

**3 EXCLUSIVE
AIRFIX BUILDS**

**1/48 BLENHEIM Mk.If
1/72 Me 262B-1a
1/72 PHANTOM FGR.2**



Nov 2018
Issue 96



Model World

**24
EXTRA
PAGES**



EXCLUSIVE

FIGHTING TWIN

First look at Airfix's 1/48 Blenheim Mk.If

PLUS

**1/14 STAR WARS LANDSPEEDER • 1/24 TRABANT • 1/48 HARRIER GR.7
PHANTOM FGR.2 CUTAWAY • LATEST NEWS AND SHOW REPORTS...**



WINGS OF A DOVE

Wingnut Wings' 1/32 Jeannin Stahltaube



MOTHER OF INVENTION

1/35 Vietnam Gun Truck conversion

£4.60



KEY

THIRD WORLD WAR

The world in crisis

exclusive



12 Step by step
Graphics and maps

200 pages
12 Big Illustrations

At a time when diplomacy approaches two antagonistic ways of understanding the world and international politics, **THIRD WORLD WAR: THE WORLD IN CRISIS** considers how and where a large-scale military confrontation could take place for the control of Asia ... and the world.

AMMO by MIG Jimenez brings you a new concept in modelling book in which we will see how to build, paint, and weather our models in a parallel reality set in a conflict that takes place in our time. Featuring camouflage schemes never seen before and new vehicle configurations that participate in a fictional conflict created by modelers, historians, and political scientists.

With this modelling book, we will be introduced to new weapons developed specifically for this fight, hear the different protagonist's perspectives and points of view as events unfold, and objectively explore the unbiased roots of global tensions. We will observe the unfolding events from the first warning signs to the outbreak ... witnessing the unfolding events leading to the large-scale operations that could be the beginning of the end ...



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WELCOME TO ISSUE 96

November, whether that's a final dash on a build (been there, done that) or anticipation over what will be there to delight the senses.

For me, it brings home the hobby's breadth and variety, in terms of subject matter and seemingly endless accessories, and we will endeavour to bring you reviews and news from Telford as soon as we can. Thankfully the growing use of online resources means we can exploit the fact, and there will be more articles posted on www.airfixmodelworld.com for you to enjoy.

It's great to be back on the road reporting on model shows, both for the opportunity to see your

builds and keeping a weather eye on prospective contributors. Most events are run by clubs, and I'm keen to boost this type of news in the magazine; to that end, please email me with details of your clubs and forthcoming events (not just shows).

We must at this point reflect on the sad passing of David Hannant, whose passion and enthusiasm for the hobby was known to many. He revolutionised the way we buy kits and accessories, even starting his own kit and decal ranges to satisfy modeller's desires, and will be missed by all in the hobby.

We're delighted to feature three exclusive Airfix builds this

month, namely a newly tooled 1/48 Blenheim, re-worked 1/72 Me 262B-1a/U1 and 1/72 Phantom FGR.2. Supporting articles on each offer different perspectives, and there's a Phantom cutaway too. But that's not all – there's a stunning Wingnut Wings' Jeannine Stahltaube, and Italeri's 1/35 M923 is converted into a notional Vietnam Gun Truck. Beat that for variety!

Stu Fone, Editor
stuart.fone@keypublishing.com

By the time you read this, many of you will undoubtedly be preparing for Scale ModelWorld in



EDITORIAL

Editor: Stu Fone
Editor-at-large: Chris Clifford
Group Editor: Stuart Qualtrough
Contributors to this issue: Steve Budd, Malcolm V Lowe, Dave Oliver, Alan Price, John Paulding, Dave Gledhill, Andy Davies, Chris Bolton, Mike Badrock, Chris Jones, Ian Grainger, Richard Spreckley, Jamie Haggro
Designer: Tom Bagley
Chief Designer: Steve Donovan

EDITORIAL CONTACT

Airfix Model World, Key Publishing Ltd,
PO Box 100, Stamford, Lincs, PE9 1XQ, UK
Email: stuart.fone@keypublishing.com

SUBSCRIPTIONS

Tel: +44 (0)1780 480404
Email: orders@keypublishing.com

ADVERTISING AND MANAGEMENT

Commercial Director: Ann Saundry
Group Advertising Manager: Brodie Baxter
Advertising Manager: Sarah Jarman
Advertising Sales Executive: Elizabeth Ridge
Advertising Production Manager: Debi McGowan

MARKETING

Group Marketing Manager: Martin Steele
Marketing Manager: Shaun Binnington
Event Coordinator: Julie Lawson
Production Manager: Janet Watkins

GROUP CEO AND PUBLISHER

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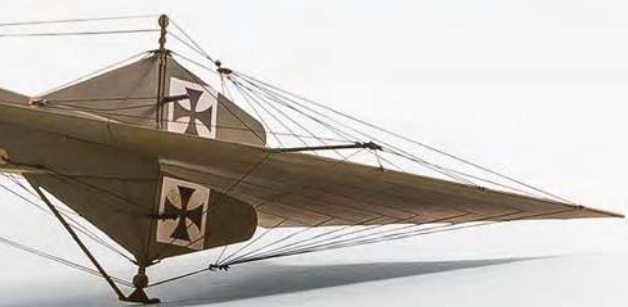
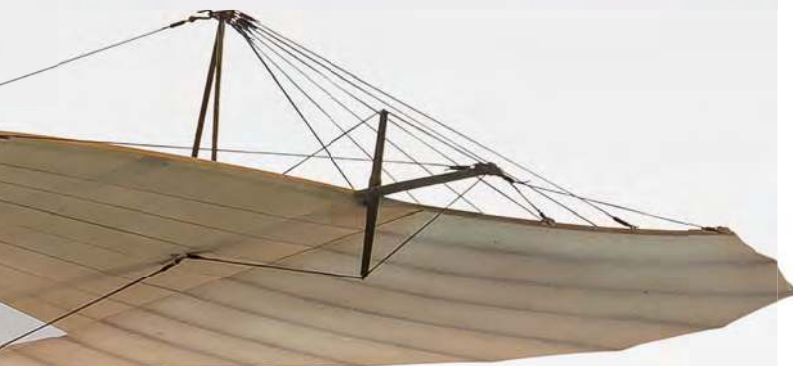


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Airfix's lovely 1/72 Me 262 has been re-released as the two-seat variant; this new offering receives an out-of-the-box build from Alan Price.

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Occasionally, ideas for a model come from the most unusual places, as Jamie Hagg discovered with Revell's 1/24 Trabant.

BREAKING NEWS

TWIN-STAGE SPITFIRE



GET READY for Airfix's latest newly tooled offering, in the form of a 1/48 Griffon-powered Spitfire Mk.XIV, which is due to be released in March 2019.

Following its stunning 1/48 Blenheim and Hunter, the 'bubbletop' Spitfire FR.XIVe is sure to get pulses racing. Based on an examination of initial test parts, there is fine surface detail, a well-appointed cockpit and wheel wells...even cameras for the photo-reconnaissance fit. It will feature two colour schemes; a late-war camouflaged Royal Canadian Air Force airframe, NH902/VC-P 'Lazy Lady V', 414 Squadron, Germany, May 1945,

with the alternative being an overall High Speed Silver FR.XIVe, TZ112/IO-G, 2 Squadron, Germany. In further news from Airfix, and following the announcement of the 'Vintage Classics' range (see July 2018 issue, p.6), releases for late-October and November are set to include the following 1/76 armour and 1/600 ship subjects: A02303V 88mm Gun & Tractor A02308V Panzer IV A02314V Bofors Gun & Tractor A02315V Opel Blitz & PaK 40 Gun A02318V White Half Track M3 A04202V HMS Hood A04204V Bismarck A04208V HMS Ark Royal A04212V HMS Belfast



DAVID HANNANT 1930-2018

MODELLERS ARE mourning the passing of David Hannant, who died on August 31, 2018 after a short illness.

For many, David was synonymous with the hobby, and often described as an absolute gentleman to deal with, while also being an astute businessman as proprietor of HG Hannant. Indeed, it was David's guidance and inspiration that

led to the company being one of the first model shops to move from a standard 'bricks-and-mortar' business into mail-order and then to what arguably the world's biggest online model kit/accessory retailer. David is survived by his children Nigel, Sarah and Libby. Our sympathies go to David's family, friends and associates within the hobby.

RED ARMY AIRACOBRAS



DON'T BE fooled by the Italian-sounding box title on Eduard's latest 1/48 Bell P-39 dual-combo release, as all ten schemes are for Soviet-operated machines. Compared to previous offerings, the styrene parts for each kit in 'Bella' (11118) are unchanged, and are accompanied on this occasion by three photo-etched (PE) brass and metal frets (the latter is pre-painted) and pre-cut self-adhesive canopy and wheel masks. Three different variants can be built, namely the P-39K, N and Q and differences between these are highlighted in the

instructions. Where this package really scores, though, is with the markings options, offering multiple choices of camouflage, and a broad selection of Red Army airframes; Cartograf's decals are, as usual, superb with perfect register and colour delineation. At just €48.75 for two kits and a bumper allocation of PE, it's great value...with the availability of P-39 'overtrees' at a fraction of this cost, it's the ideal opportunity to build a horde of Soviet Airacobras! Visit www.eduard.com for more details.

BACK TO A POINT

BENT AIRBRUSH needles are the bane of many a modeller's existence, disrupting the airflow and potentially causing further damage to other components, so SharpenAir's repair tool will be a relief.

It's available in two versions; one is suitable for most brands (with the exception of Paasche and Devilbiss), while the second is designed for those specific airbrush products. Each tool comprises four grinding stones (a pair each of 600- and 1,200-grade) set

at various angles in a plastic jig (with channels to ensure correct usage) to handle the various needle profiles, plus a 3,000-grade abrasive pad. Depending on the severity of damage to the needle, repairs (once the tip has been straightened) should take approximately five minutes. While the initial outlay (£49) may seem expensive, the cost will be mitigated after several repairs, making it more economical in the long run. More details, and a complete operating guide, are at: www.airbrushes.com



TORPEDO-TOTING FIGHTER

MODELLER'S WERE delighted with Trumpeter's lovely 1/72 Q-5C, and the firm has obliged by releasing the -Yi maritime-attack variant in the same scale. Comparatively few of this torpedo-carrying version were built, so its inclusion is pleasing. It offers seven styrene runners, four of which are shared with the earlier iteration; new items include a revised fuselage, vertical fin, windshield and canopy, to cater for the airframe changes in the Q-5Yi. All parts are moulded crisply, with delicate engraved panel lines on the exterior, while the air-launched Yu-2 torpedoes and five-shot rocket pods are rendered accurately. The cockpit includes a two-piece ejection



seat, but the sidewalls are bare, and would benefit from scratch-built detail. Markings are supplied for two overall white airframes, Bort numbers

'80572' and 80671, of the People's Liberation Army Naval Air Force. More on this and other Trumpeter releases is at: www.pocketbond.co.uk

NEW LEGS

Latest additions to SAC's (www.scaleaircraftconversions.com) white metal landing gear range are as follows:

- 1/144**
14428 DC-8 (Minicraft)
- 1/72**
72154 Fw 190A-5/8, R-2/8, F-8 (Eduard)
72156 B-25C/D Mitchell (Airfix)
72160 Aero L-29 Delfin (AMK)
72161 T-6G Texan/Harvard (Heller/Revell)
72162 Avro Shackleton AEW (Revell)
- 1/48**
48347 Hawk T.Mk.1/Hawk 100 (Airfix)
48356 IDF F-CK-1C/D (AFV Club)
48357 Spitfire Mk.IXc Early/Late (Eduard)
48358 Spitfire Mk.IXe/WVI (Eduard)
48359 UH-1D Huey (Kitty Hawk)
- 1/32**
32129 P-51D Mustang (Revell)
32133 Junkers D.1 (Wingnut Wings)
32134 F-5E Tiger II (Kitty Hawk)

RUSSIAN HEAVYWEIGHT



CANFORA PUBLISHING kicks off its new book series with the debut volume *T-14 Armata Main Battle Tank*. Its author, James Kinnear, is a noted expert on Soviet and Russian vehicles and this comes across well in this, the first of the Swedish publisher's 'Russian Ordnance in Focus' range. However, modellers will love the fact that this softback is

dominated by stunningly clear photographs of Russia's new tank. The Walkarounds section offers a general overview before presenting extensive views of the turret, armament, hull, running gear and side skirts. The 82-page book will be a boon for any modeller considering Armata builds, regardless of scale. For more information, or to order, visit: www.canfora.se

PLASTIC MATERIALS

TRUMPETER HAS released the first of what appears to be a series of building materials, in the form of A4-sized grey-tone sheet styrene. These are supplied in packs of two and are available in 0.3, 0.5 or 1mm thicknesses



(approximately 10-, 20- and 40-thou for those used to imperial measures) from most online retailers. More details on these and other Trumpeter tools and equipment are at: www.pocketbond.co.uk

HANNANTS



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£15.99



SW72117 1:72

Republic RF-84F Thunderflash 4 markings; USAF, France, Luftwaffe and Norway
£15.99



SW72118 1:72

BAC/EE Lightning T.4/T.5 4 markings for RAF (two T.4 and two T.5)
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MIG PRODUCTIONS RETURNS



AK INTERACTIVE'S announcement of MIG Productions' revival took many in the hobby by surprise, but has been welcomed widely. Initial releases have concentrated mainly on the brand's well-liked weathering pigments, washes and filters,

along with resin figures/kits and 'How-to' manuals. Modellers can rest assured, MIG Productions' signature 'sloped' bottles have been retained, and the product quality is as high, if not better than before. While the complete range is too large to feature here, initial releases have included Wash for Desert Sand Base (P284), Light Rust Effects (P412),

Neutral Wash (P222), Dark Wash (P220), Thinner (P239), Universal Thinner for Acrylics (P263), Neutral Grey Filter for White (F404), Green for Khaki and Olive Drab Filter (F420) and Absolute Chipping (P250). MIG Productions' products can be found at www.ak-interactive.com or its own website: www.migproductions.com

MAGNIFICENT TANKETTE



IBG MODELS' 1/35 Tankietka TKS was first announced at the Nuremberg Toy Fair earlier this year, with armour builders waiting eagerly for the production kits. The first iteration (35045) has been more than worth the wait, comprising 16 styrene runners, plus three small photo-etched brass frets for engine grilles, ammunition and vehicle chains. Two crew figures are also included, posed as if operating the vehicle's Hotchkiss machine gun in the anti-aircraft role, making this an

instant vignette. All parts are beautifully moulded, and despite the vehicle's diminutive size, there's a fully detailed interior and faithful representation of the tankette's suspension and running gear; the link-and-length tracks are the icing on the cake. The single scheme depicts a 10th Cavalry Brigade, Polish Army machine in three-tone camouflage during September 1939. This is a stunning offering by IBG and the first of at least seven planned releases...more information is at: www.ibg.com.pl

ON THE LEVEL

CZECH RESIN aftermarket specialist PlusModel has scaled down its US Motor Grader to 1/48 scale, and the result is jaw-dropping in its intricacy. The newly tooled release (4031) depicts a Caterpillar No.12 Motor Grader, which was used extensively in the 1940s and 1950s (including World War Two and Korea). It comprises 159 well-cast parts, a photo-etched brass fret and length of copper wire, so it's not for beginners; this is reinforced by its €64.70 price tag. However, for those modellers taking the leap, this kit is bursting with quality, from the crisp tread on the wheels and wafer-thin blade edge, to the multiple Carden shafts and faithful representation



of the vehicle's steering/control mechanisms. Decals are supplied for three machines; two are overall Olive Drab US Army vehicles, while the third is a deep yellow civilian grader. PlusModel's attention to detail shines through with every aspect of this kit, and while components will require removal of flash and general neatening, it will build into a magnificent replica. Visit www.plusmodel.cz for more details.

