fuel tanks that can be used, and their respective holes need to be drilled using a pin vice depending on which one you are using. Airfix have kindly supplied both sets of wings for the folded option, or for the standard wings down configuration. Of course I had to be difficult and decided to do one wing folded, and one wing locked in the flight position. This is one of those aircraft that the wing folding was done by hand to reduce weight, unlike the corsair that was hydraulically controlled so both wings were folded, or unfolded at the same time. This isn’t an option straight out of the box, but it isn’t too difficult a task to convert the parts to do this. I took the top and bottom parts of the full wing, and using a new blade began to remove the section of wing by continually scoring along the panel line that marked the wing fold. Once this was done to both parts, the inner surfaces were thinned so I could add the wing fold mechanism parts. I also decided to ensure the landing flaps were glued in the retracted position. I’m certainly not an expert on the spitfire or the Seafire, but I believe that the flaps were always retracted after landing and before take off. So it would be unlikely to see one sitting on the ground with the flaps down! Of course if you wanted to add them dropped, just check your references first.

Once all of the wing sections had been cut sanded and drilled where required, they were glued together and held in place using small clamps and Tamiya tape. The fit was again very good and required very little filler or sanding to finish the job. The horizontal stabilizers were attached next, and Airfix have moulded them so the control surfaces are separate parts and can be glued at an angled position. This had also been molded separately and can be attached and glued at an offset angle to create a more dramatic look. Another option is the arrestor hook. You can have the hook deployed or retracted, and again the kind people at Airfix have supplied both parts. Finishing off the main airframe, the air intake is glued together before being attached to the underside of the nose. Additionally the oil coolers are assembled and attached to the underside of the wings. The
fronts of the grills were painted and weathered first though as they would be very difficult to get to once assembled. Finally the windscreen was masked and attached using Krystal klear. The remaining open section of the cockpit was masked in preparation for painting.

The airframe was primed with Mr Surfacer 1000 thinned with their self-leveling thinner. Once everything was checked over for errors the painting could begin. The lower surface was painted with Vallejo 71009 Duck Egg Green, and I highlighted this with a mix of the original colour and with Flat White. Once the lower surface was dry, it was masked off and the upper surface was airbrushed with Tamiya XF-82 Ocean Sea Grey. Again this was lightened with White and highlights were added before misting on a light coat of the original colour heavily thinned with lacquer thinners to blend the two shades. I decided to try and airbrush as much of the markings as possible. So I began with the roundels and tail flash using Maketars Mask set for Spitfire aircraft. I was also able to use their generic numbers and letters to make up the correct identification numbers for the side of the fuselage, and for the underside of the wings. I just used normal Tamiya tape to mask up the wing walkways, and no walk lines. Once the masks were removed there was a bit of touch up to do, but in general I was very happy with how the masking had gone. Once everything had time to dry, I sealed everything in with a coat of Alclads Aqua Gloss.

I added a panel line wash using Flory Models Dark Dirt Clay Wash and any excess was removed with a damp cotton bud. Using various heavily diluted dark shades and my airbrush, I highlight some of the panel lines and created the exhausts stains on the sides of the fuselage. Using a slightly different shade I also created the staining caused on the wings by the machine guns. Once this first stage of weathering was completed, I airbrush a coat of Vallejo’s matt varnish. Using various AK Interactive and Ammo of MIG products, including Streaking Grime and Fuel Stains. Using a Prismacolor pencil I finally added some scratches and scrapes across the airframe. With the painting and weathering finished, it was time to put together all of the separate components that had been completed separately. I had taken the time using a pin vice to drill out the exhausts, which in my opinion adds a great deal to the look of the finished model. In this case it was made easier by the fact that the Seafire F.XVII exhausts were circular, so there was no further sanding or scraping was required after they had been drilled. Finally the canopy masks were removed and the bubble top section of the canopy was attached using canopy glue.

I have to say that the finished model is quite impressive sitting next to me on my bench. I was very pleased with how everything went together, and the different options you have are fantastic. So hats of to Airfix on this one, but they still haven’t got it quite right for me just yet. The more detailed mouldings are a little soft at times, and the panel lines are a little big for the scale, however, their new kits are looking much better. I’d definitely recommend this kit to anyone who’s looking for a break from that aftermarket-ridden masterpiece you’re building. Most importantly though, it looks great sitting on my shelf!
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Like every other kit in Tamiya’s 1:48 range, the Thunderjet is fantastic. It has excellent detail straight-from-the-box, with a great fit and a few nice display features. The gun bay can be shown in the open position and the gun pack detail is convincing, and super detailers will want to add more should they decide to leave this area exposed for viewing. The flaps can be displayed in the lowered or raised position as can the ventral speed brake. The kit also includes a little variety as far as stores go, including general-purpose bombs, fuel tanks, and RATO bottles. Tamiya provides some colourful markings but the decals are a little thick, so I decided to add a little extra detail by replacing the kit seat with an aftermarket resin seat from Quickboost, and turning to Cutting Edge for the decals for ‘Ricepaddy Ranger’.

The main cockpit areas were airbrushed in various shades of Interior Green and then the instrument panels and rear turtle deck areas were painted Flat Black. Details were highlighted using various Vallejo Acrylic shades. The Quickboost seat is really nice but doesn’t come with the headrest, so you’ll have to use the kit part for that. I used instrument decals from Airscale, as they are far superior to the single decal supplied in the kit to represent the instrument gauges. With the instrument panel painted and the gauge decals applied, I represented the instrument bezels using small drops of five-minute epoxy. Tamiya provides a metal weight that is installed under the cockpit and this helps keep the nose gear on the ground. Again I used five-minute epoxy, as I didn’t want to risk that weight moving around down the road. Before the cockpit was closed the nose gear bay, airbrake housing, and exhaust pipe need to be painted and installed. With these done, the cockpit was glued into place and the fuselage halves joined. I wasn’t going to pose the model.
with the gun bay on display so I didn’t bother detail painting that area; I just installed the gun pack on top of the gear bay and then installed the access door in the closed position.

Next I painted and weathered the gear bays, which are moulded as part of the upper wing assembly, and then joined the top and bottom wing halves. I built and installed the wingtip fuel tanks, leaving off the lenses from each of them until after overall painting was complete. The wings were then joined to the fuselage and all the seams were treated with Tamiya Liquid Surface Primer and then sanded smooth. With major assembly complete, I moved on to getting the natural metal finish applied. I pretty much default to Alclad and that was again the case for this build. First I laid down the requisite base coat, in this particular case I went with Gloss Black. When that was dry, the entire airframe was coated with Aluminum and then various panels were masked off and sprayed with different shades including Dull Aluminum, Dark Aluminum, White Aluminum, and Airframe Aluminum. I even threw in some Floquil Old Silver on some of them just to add more variation.

I taped off the anti-glare panel and sprayed it with a mixture of Olive Drab and Khaki Drab. I used the tail decals as a guide to make a mask from Tamiya tape for the area where the Olive

This build provided hours of enjoyment and no headaches, what more can you ask for?

I used a Quickboost seat

The stencils, national insignias, and the large ‘USAF’ markings for the wings were sourced from the kit sheet
Drab turns up to the tail. Next I sprayed the nose gear door with Flat Yellow and then masked and sprayed the flat black stripe. I chose not to use the yellow nose intake decal but instead, masked that area off and airbrushed it. I followed that up by spraying some of the panel lines with highly diluted Tamiya Smoke and then some specific panel lines were accented by tinting the Tamiya Smoke with a dab of Flat Brown. With the painting complete, I sealed everything with a coat of Johnson’s ‘Future’, and when this had cured, I applied all the decals. The Cutting Edge sheet does not include stencils, national insignias, or the large ‘USAF’ markings for the wings, so I sourced these from the Tamiya sheet. With the decal applied, the entire model was clear-coated again so that I could add a panel line wash. Here I used a combination of custom mixed washes and some from the Ammo of MIG line. Once happy I sealed everything in using a semi-gloss acrylic sealer. All the smaller bits were then painted and installed including landing gear and wheels, ordnance, fuel tank tip lights, and the canopy and windscreen. I added some subtle
paint chipping to the anti-glare panel using a silver coloured pencil.

Like all of the other 1:48 Tamiya kits I’ve built, this one went together quickly and without any issues whatsoever. With excellent engineering, great fit, and outstanding details throughout, you get a good-looking representation of an important Korean War ground attack aircraft. The build provided hours of enjoyment and no headaches, what more can you ask for?