MUSTANG MUNITIONS

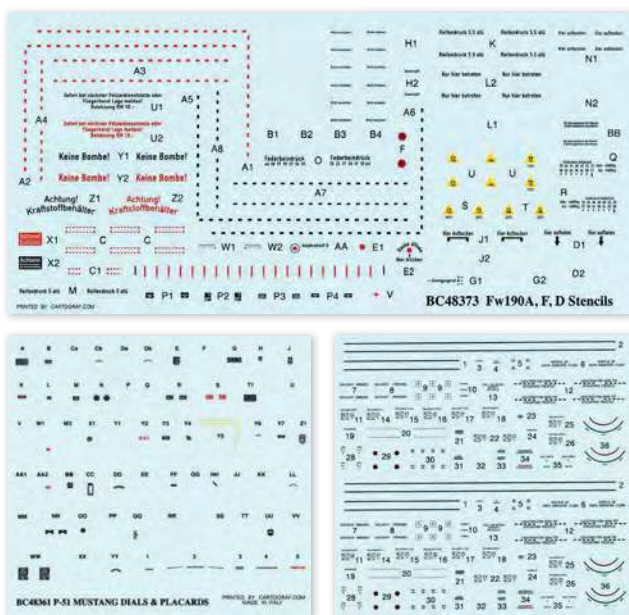


AIRFIX'S 1/48 P-51Ds have been well received by modellers, but for those seeking extra refinement, notably for the underwing stores, Eduard has served a Brassin treat. Its BIG SIN offering supplies rocket launchers, fuel tanks, bombs and gun bays, and at just €37.95, that's a saving of more than €14 when compared to buying the sets separately. Examining the contents closer, there are two triple M10 launchers (648337), 75 US gal (284lit) and 108 US gal (409lit) fuel tanks (648349 and 648350 respectively), and two M30

250lb (113kg) bombs (648349) to hang under the wings. The standout item is the impressive gun bays package (648397) which supplies sufficient parts to open both wings, displaying the .50 cal machine guns and ammunition trays in glorious crisp resin detail. As might be expected from Eduard, the casting quality is excellent, and the accompanying photo-etched brass frets add an extra dimension to the completed tanks, bombs, rockets and compartments. Further information is available at www.eduard.com

STENCIL-TASTIC!

IT'S A common lament that there are plenty of decals for aircraft, but the airframe data, warnings and maintenance markings are lacking...step forward BarracudaCals, with its latest releases. Its stencil sets are available in both 1/72 and 1/48 scales, and these new subjects include Late Mark Spitfires (BC72378/48375), and Focke Wulf Fw 190A/F/D (BC72376/48373), while quarter-scale Mustangs will benefit from its Cockpit Stencils and Placards (BC48361). The smaller-scale offerings provide sufficient markings for two airframes, while there's just enough for a single machine in 1/48. Application diagrams are labelled clearly, with choices and variant differences highlighted as necessary. The beautifully printed decals



feature perfect register, colour demarcations and have gloss carrier film, which should minimise silvering. These are a great addition,

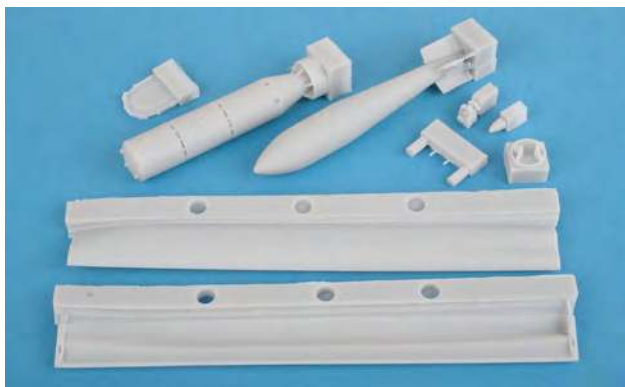
and one ideal for recent Airfix, Dragon, Eduard and Hasegawa releases. Visit www.barracudacals.com for more details.

STOKE TO STAFFORD



THERE'S A change of venue for next year's IPMS Stoke-on-Trent model show, which will be held on March 17, 2019. The new location is the Entrust Riverside Centre, Stafford, ST16 3TH, although it's hoped to return to a site closer to Stoke in 2020. One consequence of the move has been a limit to display sizes, and clubs and special interest groups will be restricted to just two tables, as the facility is smaller than last year's and there is a reduced number of tables. More details on this event will be forthcoming, and for those seeking the latest information they should visit IPMS Stoke-on-Trent's Facebook page and website: www.stokemodelclub.co.uk

BIGGER BOMBS



AFTERMARKET SPECIALIST AlleyCat has released several resin accessories for Airfix's 1/72 Lancasters.

The first is a Lancaster HC Cookie Conversion (AC72053C), which includes a single-piece 12,000lb High-Capacity bomb, with stay/release chain, bulged bomb bay doors and stabilised automatic bomb sight for the nose blister. There's a logical progression to the Lancaster Tallboy Conversion (AC72054C), which provides

a new bomb but is otherwise identical, and both will retail for £15. Finally, for those who want a closed bomb bay, a separate set of just the doors has been released (AC72052C) at £5.50. All parts are well cast, and while aftermarket decals will need to be sourced for the airframes, they mean some of the less-common Lancaster bomb loads can be modelled. Further information is available at: www.alleycatmodels.co.uk

YOUR AIRFIX CORRECTION

In October 2018's *AMW* an incorrect date was provided for the shooting down of a Bf 110 by Czech pilot Sergeant Josef Koukal DFC. The date should have read September 3, 1940, and we apologise to Karel Struna and you the readers for this mistake.

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HK01E21 **NEW**



B-17G Flying Fortress Late Production
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SHOW SCENE

At-a-glance model show calendar

KEY	MODEL DISPLAY	AIRCRAFT DISPLAY	REFRESHMENTS
	MODEL COMPETITION	MILITARY DISPLAY	FREE PARKING
	TRADE STANDS	AUTOMOTIVE DISPLAY	MAKE 'N' PAINT



Scale Modelworld

Date:	November 10-11
Hosts:	IPMS (UK)
Address:	Telford International Centre, Telford, Shropshire, TF3 4JH
Times:	Sat 10am-6pm, Sun 10am-4pm
Prices:	Sat - Adults £12, concessions £9, under-16s and IPMS members free Sun - Adults £10, concessions £7, under-16s and IPMS members free
Email:	scalemodelworld@ipmsuk.co.uk
Web:	www.ipmsuk.org/ipms-scale-modelworld



November

3 Showcase 2018

Hosts: Letchworth Scale Model Club
Address: The Icknield Centre, Icknield Way, Letchworth, SG6 1EF
Times: 10am-4pm
Prices: Adult £4, concessions £3, under-16s £2, family £8
E-mail: robrenparker@talktalk.net
Web: www.lethworthsmc.yolasite.com/showcase-2018.php



10-11 2nd Exposition de Maquettes du Camo

Hosts: Cercle des Amis de la Maquette d'Ostheim (CAMO)
Address: Salles des Fêtes, Ostheim, France
Times: Sat 11am-6pm, Sun 10am-5pm
Prices: Adults €1, under-12s free
E-mail: thierry.dintzer@unistra.fr
Web: maquettes-ostheim.jimdo.com



10-11 Scale Act 18

Hosts: Australian Capital Territory Scale Modellers' Society
Address: UC High School Kaleen, 108 Baldwin Drive, Kaleen, Canberra, (ACT), Australia
Times: Sat 10.30am-4.30pm Sun 10am-3pm
Prices: Adults AUS \$5, children and seniors AUS \$2
E-mail: actsms@hotmail.com
Web: www.actsms.asn.au



17-18 National Maritime Museum Cornwall Model Showcase

Hosts: National Maritime Museum Cornwall
Address: National Maritime Museum Cornwall, Discovery Quay, Falmouth, TR11 3QY
Times: Sat 10am-5pm, Sun 10am-5pm
Prices: Adults £13.50, children (5-18) £6
E-mail: Enquiries@nmmc.co.uk
Web: www.nmmc.co.uk



18 Sleaford Charity Model Makers Show

Hosts: Sleaford and District Model Railway Club
Address: Ruskington Village Hall, Parkfield Road, Ruskington, Sleaford, Lincs, NG34 9HT
Times: 10am-4pm
Prices: Adults £3, children £1.50, family (2 + 2) £6
E-mail: gordonking21@yahoo.co.uk
Web: www.ambucopter.org.uk/event/



24 Plastic Winter Bratislava 2018

Hosts: KPM Bratislava
Address: Dom Kultúry Ružinov, Ružinovská 28, Bratislava, Slovakia
Times: 8am-5pm
Prices: TBC
E-mail: zima@kpmbratislava.sk
Web: www.kpmbratislava.sk



24 Euro Scale Modelling 2018

Hosts: IPMS Netherlands
Address: Expo Houten, Meidoornkade 24, 3992 AE Houten, The Netherlands
Times: 10am-5pm
Prices: €7, IPMS members and under-12s free
E-mail: esm@ipms.nl
Web: www.ipms.nl



25 Bugle Call 2018

Hosts: Bristol BMSS
Address: Nailsea School, The Link Mizzymeard Rd, Nailsea, North Somerset, BS48 2HN
Times: 10am-4.30pm
Prices: Adults £5, OAPs £4, under-12s £2
E-mail: slenderboy0247@gmail.com
Web: www.bmssbristol.org.uk



December

15-16 The Model Show 2018

Hosts: The Friends of the Model Show
Address: Poynton Leisure Centre, Yew Tree Lane, Poynton, Cheshire, SK12 1PU
Times: Sat 10am-5pm Sun 10am-4.30pm
Prices: Adults £7.50, military concession £6, under-16s free
E-mail: enquiries@themodelshow.co.uk
Web: www.themodelshow.co.uk



January 2019

6 Croydon Airport Aviation & Model Collectors Show 2019

Hosts: Aviation Antiques (Dave Sutton)
Address: Hallmark Hotel, Purley Way, Croydon Surrey CR9 4LT
Times: 10.30am-3pm
Prices: TBC
E-mail: davidsutton16@aol.com
Web: N/A



29 Bolton IPMS Scale Model Show

Hosts: Bolton IPMS
Address: The Premier Suite, Macron Stadium, De Havilland Way, Bolton BL6 6SF
Times: 10am-4pm
Prices: TBC
E-mail: hawksig@gmail.com
Web: www.ipmsbolton.co.uk



February

9 North Surrey Military Modelling Group Open Day

Hosts: North Surrey Military Modelling Group
Address: Banstead Community Hall, Park Road, Banstead, Surrey, SM7 3AJ
Times: 10am-4pm
Prices: TBC
E-mail: membership@nsmmg.org.uk
Web: www.nsmmg.org.uk



IMPORTANT: It is worth noting that ALL events are subject to change or cancellation. This information has been collated from a variety of sources and was believed to be correct at the time of going to press. To advertise your event here, email: stuart.fone@keypublishing.com



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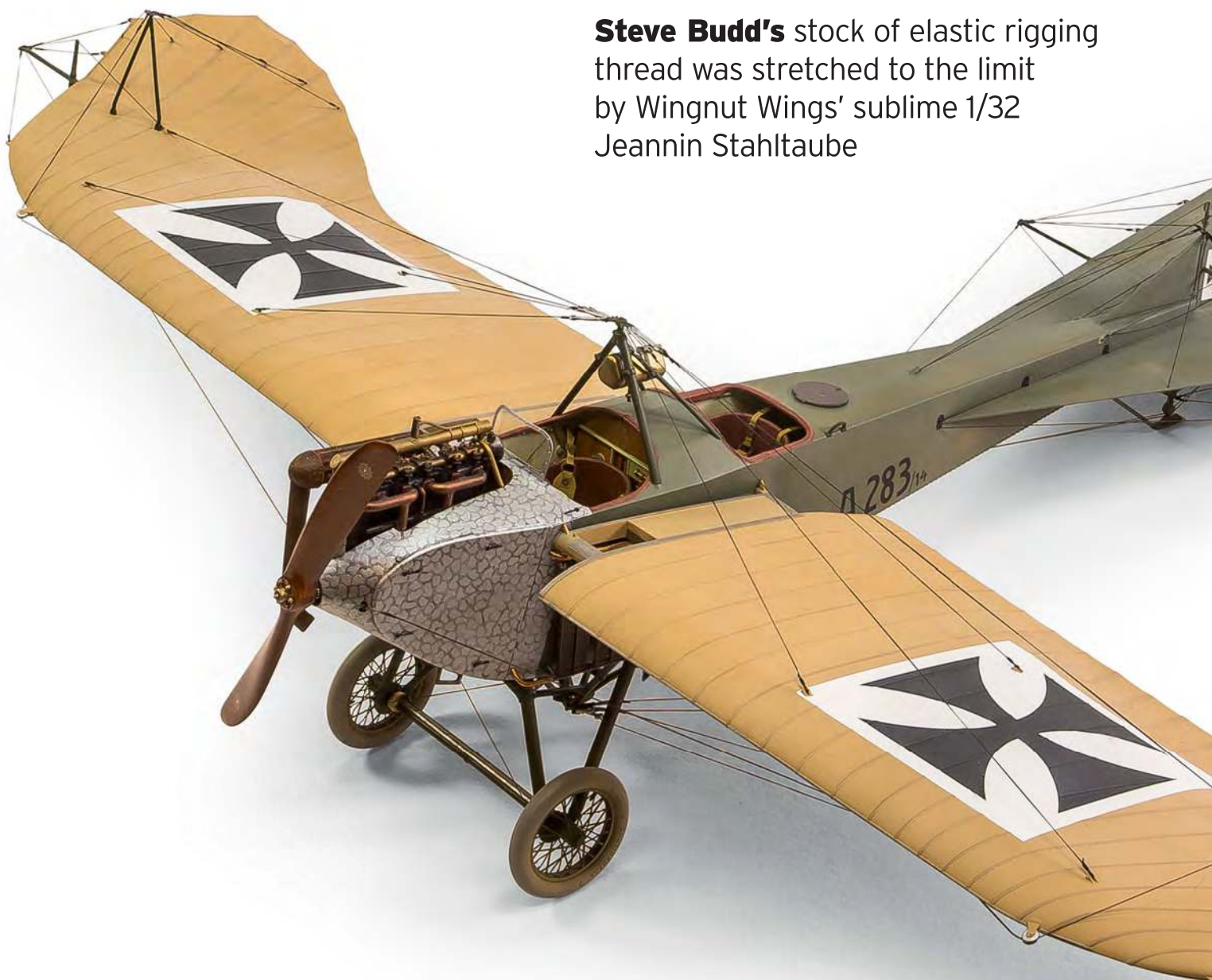
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Steve Budd's stock of elastic rigging thread was stretched to the limit by Wingnut Wings' sublime 1/32 Jeannin Stahltaube



WINGS OF A DOVE

When Austrian industrialist Igo Etrich designed his Taube (dove) monoplane, he couldn't have known the impact it would have on the German aircraft industry.