The ‘Ricepaddy Ranger’ decals came from Cutting Edge

I used a combination of custom mixed washes and some from the Ammo of MIG line
For this build of the iconic Dassault delta I chose the 1:72 Heller kit, because of its correct shape (except for the nose cone), and good fit. It’s true this kit is not well detailed like the new HPM offering, but my goal with this build is to show how to improve a poor model using both aftermarket and homemade parts, and as a Belgian I have decided to build a BA aircraft. Now, Belgian Mirages had two camouflage schemes, the first had Light Grey undersides and the second had a wraparound scheme. As the Heller kit has no ECM antennas on the tail I decided to build an early Mirage 5BA, BA-24 with decals from Daco set #DCD7266.

**Improving Surface**

The Heller kit is an old kit and has raised panel lines, so I began with a session of sanding and rescribing, using a set of plans to add any missing areas.

**Pierre Baudru works his magic on the 1:72 Heller Mirage 5BA**
Wheel wells
The Heller kit doesn’t have any detail to represent the wheel wells, as just the sidewalls are provided. To improve this part I made my own resin moulding of this area copied from a very old Mirage kit. The wheel wells were then painted using Tamiya XF-16 Flat Aluminium, with a Vallejo dark wash.

Landing Gear Doors
The original parts were improved a lot using evergreen strip, Tamiya tape and some stretched sprue

Cockpit
Here I used a Pavla resin cockpit, after removing the kit parts. Then a primer coat of Humbrol 74 was applied and then the instruments and details were picked out with dry brushing and various Vallejo shades, and for the instrument panel, and I used APC decals for each instrument face. These decals are very good and very realistic. The Mk.4 ejection seat from Pavla was painted in the same manner as the cockpit with and Eduard harness added. The ejection handles were produced using black and yellow sewing thread.

Nose
The only problem with the Heller kit is the shape/size of the nose, so in order to fix this I used the nose from a HPM kit!

Exhaust Nozzle
The kit part is very poor so I wanted to replace it by something better, so once again I produced my own resin part and then painted this with Alclad ALC-113 Jet Exhaust, ALC-123 Engine Manifold and ALC-103 White Aluminium, adding Various AK Interactive washes.

Landing Gear
The original parts are not very well detailed so replaced them with items from a Hasegawa Mirage C.2

As a Belgian I have decided to build a Mirage 5BA aircraft
Air intakes
These were improved a little using some evergreen strip to represent the structures between the fuselage and their intake.

Arrestor hook
This was replaced with a part made from Evergreen strip.

Parachute cover
The parachute installed on the tail of the Mirage has a cover that was frequently broken during landing so I created a damaged part to suit.

Lights
The lights on the wings were done using red and blue transparent plastic.

General Assembly
Heller kits are usually good fitting and the main parts like fuselage and wings come together with no major problems.

External Drop Tanks
As I also have the PJ production Mirage kit, I used its resin fuel tanks instead of the Heller ones and added two guides made from wire to fix them under the wings.

Flaps
The flaps were displayed in a down position and needed to be in three parts following the original raised panel lines.

Painting
After a black pre-shade I applied a primer coat of Humbrol 74. Next lightened Mr Hobby FS36622 was applied in thin followed by Mr Hobby Tan FS30219. It seems that each Mirage has a slightly different scheme so I had mask the model based on pictures of the BA-24. Once the Tan was masked I have applied the Mr Hobby Light Green FS34102. After more masking I then added the final colour of Mr Hobby Dark Green FS34079.

Weathering
To begin the weathering I used the Vallejo washes to highlight the panel lines and rivets. I also used some AK Interactive washes to complete work. To apply these washes I usually use a thin brush to avoid putting too much on, and after say ten to fifteen seconds remove the excess with a cotton bud cotton following the airflow direction.

Decals
After a gloss coat the DACO Belgian Mirages decals were just excellent, and

To improve the wheel bays I made my own resin moulded parts
Adding an Evergreen strip arrestor hook
The decals came from Daco
finished off my build perfectly. A matt coat then brought everything together.

**Final Assembly**
Now I could add the landing gear legs and wheels, doors and the canopy. Also I used the Master nose pitot and the two smaller pitot’s just in front of the windshield, and added the antennae’s onto the spine.