Despite the name, the aircraft was based on the gliding characteristics of the Alsomitra Macrocarpa seed. As these had been published previously

by a German academic, and notwithstanding an initial licence agreement with aviation firm Rumpler, it meant the Taube could be copied without infringing patents (which Etrich was unable to secure in Germany). The Taube in its various forms went on to become the first mass-produced aircraft in Germany, with perhaps the most well-known version created

by French engineer Emil Jeannin, by replacing the wooden frame with steel tube, hence the revised name of Stahltaube (steel dove).

Strapping in

Wingnut Wings has long since led the art of creating delightfully simple and beautifully illustrated build guides, stuffed with useful nuggets of information. This was the case here; the Taube paperwork was read thoroughly, before the bulk of the spacious twin cockpits, engine bay floor and rear fuselage construction was tackled, all illustrated unambiguously on page three. It provided an enjoyable (and involved) painting and finishing exercise...first order of business was deciding how to render the 'wood'. Two of Radu Brinzan's photo-etched (PE) brass masks, RB-T044 'Wood 3' and RB-T043

'Wood 4' (www.radubstore.com) were used on the appropriate portions of the instrument board, pulleys and cockpit floor (Parts A19, A46 and F6 respectively), after being base coated with Tamiya XF-78 Wooden Deck Tan. The grain was created via a

MODEL SPEC

Jeannin Stahltaube (1914)

By:	Wingnut Wings
Stock Code:	32058
Scale:	1/32
Price:	\$119.00

Available from:
www.wingnutwings.com



thin mix of Mr. Hobby H341 Mud, delivered in several passes for each section of 'wood', at approximately 15psi (1bar). Cockpit floor sections were masked individually, to ensure

a variety of patterns and the resulting effect was certainly

convincing, ranging from defined (where the mask was in direct contact) to diffused, when the stencil was raised slightly. Cleaning the delicate PE templates was achieved by loading the airbrush with gun wash (unrefined cellulose thinner) and spraying it from approximately two inches at roughly 30psi (2bar), allowing the excess to drip onto kitchen paper. Disposable gloves and a

twin-cartridge respirator (fitted with filters suited to organic solvents) gave the essential protection from the otherwise harmful solvent.

Alignment tests

With that, the way was clear to mask and spray the black metalwork on the bulkhead, followed by misted X-24 Clear Yellow and X-26 Clear Orange, which enriched the wood tones, yet didn't affect the black areas. The small number of flight instruments was then hand-painted, before the crisply printed dial decals were added. Once all the cockpit parts were cleaned, degreased, painted and weathered, it was time to bring them all together and add more 20/20 hindsight to the personal fund of modelling experience.

Close attention must be paid with the three-part engine bearer assembly (A5, A31 and A35) and it was essential to ensure A31 (which supported the engine) allowed the motor's propeller spindle to exit in the exact centre of the cowl opening. This required the part to 'sit' sufficiently on strut supports A5 and A35. Tolerances between the engine front and the space within the



▲ The kit contained exactly the right amount of PE brass to enhance the finished model...the delicate spokes demanded careful handling.

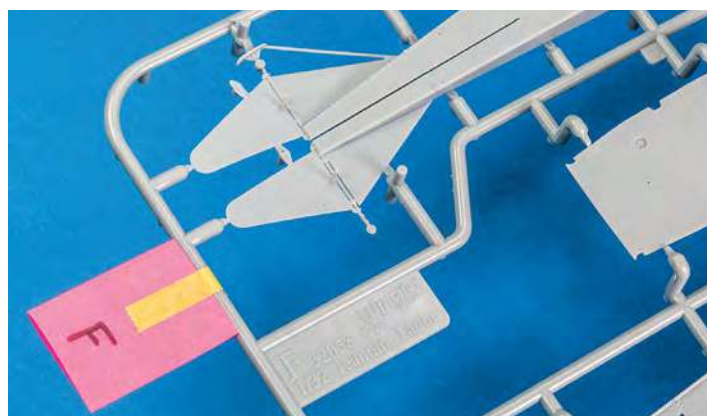
forward fuselage were very tight, and proceedings would be helped by adjusting the fit between A31 and bulkhead A30 accordingly. Allowing A31 to move aft a little was the solution to the build error that occurred here, otherwise resolved after the fact by grinding some of the forward crankcase detail, invisible in the closed fuselage (affected areas appear in red in the progress illustration). Readers may therefore wish to assemble the engine crankcase at the same time as the cockpit, to use it in associated dry-testing. ►



▲ Backlighting highlighted the amazing quality of the one-piece wings and the delicacy of the 'fingers' within the flexing portion.



▲ The four protruding rigging struts were vulnerable to breakage and demanded constant vigilance as the build progressed.



▲ Each runner received a taped identification letter, which made access to parts easy and was a practice established over previous builds.



▲ Part C2 was easy to miss during Stage 5, when it should be installed in the overhead fuel tank, an error committed in this build.

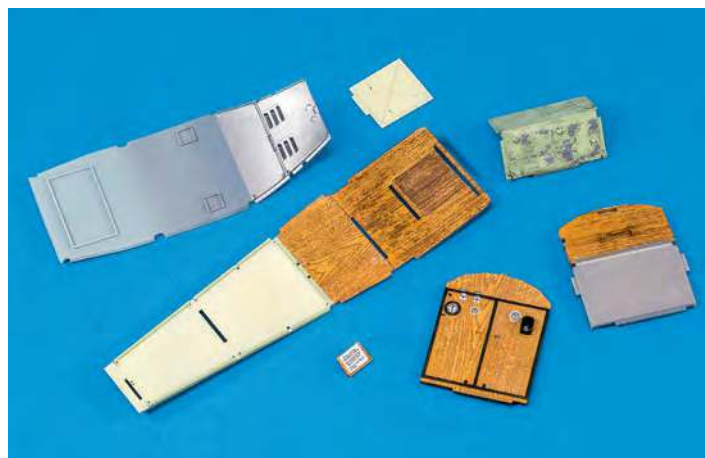


▲ RB Productions' PE wood grain stencils were a pleasure to use and created a fine basis for further techniques to be applied.

Wingnut provided both engine side cowl panels as separate parts, to allow the lower engine and plumbing to be seen or sealed completely. The latter was chosen here, for a 'clean' appearance on this occasion.

All those wires

Next, the Stahltaube's 'elephant in the room' was addressed, namely the prolific rigging, which began in quantity internally before moving to the outside. In both instances, Bob's Buckles (www.bobsbuckles.co.uk) were stationed at all the salient attachment points and anyone unfamiliar with the process should visit Bob's website for excellent clear graphics and the necessary information. The elastic



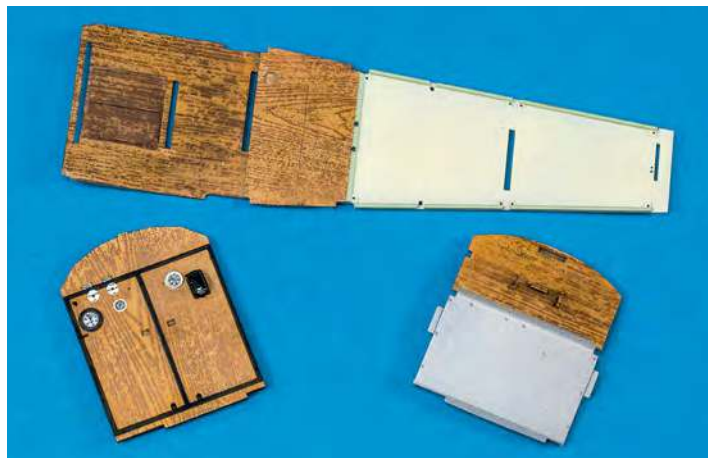
▲ The core of the cockpit structure included a two-part floor, this also doubled as the forward lower fuselage centre section.



thread for the internal bracing and control wires was sourced from Uschi Van Der Rosten 'Standard' rigging thread (www.albionhobbies.com), knotted at each eyelet. The internal cable fit in the fuselage halves and the cockpit sub-assembly was completed in full before attention turned to the powerplant.

The kit provided five decal choices and it was necessary to select one's victim from the outset, as this governed whether the 100hp Daimler-Mercedes D.1 or 120hp Argus As.II engine was completed, and which of the

four propellers supplied would, in tandem with this, ultimately hang from the front. The former power unit was the order of the day for this review build and no dramas unfolded while the step guide was followed. Assembly was brisk, and most of the completion time was directed at painting and weathering the neat, sharply detailed 'lump'. Employing the Argus engine would have required an alteration to the cylinder opening in the upper cowl, but the necessary work was nonetheless illustrated clearly in the instructions.



▲ The prominent wood grain created by the RB Productions PE masks suited the reduced light of the closed cockpits very well indeed.

'X' marks the spot

With significant modelling time invested, the build was teetering on the brink of fuselage unity, but special attention (emphasised on page seven of the instructions, for drilling holes dependant on markings choice), deferred that while these simple but essential tasks were ticked off the 'to do' list. Wingnut's smart engineering was admired greatly as the cockpit and engine combination (including part of the lower fuselage) was loaded into the left fuselage half. The right-hand side was a smooth fit and the complete item was taped for good measure and left overnight to set fully.

The marking choice here required an X-shaped hole to be fashioned in the lower forward cowl and Wingnut helpfully provided a PE template to drill holes for the end of each arm. Tape was used to lock the stencil securely over the alignment point before the four holes were slowly and carefully created. Shaping the 'X' proved simple with a new scalpel blade, and Tamiya Extra Thin liquid cement was applied to the cut edges to smooth them.

Delicate landing gear

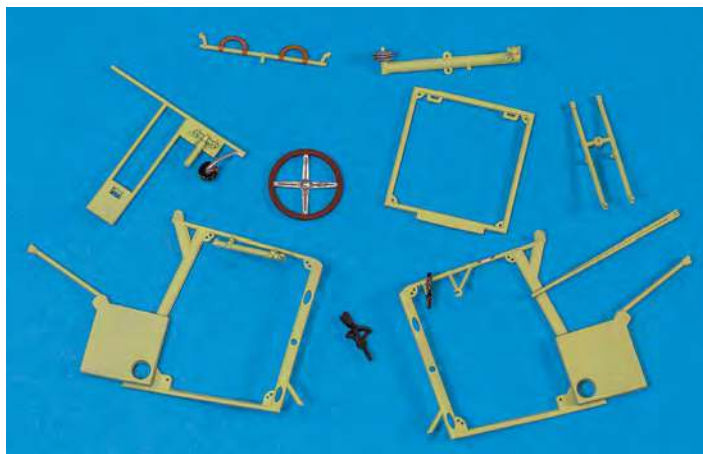
At this point, Wingnut suggested the top cabane struts should be fitted, but this was altered to a point further along for reasons of vulnerability. In tandem, the build guide also directed fitment of the wings prior to the undercarriage and again this was pondered before it was realised that handling the model would then be compromised by the increased weight, the rather startling wing span and imposed difficulties of painting and finishing. ▶



▲ The cracked and blistered green paint on the cockpit tank was achieved via chipping fluid, scrubbing with a brush and heat from a hairdryer.