**Conclusion**
Sometimes building an older model and adding missing details is easier than building a recent one! You can certainly learn new skills as here in adding rivets and engraved panel lines. I still have another Mirage 5 from Heller and I think I will build this one with open panels, but this time wearing the wraparound camouflage scheme.
With the USA's current electronic attack fighter, the EA-6B Prowler, nearing end of life a successor was badly needed. The role would be taken over by the new family member to the 'Superbug' series as the EA-18G. The aircraft shares 90% commonality with its counterpart, the combat proven F/A-18F, giving it a decent self-defence suite as well as the primary mission equipment required to fulfil the electronic attack role. The Growler has already seen active service and cut its teeth during Operation 'Odyssey Dawn' Enforcing a UN no fly zone over Libya. On opening the box one is greeted with some 300 parts in grey styrene. At first glance it was evident the detail on the parts was crisp and not overdone in both panel line and in the riveting detail. Glazing had the typical seam line along the centre of the main canopy but this was to be easily taken care of later in the build. The cockpit parts were adequately detailed for scale but would have benefitted from being replaced with a resin aftermarket replacement just to bring the detail of the kit up a notch. It was decided at this point to detail as much as possible straight from the box and close the canopy after polishing to ensure perfect clarity. There is an excellent choice of decals allowing the build to represent

The cockpit builds into an adequate representation but would benefit from an aftermarket example. Seat belts were fabricated from lead foil.

The camouflage pattern on the vertical stabilisers was applied using thin sausages of 'White Tack'.

Wheel well detail is above average and requires little more than some paint and wash to liven it up into a fair representation of the real thing.

ALQ-218 pods were provided for each of the wing stations.

The Afterburner decals performed well.

Tamiya tape was used to hold seams together whilst the upper and lower fuselage was fixed together. Liquid cement was then 'touched' into the seam lines and allowed to flow along the joints.
Growlers from VFA-141 'Shadowhawks' CAG, 2010 and VFQ-129 'Vikings' CAG, 2008 both of which were very colourful examples of the aircraft. Neither of these examples, however, were to be used for this particular build as it was the Aviano based EA-18G of VAQ-132 'Scorpions' BuNo 166894 which took part in Operation 'Odyssey Dawn' in April 2011 which was to be modelled here. Decals for the build came from Afterburner decals sheet 48-077 'Superbug Cags and Special Schemes #3'

With major assembly completed a panel line pre-shade was applied over the model to add shadow once the final paint was applied.

The Growler has already seen active service and cut its teeth during Operation ‘Odyssey Dawn’
Assembly started with the cockpit area. After careful removal from the sprue the tub and instrument panels were sprayed Dark Gull Grey before detail painting the various components and instrument areas using Black and Dark Greys. The instrument panels were then coated with clear varnish to provide a suitable surface for the application of instruments provided in decal form. Ejection seats were assembled and painted using Black for the frame parts and Khaki Green for the cushioned areas. The frames were dry brushed with white once dry allowing the detail on the parts to stand out and look more convincing. Seat belts were fashioned from lead foil and attached to the mounting points on the seats. These were painted Buff before flattening with varnish to bring all the different sheens together.

Before assembly could progress it was necessary to drill some holes on the insides of the front fuselage halves for the fitting of antennae at a later stage in the build. After cementing the cockpit tub to the fuselage floor the front fuselage sides were cemented together. The fuselage floor and cockpit assembly was fitted and glued into position. Location tabs were not very substantial in the cockpit floor so care needed to be taken to ensure a good fit so as seam lines could be kept flush during the drying and setting stage. Once suitably hardened the seams were sanded smooth using a fine sanding stick. The gun ports on the fuselage nose were filled with putty and allowed to harden before gently sanding them back as no guns are fitted in the Growler. Various panel lines on the fuselage that are not applicable to the EF-18G were also filled as per the instruction sheet and sanded smooth once dry. Before cementing the halves together the wings had numerous holes drilled in them to allow pylons and fillets to be attached later. These were drilled out using a 1.5mm drill bit held in a pin vice. These were then attached to the main fuselage top half and held in position using 18mm Tamiya tape to hold them flush and in position until they had set hard. A further three 1.5mm holes were drilled for antennae in the spine.

The intake trunking was assembled next and required some work on the seams to make the trunking seamless. The trunking was allowed to dry naturally then was sprayed White. Finally the assemblies were coated with Clear gloss. Fan blades were painted Bolt Gun Metal before fitting to the end of each intake trunking. The assembled trunking was fitted to its respective fuselage side and the sides cemented to the fuselage bottom piece ensuring all seams were kept flush during the drying process. The stabilisers were a push fit into the grommets allowing them to be held in position or swivelled to the desired position. At this stage the fuselage bottom assembly was cemented to the top assembly and, whilst being held together using Tamiya tape, was allowed to dry completely. Fuselage front section was fitted to the main fuselage assembly and cemented in position using 18mm Tamiya tape to hold them flush and in position until they had set hard. A further three 1.5mm holes were drilled for antennae in the spine.