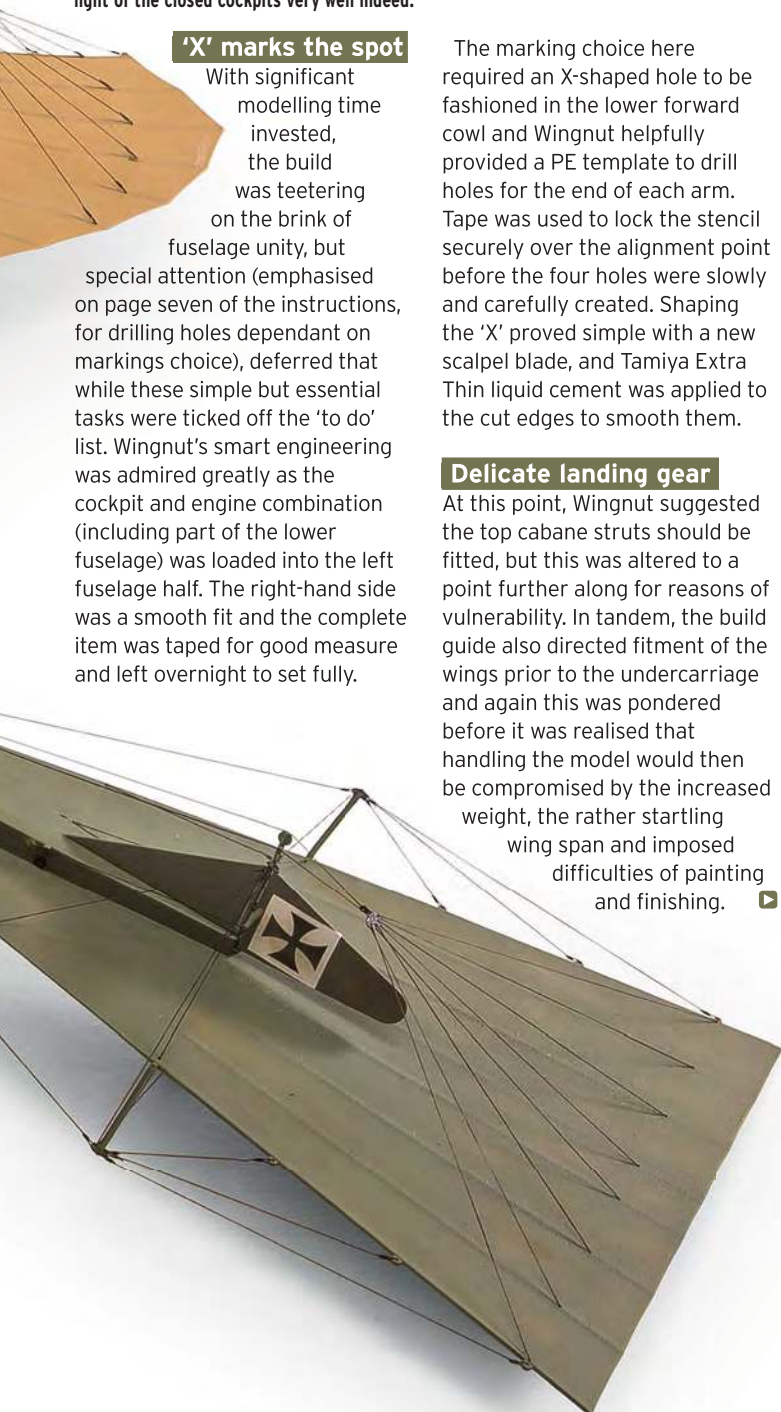
▲ The seat 'leather' was a combination of XF-64 Red Brown, highly diluted XF-57 Buff and sponged Humbrol Matt 70 enamel.

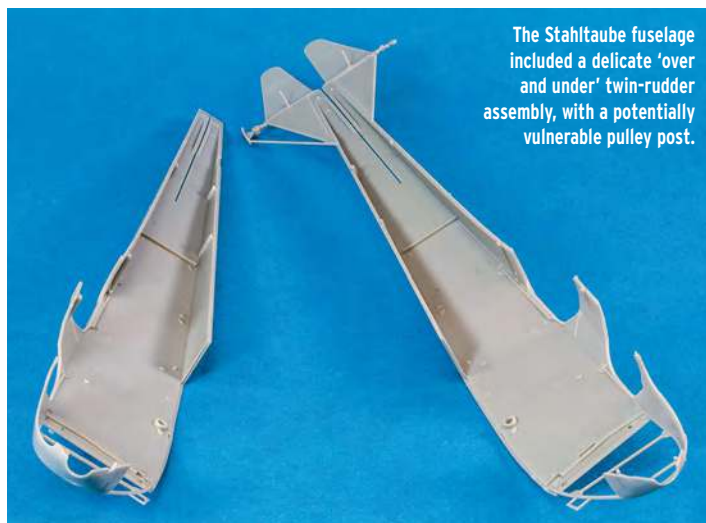


▲ Tamiya's XF-76 Grey Green (IJN) was one colour recommended by Wingnut Wings for the cockpit and engine frames.



▲ The parts for the Daimler-Mercedes D.1 engine and Integral propeller were removed from the runners and neatened in a single session.

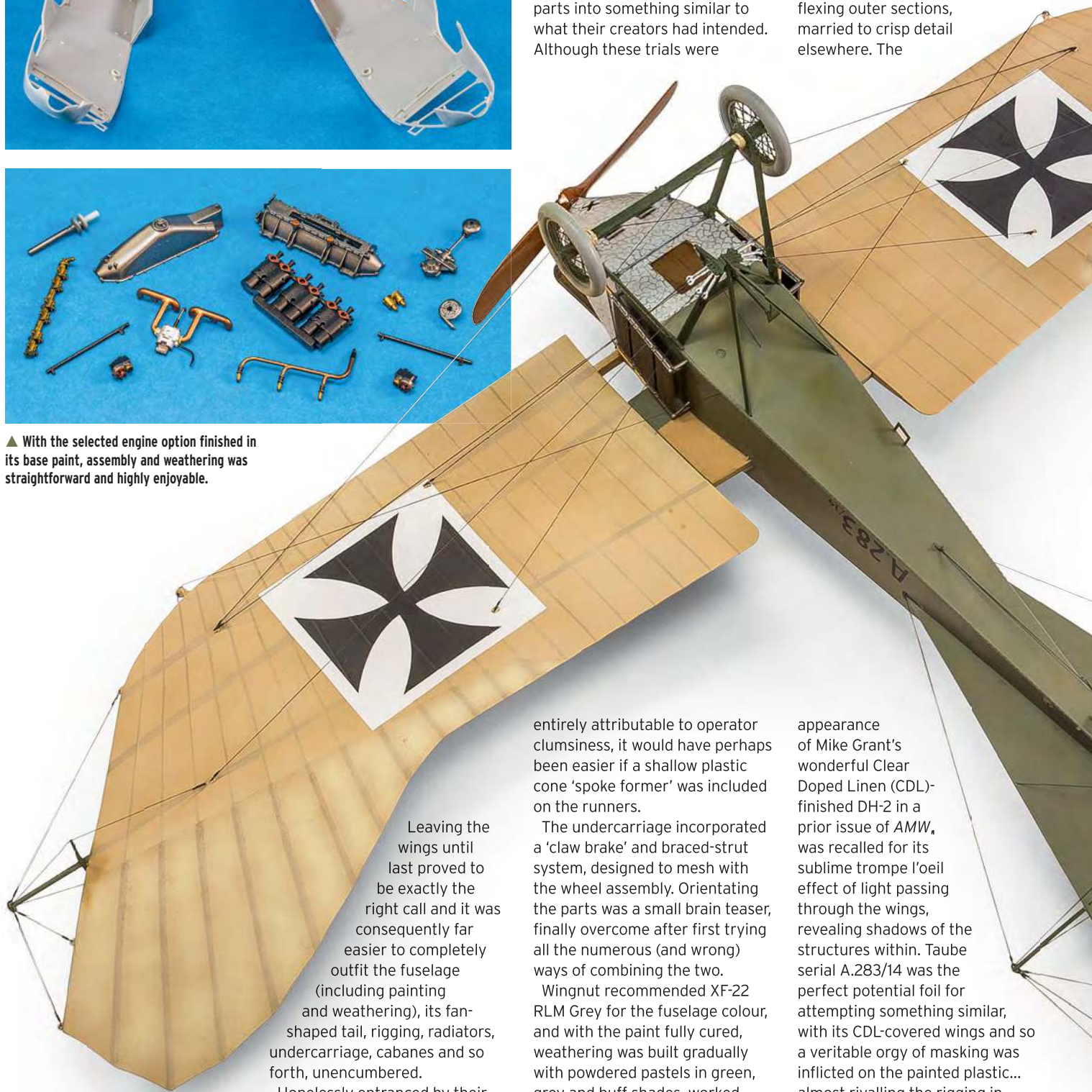




The Stahltaube fuselage included a delicate 'over and under' twin-rudder assembly, with a potentially vulnerable pulley post.



▲ With the selected engine option finished in its base paint, assembly and weathering was straightforward and highly enjoyable.



Attempts to match their finesse with the requisite skill quickly demonstrated that beauty, and the beast at the bench, would find their first, second and third dates 'traumatic' to say the least. They say 'love conquers all' but here, beast had to cure his bone-crushing tendencies in favour of a silky, gossamer lightness of touch that finally caressed the parts into something similar to what their creators had intended. Although these trials were

otherwise negated these effects; any loss of tone due to handling was restored easily with repeated applications of the pastels.

Wafer-thin tips

Of the many impressive features of the kit, the single-piece wings were an amazing demonstration of the injection moulder's art, with their astoundingly thin flexing outer sections, married to crisp detail elsewhere. The

Leaving the wings until last proved to be exactly the right call and it was consequently far easier to completely outfit the fuselage (including painting and weathering), its fan-shaped tail, rigging, radiators, undercarriage, cabanes and so forth, unencumbered.

Hopelessly entranced by their lithe appearance, the PE wheels sang a siren song of seduction that was impossible to resist.

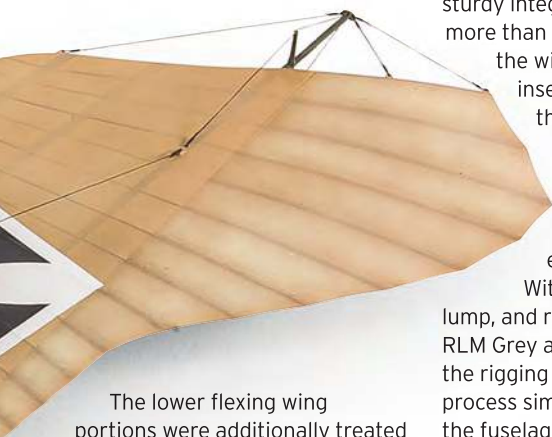
entirely attributable to operator clumsiness, it would have perhaps been easier if a shallow plastic cone 'spoke former' was included on the runners.

The undercarriage incorporated a 'claw brake' and braced-strut system, designed to mesh with the wheel assembly. Orientating the parts was a small brain teaser, finally overcome after first trying all the numerous (and wrong) ways of combining the two.

Wingnut recommended XF-22 RLM Grey for the fuselage colour, and with the paint fully cured, weathering was built gradually with powdered pastels in green, grey and buff shades, worked into the surface with an old, chisel-shaped brush. No sealing was added, as this would have

appearance of Mike Grant's wonderful Clear Doped Linen (CDL)-finished DH-2 in a prior issue of *AMW*, was recalled for its sublime trompe l'oeil effect of light passing through the wings, revealing shadows of the structures within. Taube serial A.283/14 was the perfect potential foil for attempting something similar, with its CDL-covered wings and so a veritable orgy of masking was inflicted on the painted plastic... almost rivalling the rigging in terms of repetition and quantity of materials. With Wingnut's recommended XF-57 Buff fully

cured and the ribs masked, H341 Mud was sprayed gently over the exposed portions. As the tromp l'oeil effect was clearly a subtractive process, a heavily diluted Buff mix (25% paint, 75% thinners) was then misted over the H341 Mud ribs, until the coverage was as even as possible.



The lower flexing wing portions were additionally treated to a thin blend, sprayed freehand, of a home-spun CDL, and was applied between the wing tip 'fingers' representing the area's increased translucency.

Markings delight

Wingnut's decals have tended to vary in their responsiveness to softening solutions, from the delightful inclusions in its Fokker E.III (Late) to the stiff and impervious items in the Ship's Camel 2F.I. Thankfully, the Taube decals were an utter pleasure and with the necessary glossed surfaces, settled with



nothing more drastic than Micro Set and Micro Sol. Left to dry and shrink overnight, the decals were sealed with gloss varnish and then matted to match their surroundings.

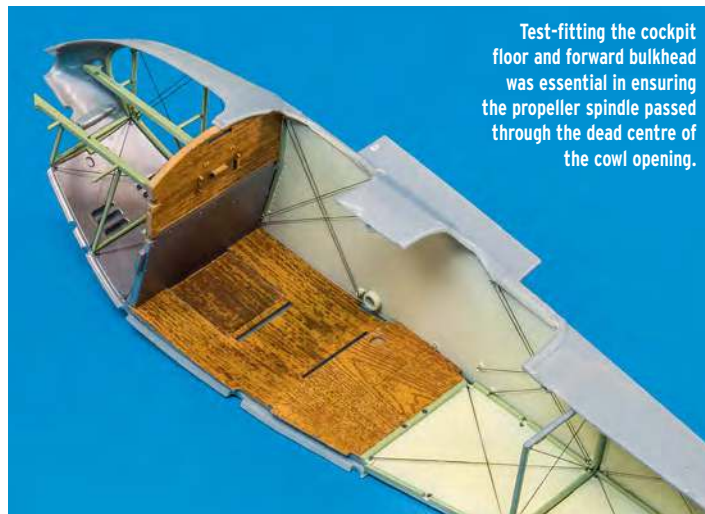
Attaching the wings was as easy and secure as any kit previously encountered. The sturdy integral fuselage tabs were more than sufficient to support the wings, and the wing inserts, which penetrated the fuselage at the leading and trailing edges, prevented any sagging of the mainplanes...brilliant engineering indeed.

With the bird in one lump, and resplendent in its RLM Grey and CDL plumage, the rigging task was resumed, a process simplified by attaching the fuselage lines that festooned the tail, prior to the wings being added. Once again, Bob's Buckles' 1/48 and 1/32 eyelets proved their value, this time combined with EZ Line and fine brass tube.

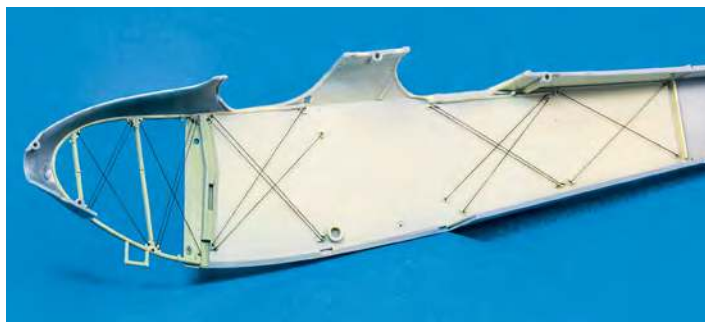
The system employed was to cut an overly long section of EZ Line and string it through a length of brass tube. The thread was passed through the eyelet and back through the tube, which was then positioned approximately one millimetre from the former, and water-thin cyanoacrylate glue (CA) was touched to its end; this flowed via capillary action and secured the line. PE scissors were used to trim any excess line, and the process was repeated at the opposite rigging point. It was calculated there were around 95 external lines to attach and this was a task navigated over several sessions, matched perfectly to music over the modelling bunker's Bluetooth speaker. Sometimes kit tickling in silence fitted the mood, but with rigging, an uninterrupted flow of 'banging' tunes was the perfect companion.

Cables galore

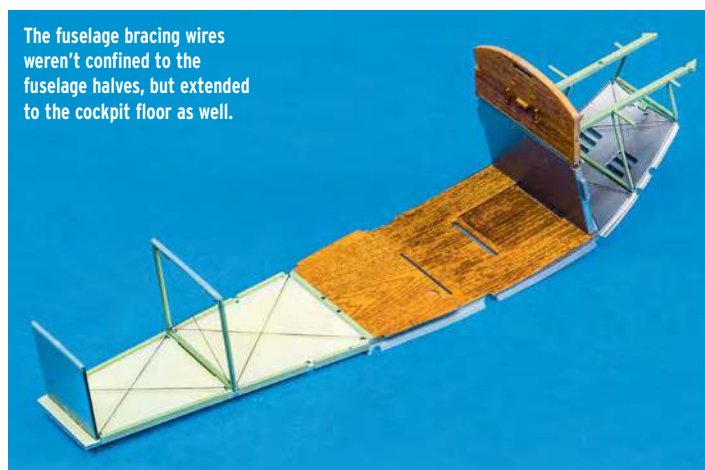
The rigging was split into and tackled in three separate areas (discounting the interior). The first (as already described) was the fuselage and tail, ▶



Test-fitting the cockpit floor and forward bulkhead was essential in ensuring the propeller spindle passed through the dead centre of the cowl opening.



▲ The internal bracing cables, fashioned from Uschi van der Rosten's 'Standard' rigging thread were terminated on Bob's Buckles eyelets.



The fuselage bracing wires weren't confined to the fuselage halves, but extended to the cockpit floor as well.



More Uschi van der Rosten 'Standard' rigging thread was expended on the control column, before fitting the pilot's wheel.



▲ The finished cockpit and engine insert revealed the lengths Wingnut Wings had gone to, in reproducing the Stahltaube's interior faithfully.



▲ The rearmost bulkhead was painted black, as its presence would be all but invisible once the fuselage halves were mated.

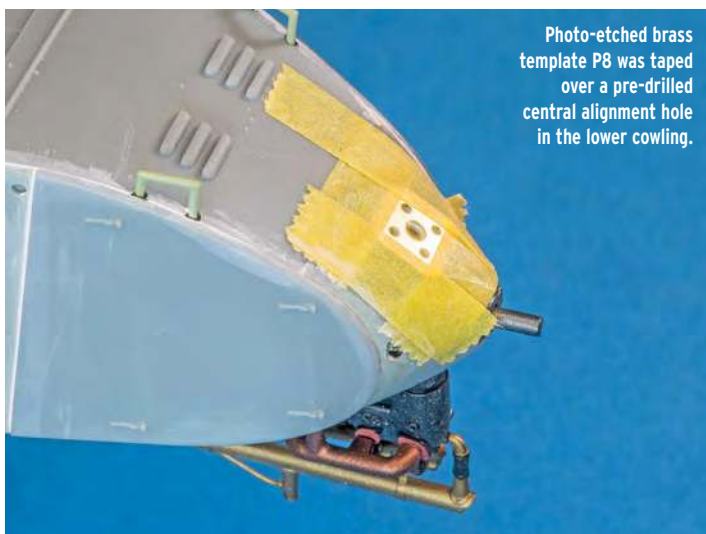


Photo-etched brass template P8 was taped over a pre-drilled central alignment hole in the lower cowling.

with the undercarriage bracing and claw brake cables applied at the outset, followed by the tail. Here, the principle of working 'inside out' was followed and the central elevator cables from the rudder post to entry points in the fuselage were added initially. Note the upper pair of cables were routed differently to either PE Part P5 or P6, dependent on choice (other builds pass both cables over the pulley at the top of the rudder post, which doesn't tally with the Wingnut rigging diagrams). Here, P5 was positioned to allow for an amount of stretch when the 16 elevator cables were in play, which left

these items approximately $\frac{3}{4}$ in (20mm) from the pulley datum point. A hook was included on the PE component, to attach the pulley cable; this required the latter to be simply knotted to the EZ Line. Once the elevator cables were attached successfully, the four rudder actuator cables were installed (two tight and two slack either side). The outer bracing cables were then secured to complete the fuselage fit.

With the wings, the approach was to first install the suite of lines applicable to the undersides and, with the undercarriage fitted, it was simple to add the cables to the topside, beginning with the

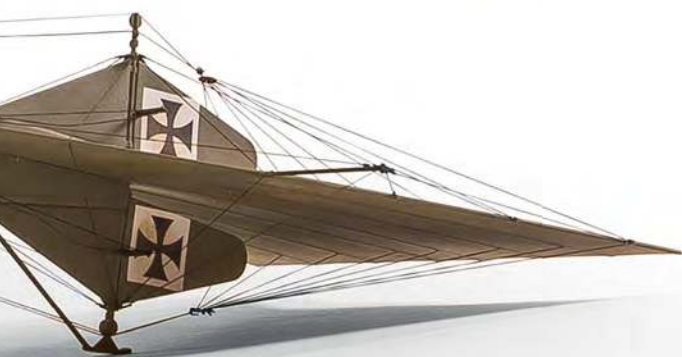
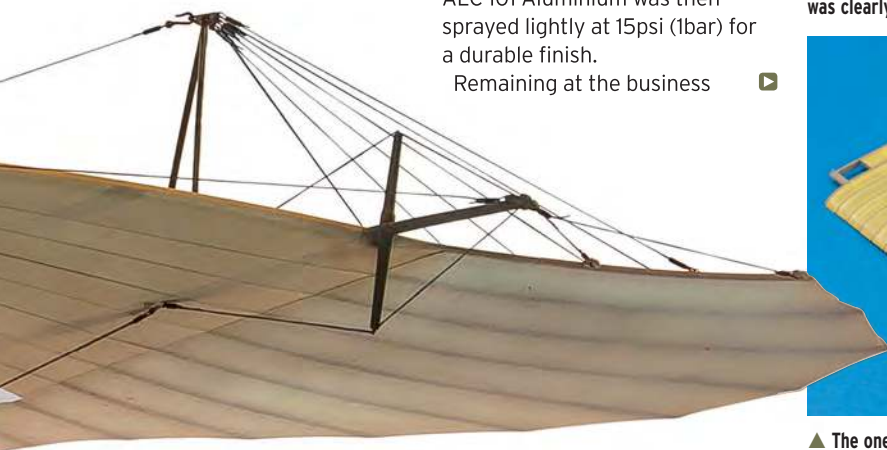
main bracing lines – the 16 aileron threads were left until last.

Special thanks must go to the lovely folks at GasPatch Models (www.gaspachmodels.com), who provided 1/48 Type 'C' turnbuckles, used at the extreme front of the cowl on either side. These were an essential addition, being prominent in period photographs, and the GasPatch product was perfect in this application.

Pilot's glazing

The forward cockpit's single windscreen was masked on both sides; this was an easy task as the corners were rounded. A punch-and-die set yielded two sizes of small masking tape circles, created by placing a section of tape onto thin plastic card, before knocking out with a punch. Removing the tape was easy and with the corners of the screen covered, straight pieces of tape 'joined the dots'. Alclad's ALC-101 Aluminium was then sprayed lightly at 15psi (1bar) for a durable finish.

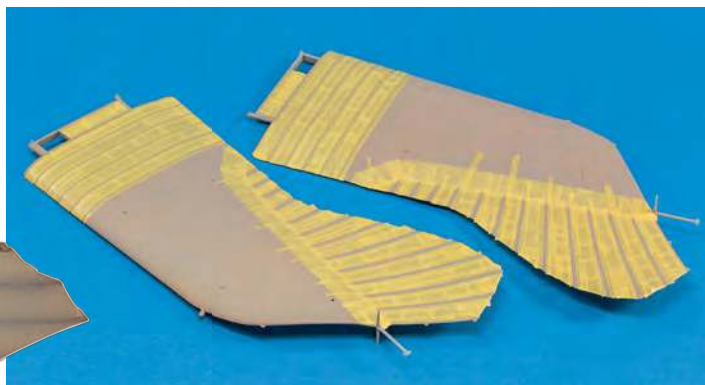
Remaining at the business ▶



▼ Styrene and PE options were supplied for the main wheels; a plastic former for the latter would have eased construction.



▲ The two Hazet radiators were each supplied as a single moulding and the delightful detail was clearly visible.



▲ The one-piece wings were first masked, to allow the wing warping 'aileron' section 'fingers' to be painted.



▲ Both cockpits and the engine compartment were masked carefully; due to the risk of damage, there was to be no filling of these areas with sponge.



▲ The structural features of the wings, top and bottom, were created via H341 Mud before being muted under misted layers of XF-57 Buff.



end, the turned-metal finish was executed by a different means to that recommended in the build guide. The base colour for the cowling was ALC-112 Steel, with Xtracolor X502 Natural Steel applied by brush for the pattern. The result certainly mimicked the period photographs in the

instructions and was perhaps easier than employing faster-drying acrylics. This left just the exhaust to add, finished in XF-64 Red Brown, with sponged applications of AMMO's A.MIG 7106 Rust Effects Colours set for a usefully aged appearance.

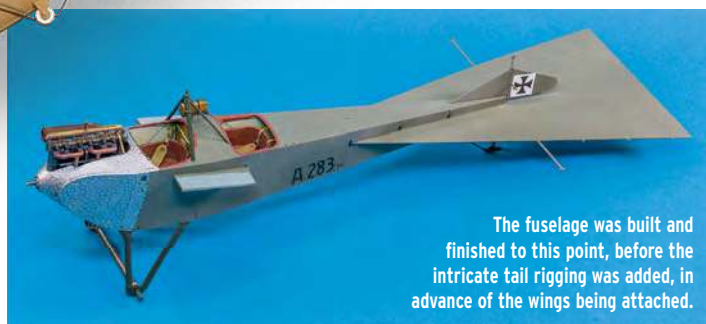
Signed, sealed and delivered

Wingnut Wings occupy a position in the model manufacturing business that's perhaps unique... never having issued a dud kit.

In tandem, the standard of its products began with three superb models and has only improved since then. With the Stahltaube, it was the small things that impressed most – notably those tiny rigging holes, clean, free of flash and mind-bogglingly petite.

Then there was the wing attachment design; simple, secure and straightforward. For sure, the rigging may cause potential purchasers pause but, it can (and should) be broken into sections, and the use of eyelets, EZ Line and brass tube means connections are reliable and easy. Note though, the modeller needs either super-human eyesight or failing that, a 3.5 mag Optivisor. Ten years or so ago, a state-of-the-art 1/32 Stahltaube was an impossible dream among lovers of World War One aviation. Now, almost any subject from the 1914-18 conflict seems feasible and it's exciting to contemplate what those magicians in New Zealand will conjure up next. Wingnut is attending Scale ModelWorld for the first time this year – it will be great to meet them and hopefully, there will be a surprise announcement (or three) to enjoy!

In the meantime, grab a Taube, double your stock of EZ Line and clear the bench... it's a winner.



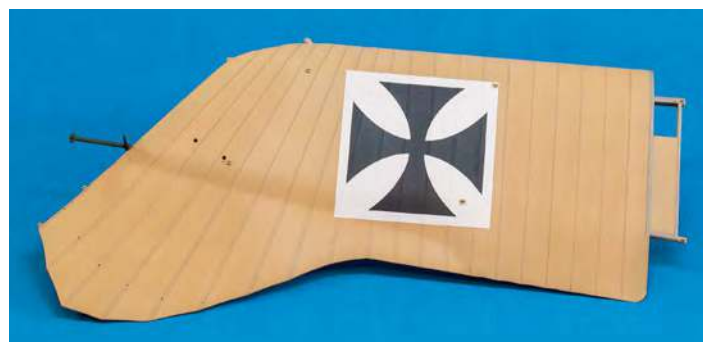
The fuselage was built and finished to this point, before the intricate tail rigging was added, in advance of the wings being attached.



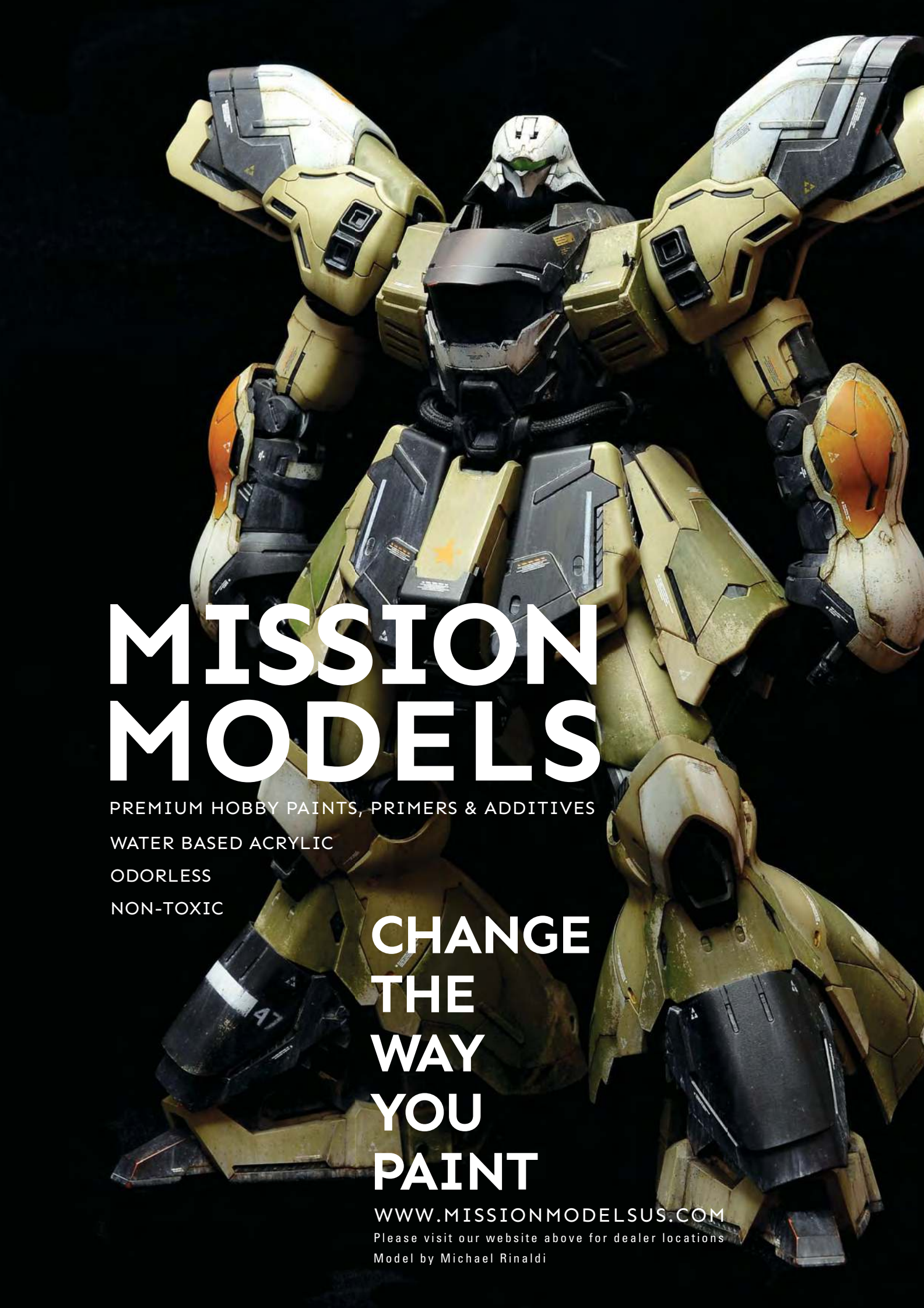
A selection of the peripheral parts was corralled, painted and weathered in between other tasks on the model.