The undercarriage was fixed in place after being glossed and washed to bring out the wonderful detail. A dark wash was applied to the model the allowed to dry before being wiped away using a damp paper towel. This method highlights the panel and surface detail on the model and compliments the shading work.
taking care to align correctly and ensure good seams. Two ALQ-218 pods were assembled and, once dry and after having seams cleaned up, these were cemented on the end of each wing. The wing fences were attached to the top of the wings before assembling and fitting the front slats. The canopy centreline seam was sanded off and, through various sanding grits, was brought to a polished finish ready for masking off. The masked canopy was fixed to the fuselage using Gators Grip PVA glue and allowed to harden.

The main fuselage assembly was now ready for some paintwork. Canopy area was sprayed black before application of a panel line pre-shade. All panel lines on the model were sprayed using NATO Black. The underside colour was sprayed on to the model first. For this Xtracrylix XA1136 Light Compass Grey was used. Mixed 50:50 with Tamiya thinners this was sprayed over the pre-shade in light coats leaving a hint of the pre-shade to show through. The underside colour was sealed using Alclad Klear Gloss and left to dry completely before masking off could be completed for the top colour, which was Xtracrylix XA1135 Dark Compass Grey. This was sprayed in light coats allowing some of the pre-shade to show through. The top colour was also sealed with clear gloss. Wheel wells were masked off and sprayed white before applying a dark wash and allowing them to dry before wiping the wash away with a cotton bud leaving some detail. Gear legs were assembled and the mould centre seams removed by gently scraping with the edge of a scalpel blade. These were sprayed white and gloss coated. Once dry a dark wash was applied to accentuate the lovely detail provided by Hasegawa. Piston parts were painted silver before turning one's attention to

the well doors. All gear doors were removed from the sprues and cleaned up before painting the insides white. The edges of the doors were brush painted red and using a dark wash again highlighted panel detail. The external surfaces were sprayed using Light Compass Grey and, once dry, were fitted to the model as were the gear legs.

The vertical stabilizers were assembled and offered to the fuselage to test the fit, which was found to be very good. This meant that the stabilizers could be painted off the model and fitted near the end. The colourful stabs were to be the focal point of the aircraft and were initially given a panel line pre-shade. Base colour of Citadel Desert Yellow was then sprayed over inside and outside surfaces. For the next colour it was decided to use the white tack 'sausage' method for masking. For this 'White Tack' was rolled into thin rolls. It was then applied to the stabilisers in the shape required for spraying the second colour of Tamiya XF-64 Red Brown. All other areas were covered using Tamiya tape to avoid over spray. This was left to dry before removing the tack worms and reapplying in a similar fashion for the third and final colour for which Tamiya XF81 Dark Green was used. Trailing edges were masked off and coated with XA1126 Dark Blue Grey. Finally the stabilizers

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Getting the paint onto model wheels needn't be a chore if you follow this simple procedure.

1. Set the wheel on a cocktail stick and mount in a holder. Add paint and two drops of thinner to the inside of the cap of a paint tin and stir well. Load the paintbrush with this mix and gently touch the wheel on the rim. Capillary action takes over and the paint starts to run around the edge of the rim.

2. Continue around the wheel rim loading the brush each time until the capillary action has continued around the whole rim.

3. Load the brush again and start to fill in around the tyre. Take care and just come in as far as the dots you created. Again, capillary action will help the paint run to the line already around the rim.

4. The completed sidewall. No fuss, no mess. The perfect tyre!
were gloss coated in preparation for decaling. The Afterburner decals performed very well to the system and looked very convincing in the end. Wing flaps were assembled and actuators fixed to each side before painting with the appropriate upper and lower colours. These were then fitted to the rear of each wing. The exhausts were sprayed with Bolt Gun Metal and Mithril Silver was employed for the band between exhaust and fuselage. All remaining aerials and sensors were attached to the model using a small dot of PVA adhesive. Once completed a final sealing gloss coat was applied to the model.

Once the flaps were installed further weathering was implemented. Tamiya weathering pastels were used here to simulate the staining caused by the slat and spoiler actuators, and any hydraulic oil leaks.