▲ Aside from the propeller and windscreen, the Stahltaube's fuselage was rigged and finished before the wings were added.



▲ Cartograf's decals behaved impeccably under Micro Set and Micro Sol and settled tightly over the moulded detail.



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Model by Michael Rinaldi



The extensive display of Southampton IPMS included this well-executed diorama set during 1944 in France, which used Tamiya's 1/35 Type 166 Schwimmwagen as its centrepiece. (all Malcolm V Lowe unless stated)

The Collection comprises several complete aircraft and a selection of cockpits, as well as many smaller artefacts and an extensive archive. A principal aim of the museum is to chart the history of the major (and still active) military testing and research airfield at Boscombe Down.

Staged by members of the BDAC team, the model show was in its third year, and was certainly the biggest yet. Fortunately, the awful weather on the day didn't dampen the enthusiasm of visitors or those displaying, and Hangar 1 South, was packed with exhibitors, traders and members of the public, with stands located among the museum's full-size aircraft and cockpits. The show's overwhelming success has already prompted planning for an even larger exhibition in 2019. Further details of BDAC and its related events can be found at: www.boscombedownaviationcollection.co.uk

Malcolm V Lowe



Boscombe Delights

Museum-hosted shows always have a special feel about them, and this was certainly true for the Old Sarum event in Wiltshire

on August 12.

Still an active airfield, it's also the home of the Boscombe Down Aviation Collection (BDAC), located in one of the historic hangars.



▲ Based on Italeri's 1/72 kit, this 39 Squadron MQ-9 Reaper graced IPMS Gloucester's table.



▲ Meng's 1/35 ZSU-23-4 Shilka received scratch-built additions by Allan Parker. (Dave Oliver)



▲ Farnborough IPMS included Andrew Prentis' eye-catching recovery scene. (Dave Oliver)



▲ Italeri's 1/48 US Navy SNJ-5 Texan stood out on the Cotswold Scale Plastic Modellers' stand.

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T-34 Tank 1940 to date (all models) Owners' Workshop Manual RRP £22.99	Junkers Ju 87 STUKA All marks and variants 1935-42 Owners' Workshop Manual RRP £22.99	FLAK 88 8.8cm Flakgeschütz/anti-aircraft gun (Models 18/36/37/41) Owners' Workshop Manual RRP £25.00	WESTLAND WESSEX 1958 onwards (all models) Owners' Workshop Manual RRP £25.00	Astute Class Nuclear Submarine 2010 to date Owners' Workshop Manual RRP £25.00	GRUMMAN F-14 TOMCAT All models 1970-2006 Owners' Workshop Manual RRP £22.99
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The Messerschmitt Me 262 entered operational service with Nazi Germany's Luftwaffe in the latter half of 1944. It was one of just a small number of jet-powered warplanes that genuinely served

on the frontline during World War Two, and was a contemporary of Britain's Gloster Meteor – although it was involved in far more combat than the latter.

Actual design work on this highly significant warplane by

Messerschmitt AG began during 1939, and the first Me 262 to fly was the Me 262V1, Werk Nummer (works serial number – WNr) 262 000 0001, coded PC+UA, on April 18, 1941. The initial flight with two Junkers Jumo 004 jet engines

was on July 18, 1942, company test pilot Fritz Wendel being at the controls of the Me 262V3 (WNr 262 000 003/PC+UC). These early aircraft had a tailwheel undercarriage configuration, but the Me 262V5 was the first with a tricycle undercarriage, and from the Me 262V6 onwards this was fully retracting on all subsequent production aircraft.

Early units

A considerable number of test, trials and pre-production airframes were built, with initial examples reaching the Luftwaffe for operational evaluation and crew training during the first half of 1944. Large-scale series production only really started around September 1944. The Me 262 was manufactured in several separate but closely-related versions. Single-seat combat models were in the Me 262A series. These included the day fighter Me 262A-1a, sometimes nicknamed 'Schwalbe' (Swallow) or 'Silber' (Silver) to those at the operational sharp end. There was additionally the fighter-bomber Me 262A-2a; the latter was sometimes known as 'Sturmvogel' ('Storm Bird' or Petrel). Allied to these important single-seat versions was the development of two-seat trainers, which eventually (through wartime necessity) grew into a radar-carrying night fighter.



It is believed this strikingly marked Me 262B-1a trainer, WNr 170075, was delivered to KG(J) 54 at Giebelstadt during November 1944. It wore the unit codes B3+SH on its fuselage sides. (All Malcolm V Lowe Collection unless stated)

Trailblazer

Two-seat

The two-seat derivative of the Me 262 jet fighter was important both as a trainer and improvised night fighter.

Malcolm V Lowe tells the story



Photographed in the US post-war, this Me 262B-1a/U1 was WNr 110306. It was formerly 'Red 9' of 10./NJG 11, and was surrendered to the Allies at Schleswig during May 1945.

The first Luftwaffe unit to fly the Me 262A-1a was Erprobungskommando 262 (test and trials/experimental unit 262, or EKdo 262) at Lechfeld, near Augsburg in Bavaria. This Kommando sorted out some of the 'bugs' associated with the new type and received its first examples during the first half of 1944. Early trials work such as this successfully proved the type, leading to regular combat units taking on the Me 262A as series production eventually commenced. However, even before the type had entered widespread Luftwaffe service, it had become clear that a two-seat derivative was a necessity.

Two-seat design

Early in the Me 262 programme, Messerschmitt's designers had examined potential derivatives, and an obvious development was a two-seat version for familiarisation purposes. Later in the war, the need for conversion training of frontline

where the fuselage fuel tank was normally fitted behind the pilot in single-seat airframes, and a new two-piece sideways-opening cockpit canopy was designed. The first two-seater was re-manufactured from the single-seat Me 262S5 pre-production/development aircraft WNr 130010; it initially flew after conversion

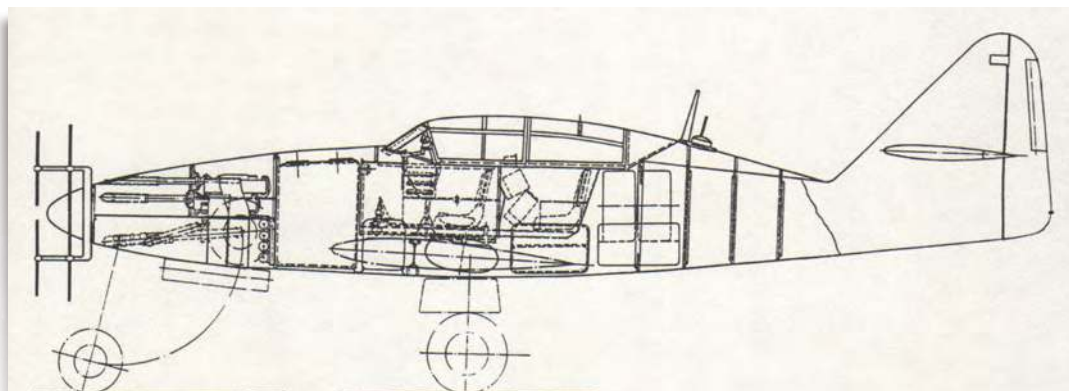
during July 1944. All subsequent two-seaters were remakes of single-seat or intended single-seat airframes (there was no new-build Me 262B production line), Blohm und Voss handing over the first to the Luftwaffe during September 1944.

Later in the war, the airline Deutsche Lufthansa, at its Berlin-

Staaken engineering facilities and workshops, became involved in converting several Me 262 airframes (all of which were initially intended to be single-seaters) into a significant two-seat off-shoot, the Me 262B-1a/U1 night fighter. This was a fully-armed derivative, equipped with FuG 218 Neptun air-to-air interception radar, and it was therefore the only Me 262 operational version to receive this equipment. Such was the ad-hoc nature of these conversions that no two examples appear to have been alike.

Junkers power

Production Me 262s were of basically all-metal construction and covering. The wing span was 41ft 2½in (12.56m), the wing configuration in plan view being moderately swept back; although at that time the positive effects of swept wings in jet aircraft design were not fully understood. Power was from two Junkers



The basic layout of the two-seat Me 262B-1a/U1 night fighter is shown in this contemporary Messerschmitt drawing, with the radar operator located behind the pilot. Note the 30mm cannon installation in the forward fuselage. (Messerschmitt AG)

pilots onto the new concept of tricycle-undercarriage jet fighter configuration underlined the need for a dual-seat spin-off, and this led to the instigation of a trainer development, the Me 262B-series. The dedicated instructional variant was designated Me 262B-1a.

Partnering Messerschmitt in the Me 262B two-seat project was Blohm und Voss, and in the event a number of single-seat airframes were altered into the trainer configuration by this company. The exact number is difficult to verify but did include 37 known and identified conversions. The second seat was installed



The wreck of a mysterious Me 262B-1a trainer, which had the WNr 111643 on its apparently replacement tail, and possibly wore the fuselage code B3+ZM of KG(J) 54. It crash-landed on May 4, 1945 near a village in the then 'Bohemia-Moravia Protectorate' (now the Czech Republic).



Believed to have been photographed at Lechfeld during June 1945, before flying in stages to Cherbourg-Querqueville in northern France for shipment by sea to the US, Me 262B-1a WNr 110639 'White 35' was named 'Vera' by the Americans. It was one of several Me 262s of various marks that were evaluated post-war in the US.



Surrendered to the British at Schleswig during May 1945, Me 262B-1a trainer, WNr 110165, was later passed to the Americans. US personnel gave it the name "What was it?".

Jumo 004B-1 turbojet engines, of 1,984lb st (900kg st) each at 8,700rpm. These gave an excellent maximum speed for the day fighter Me 262A-1a of 541mph (870km/h) at 19,521ft (5,950m), but these thirsty and sometimes unreliable (and temperamental) engines only allowed the type a comparatively limited endurance.

The Me 262A-1a's armament comprised four hard-hitting Rheinmetall-Borsig MK 108 30mm cannons in the forward fuselage. The Me 262B-1a trainer in theory was unarmed, although one might have been fitted with this 30mm armament. The Me 262B-1a/U1 night fighter theoretically carried the normal four MK 108 cannons,



Brought to England post-war for evaluation, Me 262B-1a/U1 night fighter WNr 110305 'Red 8' suffered a landing mishap at Royal Naval Air Station Ford/HMS Peregrine in Sussex. It had flown operationally with 10./NJG 11, and is now preserved in South Africa.



This single-seat Me 262 prototype/development aircraft V056 was used in trials to determine the best arrangement of nose-mounted aerials for the FuG 218 Neptun radar, as used in the Me 262B-1a/U1 night fighter. (Peter Walter Collection)

but some are believed to have mounted instead the Mauser MG 151/20 20mm cannon.

Service use

The training of prospective Me 262 pilots was carried out initially by EKdo 262 at Lechfeld. Later in the war, the co-located dedicated unit *Ergänzungs-Jagdgeschwader* (EJG) 2 performed some of this necessary conversion training for pilots transitioning onto the frontline Me 262 force, and employed several two-seat Me 262B-1a airframes. Some of these prospective jet pilots were already experienced Bf 109 or Fw 190 fighter pilots, but with the allocation of a number of bomber pilots onto the Me 262 the use

of the Me 262B-1a instructional airframes gained considerably more importance.

Such was the chaotic situation for the Luftwaffe during the later stages of the war that several established bomber units were transitioned (in some disarray) into jet-powered fighter/fighter-bomber units, their pilots needing to be rapidly re-trained onto the advanced Me 262. Two such units were *Kampfgeschwader* (Jagd) 6 and 54, commonly abbreviated as KG(J); this standing for bomber-fighter wing. In the event a small number of Me 262B-1a trainers were allocated to such units, and to other frontline organisations.

The limited number of Me 262B-1a/U1 night fighter conversions flew exclusively with 10. Staffel of NJG 11 (*Nachtjagdgeschwader*, night fighter wing). So far, seven airframes have been confirmed

as serving with this unit (the six verified WNr are 110305, 110306, 110378, 110635, 110636, 111980). The first was received during March 1945, but was destroyed immediately during an Allied air raid. However, several of these two-seaters definitely entered combat near to the end of the war, and might have been involved in the shoot-down of just one Allied aircraft – a Mosquito of 305 Squadron RAF, during April 1945. Several weeks later, at the end of the war, surviving Me 262B-1a/U1 airframes were surrendered intact to the Allies at Schleswig.

Czech trainers

It is often forgotten that, apart from Nazi Germany, there was one further very important operator of the Me 262...that country was Czechoslovakia. In that post-war newly-reconstituted nation, sufficient airframe parts and smaller components were available to allow the Czechs to build and operate a limited number of Me 262s in the later 1940s. Luftwaffe Me 262s had been located at airfields within the national boundaries of the new Czechoslovakia, and so a number of abandoned airframes and spare parts were readily available. Several Jumo 004 jet engines were also collected, which were refurbished (the Czechs were capable of this type of engineering) and received the local designation M-04.

Much of airframe work was performed by the Czech company



Three flyable CS-92 two-seaters were assembled by Avia in post-war Czechoslovakia. This example was demonstrated to Yugoslav military personnel at Žatec airfield during 1947.

Czech colours

It has often been stated that those Avia S-92/CS-92 aircraft completed by the firm in Czechoslovakia post-war were painted overall RLM 02, but this is inaccurate. To begin with, RLM 02 was not an official post-war Czech colour, it was a German paint from World War Two. Despite parts of the Czech aircraft industry having been coerced by the Germans into working for them during the war, this is insufficient reason to suppose that copious supplies of German paint were available after the war ended – a point proven subsequently by many Czech historians. In reality, the colour Avia chose to paint their S-92/CS-92 aircraft was a local mix, which was unique to the company, and was used on road vehicles completed by Avia at that time. This is backed-up by eye-witness testimony of former employees. The colour was a comparatively light grey-green, similar to, but definitely not the same as RLM 02. It has sometimes been described as being roughly equivalent to current RAL 7033.

Avia, which fabricated new flyable airframes from the large supply of available miscellaneous components. The single-seat Avia S-92 was the equivalent to the Me 262A-1a, and the CS-92 was an Me 262B-1a two-seat look-alike. The Czechs wisely incorporated two engine-powered hydraulic pumps;

German examples only had one, which had led to many brake failures. Three two-seat CS-92s (sometimes incorrectly named in Western publications as two or four examples) were assembled, and seven single-seat S-92s. The first to fly was an S-92, on August 27, 1946, but the maiden two-seat

flight with CS-92.3 wasn't until December 10, 1946. The other two CS-92s were CS-92.5 and CS-92.7; however, manufacture was slow, with the latter apparently only flying for the first time early in 1950. Much testing was carried out on the S-92/CS-92 aircraft, and eventually some of them operated with a frontline Czech unit, the 5. stíhací letka (5th Fighter Squadron) at Mladá.

The type continued in Czech service into the early 1950s, until replaced by the Soviet Union's Mikoyan-Gurevich MiG-15 in its single-seat and two-seat versions.



Acknowledgement

The Author gratefully thanks many historian friends, specifically Jaroslav Matoulek; and Michal Ověčáček of MARK I Ltd.



The Me 262B-1a/U1 night fighter was of great interest to the Allies, and all surviving examples were saved for post-war evaluation. This airframe, WNr 110306, was formerly 'Red 9' of 10./NJG 11, and was evaluated in the US as FE-610.



Fly-by-Night

Stormbird

After an enjoyable build of the single-seat fighter last year, **Alan Price** describes Airfix's new Me 262B-1a/U1 offering

In the closing stages of World War Two, Germany's Me 262 was pressed into service as a stop-gap night fighter, with a small number of two-seat airframes fitted with FuG 218 Neptun radar equipment and Hirschgeweih dipole antennas on the nose. These joined single-seaters in the battle against Allied bombers, and were all

operated by a single unit, 10./Nachtjagdgeschwader (NJG) 11, operating mainly from Schleswig during 1945.

When examining Airfix's new-tooled 1/72 Me 262 last year (see AMW, Aug 2017), it seemed obvious a twin-seater version was on the cards, as it already contained the night fighters' fuselage drop tanks. This

re-worked kit contains two new runners, offering revised fuselage halves, extended cockpit tub and canopy, and radar aerials for the night fighter versions (although any two-seater can be built). All parts are to the same high standard as the original kit and are moulded delicately (especially the radar aerials) and feature finely engraved panel lines.

Busy 'office'

For this project, it was decided to use the markings for NJG 11's Red 10, one of several machines captured by the Allies at the end of World War Two (see panel). Unsurprisingly, efforts commenced with the cockpit, and the lower section of the tub was assembled according to the instructions, after which it received Mr. Hobby H416 RLM66 Black Grey, along with all other interior components. The parts were then dry-brushed with light grey, followed by a thin black wash to provide a semblance of depth. Details were picked out with various Humbrol enamels and this included a basic representation of the instrument panel, as being a test-shot, the kit decals weren't available. Photo-etched (PE) brass seatbelts were sourced from the

spares box and added the seats, before the latter were secured in the cockpit tub. Lastly, the parts were given a coat of matt varnish.

The upper and lower sections of the 'office' were then mated and attached to the supporting bulkheads attached. As the underside formed the top of the undercarriage bay, it and all fuselage and wing interior parts were next airbrushed Alclad ALC-101 Aluminium. A black wash helped to accentuate the moulded framework, and the fuselage was then ready to be closed.

Weighty issues

Having already built the single-seater, the type's 'tail-sitting' tendencies were a known quantity, and although Airfix suggested 5g, it was decided to add more, just to make sure. A quantity of Deluxe Materials Liquid Gravity

(www.deluxematerials.co.uk) was duly poured into the nose area of each fuselage half and secured with Cyanoacrylate (CA) glue before they were mated, trapping the cockpit tub inside. The fit was excellent, with just minor work needed to neaten the seams; the nose underside was similarly easy to attach but note, the location holes for the drop tank pylons must be drilled beforehand. Once secured, the joints were filled and sanded, to produce a seamless surface around the nose area. Work then moved to the wings and, having located the spar in the lower mainplane, this was married to the fuselage, followed by the upper surfaces. Again, everything located snugly, with just small amounts of filler required around the front underside join, where a slight step was evident between the parts. ▶



▲ All necessary parts for the two-seater night fighter, including new fuselage halves, were supplied on a bespoke Runner E.



▲ The new canopy was provided as three pieces; a windscreen (with integrally moulded fuselage panel) and two opening sections.

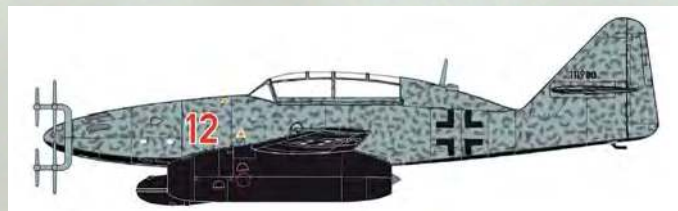


▲ The Me 262B fuselage differs considerably from the single-seat version, with a much-lengthened cockpit and raised fairing ahead of the tail for the canopy.

Kit schemes

Airfix supplied the modeller with two choices; a Luftwaffe night fighter, and a post-war Czechoslovakian Avia-produced airframe:

- Me262B-1a/U1, WNr 111980/Red 12, 10./NJG 11, Schleswig, Germany, May 1945
- Avia CS-92 VLU, CS-92-5/V-35, Žatec, Czechoslovakia, September 1947





MODEL SPEC

Messerschmitt Me262B-1a/U1

By:	Airfix
Stock Code:	A04062
Scale:	1/72
Price:	£18.99

Available from: www.airfix.com

Jet power

The engines were built as separate units before attaching them to the airframe. The exhaust turbine units (with their two-piece 'onion' fairing) were assembled prior to painting. The inside of each

engine half was airbrushed ALC-101 Aluminium, as were the inlet fans and exhaust turbine units; the rear sections then received a light coat of ALC-113 Jet Exhaust, to impart a more used look. Once dry, these parts were assembled into the respective port and starboard nacelles, although the inlets were left off until after the powerplants had been attached to the wings.

One issue encountered with the single-seat kit was the troublesome seam between mainplane and engines, and it

was thought to be due to its pre-production nature. This time, the wings and engines were standard parts, so the fit was expected to be better... but it wasn't perfect. Judicious filing was required to open the wing cut-outs, while the engine mating surfaces were squared and flattened where they met the wings. The result was a much-improved fit, but small amounts of filler were

still needed at the rear upper engine/wing join. Having attached all major parts and neatened the seams, any damaged panel lines were reinstated, and the model received a polish with 2,400- and 3,200-grade Micro-Mesh sanding cloths. The horizontal stabilisers were then



▲ Nose weight was essential element of any Me 262 build...Liquid Gravity was ideal, and was secured with CA.

◀ Airfix's cockpit tub was well detailed for such a small scale – the addition of PE seatbelts really added to its appearance, inviting the observer to look more closely.

Red 10



The chosen airframe, Red 10, is one of the most well documented Me 262s, as it was captured by Allied forces during 1945. The aircraft was painted black underneath with RLM 76 Light Blue upper surfaces. A disruptive pattern comprising patches of RLM 75 Grey was then sprayed over the lighter colour, the application being different on port and starboard – possibly as two painters had worked on the aircraft together. On the port side, short, denser and darker strokes were used, but on the opposite surfaces, longer and lighter applications were noted. The red numerals were also reported to have been painted in different styles on each side of the fuselage. Finally, the upper side of the horizontal stabilisers appeared to be a single solid colour, possibly RLM 75 Grey or RLM 83 Dark Green. (Key Archive)

attached, followed by the engine intakes and drop tank mountings.

Next, the canopy sections were removed carefully from their runner and neatened, with just the windshield glued to the model and masked for painting. The open cockpit was also covered with tape, before the model was given a final rub with 4,000-grade Micro-Mesh cloth to remove any final blemishes.

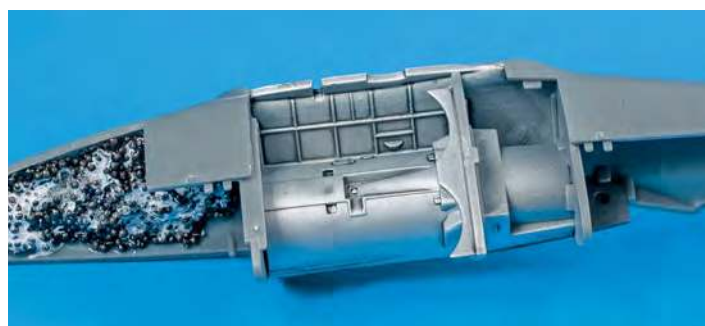
Mottled hues

Painting began by airbrushing the canopy framing with RLM 66 Black Grey. The model then received Mr. Hobby Mr. Surfacer

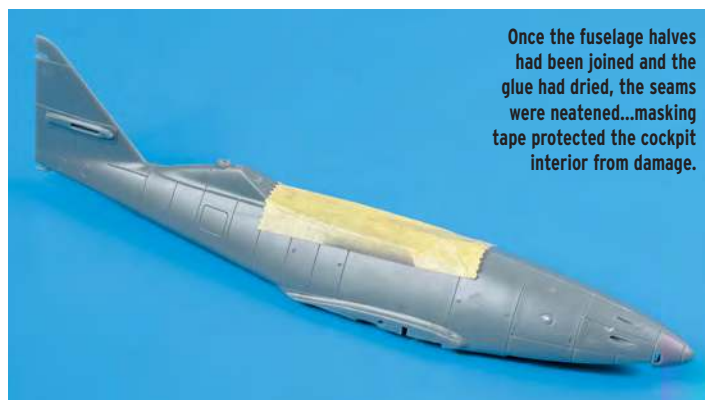
from an aerosol can, which primed the surface and highlighted any remaining blemishes. Once this had cured, it was abraded lightly with 4,000-grade Micro-Mesh cloth, to provide a key for the subsequent paint layers. The panel lines were pre-shaded with black, followed by the underside being treated with several light coats of my own 'night fighter' black mix. This comprised a very dark grey ▶



▲ The engine inlet and exhaust turbines were painted before assembly, with the latter sections muted with ALC-113 Jet Exhaust for a convincing appearance.



▲ The cockpit located positively between the bulkheads and formed the top of the undercarriage bay. Note the interior on Me 262s was almost always unpainted.



Once the fuselage halves had been joined and the glue had dried, the seams were neatened...masking tape protected the cockpit interior from damage.





blend of Tamiya X-18 Semi-Gloss Black and a few drops of white.

Reference photographs of Red 10 revealed a soft demarcation between the upper and lower colours, so the upper surfaces were airbrushed freehand with H417 RLM 76 Light Blue. No masking was applied to the underside, to allow the correct

soft demarcation to be achieved. There was minor overspray on the fuselage underside, but this was easy to correct, with this area neatened by airbrushing more night fighter black.

The horizontal stabilisers were then masked, and the upper surfaces painted with H423 Dark Green, to represent RLM

83. Attention then focussed on replicating the airframe mottling, and diluted H69 RLM 75 Gray was sprayed freehand at low pressure. However, a series of tests were conducted by airbrushing a series of practice patterns onto a piece of cardboard, to establish the correct paint and pressure combination. An Iwata HP-BH was

Different schemes

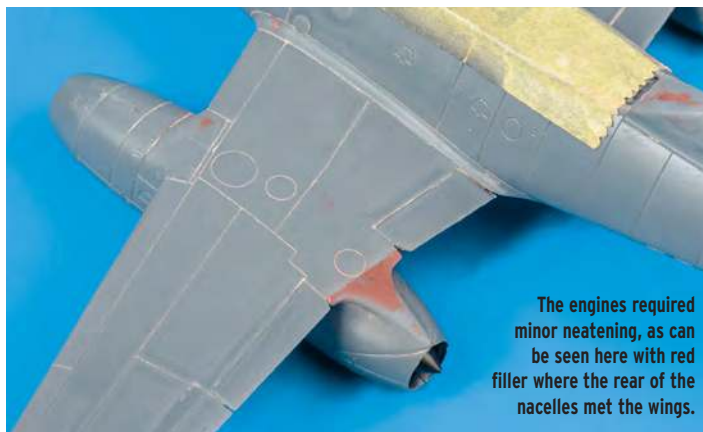
As this was a test-shot, the kit decals weren't available in time for the build, so alternatives were sought in the form of Eagle Cals' EC72170 Me 262B-1a/U1, which contained three options:

- WNr 110305/Red 8, 10./NJG 11
- WNr 110635/Red 10, 10./NJG 11
- WNr 110306 'Ole Fruit Cake', Watson's Whizzers

The wings fitted snugly, and no remedial work was required at the join with the fuselage.



The engines required minor neatening, as can be seen here with red filler where the rear of the nacelles met the wings.



▲ Similarly, a modicum of filler was required at the front of the underside fuselage/wing seam, which left a slight step in the styrene. A panel line error was noted on the outboard starboard nacelle half; this was filled and re-scribed.

► After masking the canopy, undercarriage bays and engines, the model was primed with Mr. Surfacer, then pre-shaded along panel lines.



▼ The upper surfaces were airbrushed RLM 76 Light Blue, after which the area around the horizontal stabilisers was masked – these were sprayed RLM 83 Dark Green.



used for the mottling and this has its own in-built air regulator, which is perfect for this type of work. The pattern was painted in the required different styles on port and starboard sides, while the canopy and radar aerials were also treated at the same time. Everything was then set

aside for 24 hours to allow the paint to dry fully.