Finally a dark wash was applied over the entire model leaving the wash in all panel lines and detail areas once dry and wiped away. The wing pods were assembled and consisted of a centre line ALQ-99 Low band JP combined with two ALQ-99 High Band JP’s occupying the centre pylon on each wing. Inner wing pylons were fitted with a 480-gallon external fuel tank each whilst the outer pylons were given an AGM-88E AARGM each. Shoulder pylons were fitted with an AIM-120 AMRAAM on each side.
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The A-4 Skyhawk has always been one of my favourite modelling subjects and an Israeli ‘Ayit’ (Hebrew for Eagle) was a must have for my collection. The old Fujimi kit remains best option in 1:72, and I used their A-4KU for this project. The model was complemented a superb Aires resin cockpit, Quickboost DEFA 30mm cannons from and an extended exhaust supplied by Brazilian company Duarte Models.

After some sanding work to make the cockpit fit into the fuselage, and to adapt the A-4M instrument panel on the A-4E/F resin set, A.MIG-7436 US Modern Cockpit Set came to help, and grey panel line wash brought all details to life. This wasn’t my first Fujimi Skyhawk and previous experience warranted a straightforward assembly with only the air intakes needing some extra sanding work to sit flush with the fuselage. Fujimi supplies extended slats but the flaps had to be cut and repositioned to the dropped position. The resin exhaust extension required some putty and sanding for a good fit at the gun pods were superglued in place without problems.

A coat of A.MIG-2002 Grey Primer followed by a Satin Black pre-shade was airbrushed in preparation for the painting work to follow. Camouflage work began A.MIG-063 Pale Grey applied to the undersides as its blue-ish tone makes it a close match to the FS 35622 original colour. The underside was then masked with Blue-Tac ‘sausages’ and the A.MIG-7200 IAF Desert Colours entered the game supplying both A.MIG-200 FS 33531 and A.MIG-202 Tan shades. The A.MIG-201 Light Green Grey supplied in the set is more adequate for modern F-15 and F-16 IAF camouflages, but not for this 1981 Skyhawk. Because of this I choose to use FS 34277 instead, and all colours were airbrushed freehand.

After a gloss coat to protect the camouflage work, the rudder was masked and painted in Satin White, and the ‘ribs’ were carefully masked.
and sprayed Red. At this moment other red details were painted, including flaps, slats, airbrakes and air intake ring. More masking and the wheel wells were airbrushed in Satin White, just like the landing gear parts and AMG-45 Shrike missiles which came from a Hasegawa weapons set. The red trim around the landing gear doors was then brush painted, just like the black nose cap.
After another gloss coat, it was time to decaling. I wanted an AGM-45 armed Skyhawk since the beginning and checking my references I found a couple of pictures of #327 assigned to the 115 'Flying Dragon' Squadron, circa 1981. The main decals came from Fujimi, but the tail and nose numbers were obtained using some F-15 and F-16 IAF decals from my ‘spares-box’. One more gloss coat and the weathering began with the A.MIG-1618 Deep Brown Panel Wash over the entire model. I didn’t want to go heavy on the weathering as my references showed a fairly clean aircraft. A.MIG-1206 Dark Streaking Grime replicated a few fluid leaks in some specific areas. The Israeli camouflage is one of the best desert schemes around, and it looks just great on a Skyhawk!
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Real to Replica – Mig-21 – Ian Cooper builds the Eduard kit along with some full sized references

Bulls in Britain - Neil Atterbury of Four Elements Photography reports from RAF Fairford on the deployment of USAF B-52 bombers

Last of the Line – Chad Summers builds the 1:48 Planet Models Curtis XP-40Q-2

Mig Masterclass – Reich Defender – Mario Serelle guides you through painting and weathering the Eduard Focke-Wulf FW190A-8

Combat Zone Hitler’s Aunty M? – Anthony Tucker-Jones takes a close look at the contribution of the Ju 52 transport aircraft to the Nazi war effort

Delta Blues – Mario Serelle details the 1:72 Tamiya Mirage 2000C as the ‘Jaguars Last Stand’ in the Brazilian Air Force

Fast-Cat – Jeff Coleman builds the 1:48 Airfix Jaguar GR1 in the colours of No.41 Squadron

Grumman’s Awesome Avenger – James DiCesare details the 1:48 Academy TBM-3

Hartmann’s Final Combat - Sun ick Roh adds his distinctive style to the 1:32 Hasegawa Messerschmitt BF 109 K-4

Produced by HobbyZone Limited on licence from SAM Publications

Model Aircraft (ISSN: 2044-737X) published monthly by HobbyZone Limited, 2221 Niagara Falls Blvd, Cheektowaga, NY 14225, USA

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