Minimal markings

A coat of gloss varnish was applied in preparation for the decals. Eagle Cals' products are printed by Cartograf and were of superb quality, with three full



Diluted H69 RLM 75 Gray was airbrushed at low pressure to recreate the disruptive 'worms'; the different styles on each side reflected the variations on the real aircraft.

sets of markings (including stencil data), one for each of the colour schemes. For Red 10, the different numeral styles were supplied for each side, and the airframe serial number was supplied with the numbers miss-aligned, as often seen on the real aircraft...a tiny detail that needs close scrutiny

to see. Note, just a selection of stencils was applied, as it's unlikely they were present on aircraft such as these, produced during late 1944/early 1945. The decals proved easy to apply, with the aid of Microscale setting solutions.

After the markings had dried, any excess residue was removed, 





▲ The drop tanks' weathered appearance was replicated by first airbrushing them aluminium (right), followed by a coat of chipping fluid and lastly, night fighter black (left).



▲ As soon as the top layer had dried, it was scrubbed with a damp brush to reveal the underlying metallic hue.

and the model was again gloss varnished. A Flory Models Dark Dirt wash was then applied to highlight the surface detail. Work started on the underside, employing an old bottle of the product for the underside, as this had a mid-grey tone. A new bottle of Dark Dirt, which had a dark brown hue, was then applied to the upper surfaces (presumably the colour has changed over the intervening years), which worked well with the pale camouflage. The washes were sealed with a further gloss coat.

Paint or no paint?

With the airframe now ready for the final finish, focus shifted to the remaining parts. The undercarriage was painted H70 RLM 02, as was the interior of the undercarriage doors. At this late stage of the war, the German Air Ministry –

Reichsluftfahrtministerium (RLM), had mandated interior parts shouldn't be painted, except in the cockpit, or if they were made of wood or ferrous materials. Therefore the undercarriage bays were metallic, but the undercarriage legs and the doors (the doors being made of wood) received RLM 02. Detail was highlighted via a dark wash, which was allowed to run into corners and recessed features.

According to available reference photos, the drop tanks had a very distinctive appearance with paint abrading from the metal. The assembled units were first painted with ALC-101 Aluminium, followed by a heavy coat of AK Interactive AK088 Worn Effects chipping fluid.



▼ Eagle Cals's decals were applied over a gloss varnish and settled well. Once dry, a second gloss layer sealed the markings and readied the model for weathering.



References

Me 262 Volume Two, by JR Smith and EJ Creek (Classic), ISBN: 978-0-952686-73-6

Me 262 Volume Three, by JR Smith and EJ Creek (Classic), ISBN: 978-1-903223-00-8

Luftwaffe Camouflage and Markings 1933-1945 Volume 2, by KA Merrick (Classic), ISBN: 978-1-903222-29-0



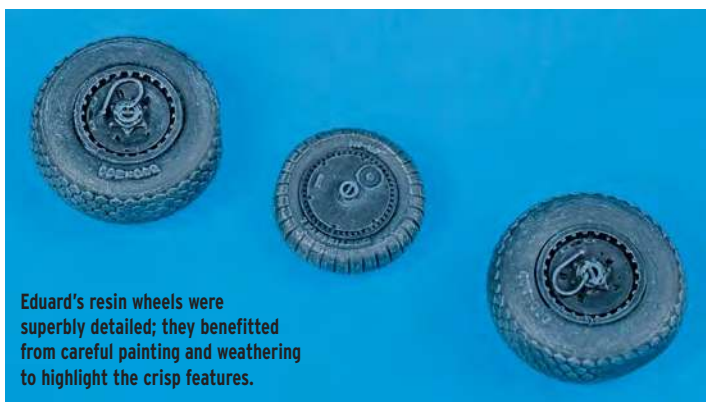
Both were then sprayed with the same night fighter black mix as the airframe underside. As soon as this had dried, the paint was worn away by scrubbing with a stiff paintbrush, dipped in water. Larger scrapes and chips were then made by a cocktail stick. Once the desired effect had been achieved, the tanks were left to dry and then gloss varnished.

Undercarriage 'tweaks'

The kit wheels were replaced by Eduard's resin items (672159),



▲ The undercarriage was fiddly to attach, and care was needed to ensure the main gear legs were aligned correctly. The nose strut was altered to allow it to lean further forward.

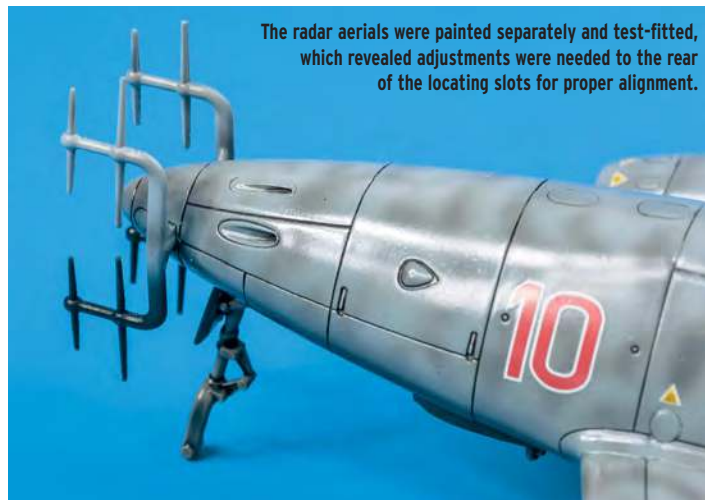


Eduard's resin wheels were superbly detailed; they benefitted from careful painting and weathering to highlight the crisp features.

which were superbly detailed. They were detached from the casting stubs with a jeweller's saw, and then neaten with a scalpel and Micro-Mesh abrasive cloths. The wheels were airbrushed black, after which the tyres were painted with dark grey Humbrol enamels. Light grey was then dry-brushed to highlight the tread, and this was enhanced further by applying a diluted black wash. Undercarriage assembly then proceeded smoothly, although the nosewheel was adjusted slightly, to angle it

further forward (as per the real aircraft) as it was almost vertical if fitted as suggested in the instructions. This was achieved by removing the mounting on the rear of the undercarriage door, which provided the additional room for the nose leg.

To create the final surface finish, the model first received several light coats of Mr. Paint MRP-126 Super Clear Semimatt Varnish, followed by a light layer of Microscale Flat. Undercarriage oleos and the navigation lights



The radar aerials were painted separately and test-fitted, which revealed adjustments were needed to the rear of the locating slots for proper alignment.

▼ Airfix's two-piece canopy required diligence when attaching it, to ensure it aligned with the fuselage in the open position.



were treated with hand-painted Humbrol 11 Silver, before the wheels were glued onto the undercarriage legs. The radar aerials were glued carefully into the nose slots - note, these needed opening slightly at the rear, to allow these parts to 'sit' square to the centre line when viewed from above. Both open canopy sections were then attached, and the wire antenna was simulated with Uschi van der Rosten elastic rigging line. Finally, with the silver paint dry, the

navigation lights received clear red or green as appropriate.

Splendid twin

Airfix's baseline single-seater built into a superb model, and its Me 262B-1 does the same, offering well-detailed parts and easy assembly. With several of these being captured at the end of the war, there are a variety of excellent colour schemes for modellers to choose from, making this an attractive kit for Luftwaffe aircraft enthusiasts.



Red 12

Airfix's intended markings choices included another well-known Me 262 night fighter, Red 12 - also assigned to 10./NJG 11. The colour guide indicated a standard camouflage of black undersides, with RLM 81/82 splinter on the upper wings, and an RLM 76 fuselage with RLM 81 mottling. It also featured a bare aluminium front section on the starboard engine. However, careful study of reference photos reveals something different, as it appears the upper wings may have been a solid application of RLM 83 or 75, although it's probably the former, as its tone seemed darker than the fuselage mottling, which was probably RLM 75. The aluminium cowlings were almost certainly RLM76 - there is an excellent photo in Kev Merrick's Luftwaffe Camouflage and Markings (see panel) of the aircraft in a barn before it was shipped to the UK, where the cowlings are clearly visible. This and other photos also highlighted the upper wing camouflage extended along the top of both engines and onto the new cowlings.



▲ The aircraft wire antenna was fashioned from Uschi van der Rosten elastic line, secured with CA.

MOTHER OF INVENTION

John Paulding shows modellers how to recreate a Vietnam War US Army gun truck from Italeri's 1/35 M925



Necessity is often the mother of invention, and this was true for the US Army's gun trucks in Vietnam, which were heavily modified convoy-protection vehicles.

Road convoys were a lifeline for US units, but South Vietnam's roadways were generally poor, with many sharp curves, which slowed the vehicles, making them easy targets. Originally, plans called for M48 tanks to protect the

convoys, but there weren't enough available, so transportation companies built their own escorts. Initially M35 2.5-ton trucks were outfitted with rudimentary armour plate, sandbags and even timber. Later, standard sized, pre-

drilled armour sections became available, but the M35 soon became overloaded, especially when sandbags (which protected against mines) became waterlogged during the monsoon season. It wasn't long before units turned to the larger 5-ton M54, which had room for weaponry, armour, spares and ammunition, yet could keep pace with the resupply convoys.

The first step was to assemble the frame rails and modify them for an M54 truck, by removing 3mm, as shown, and then re-join the parts with reinforcement strips on the inner face.

Reduce to 1.5mm high

Remove 3mm here

62mm

Remove upstanding bracket

Fill holes

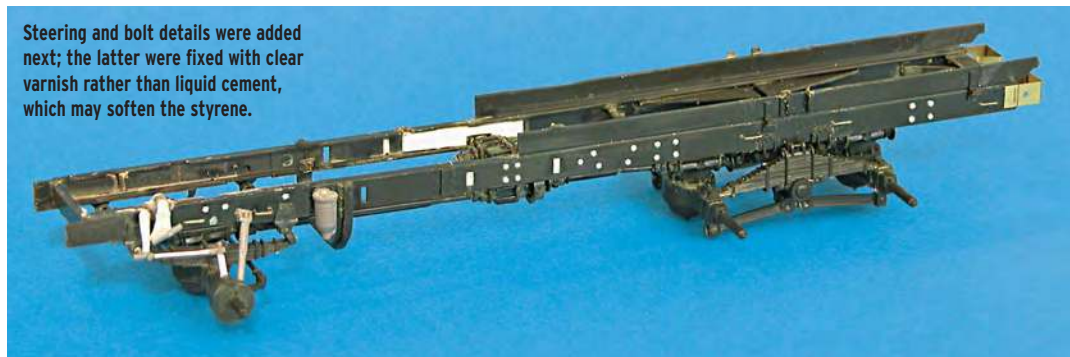
Remove upstanding brackets

Unwanted holes were filled with scrap plastic and the 'upstanding' brackets removed, to allow the cargo bed to sit lower on the chassis.

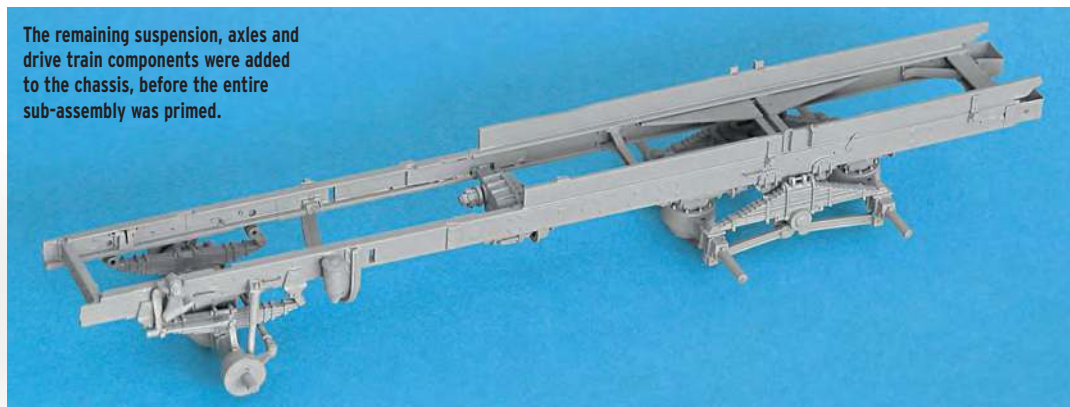
Where to begin?

Unfortunately, there wasn't a styrene M54 available when this project began, although AFV Club recently released an M54A1/2C kit (35300). Research revealed Czech company Real Models Ltd (www.realmodel.cz), which produces a series of conversions, designed sets both for AFV Club's new offering and Italeri's M925 shelter truck. The latter's M923 A1 'Big Foot' (279) can also be used as a base kit, but a set of 5-ton Truck Wheels (RMA35023) will also be needed. The example built here, 'Mother's Worry', isn't an actual

Steering and bolt details were added next; the latter were fixed with clear varnish rather than liquid cement, which may soften the styrene.



The remaining suspension, axles and drive train components were added to the chassis, before the entire sub-assembly was primed.



to gun trucks (see references).

The rest of the frame was constructed as per Italeri's instructions, before any of the conversion parts were added. All resin components were cleaned with a warm water/washing-up liquid solution to remove any traces of mould release agent, which might otherwise affect the paint finish.

While there was no 'right' or 'wrong' build sequence, it's probably best to test-fit the wheels, cab and cargo bed to the frame, but not fix them permanently at this point. There were several fragile features to add and awkward corners to spray during construction and it was advantageous to be able to remove parts from time to time.

Location, location

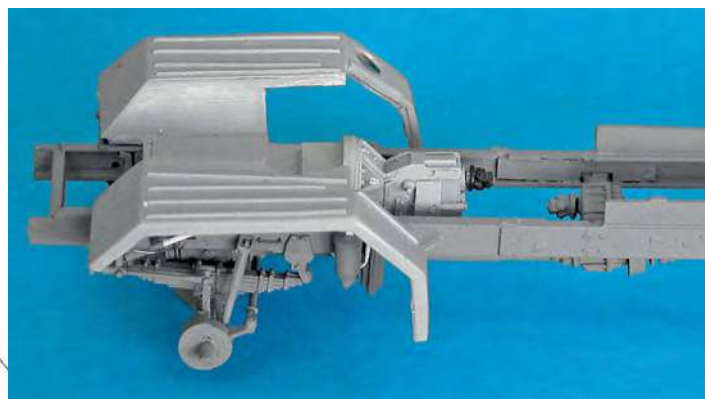
Most of Real Model's cab parts (RM35028) fitted well, but it was difficult to determine the exact location of the floor on the

vehicle, but was based on the name of a Revell cartoon model kit of one of Ed 'Big Daddy' Roth's creations in the 1960s.

Work began by modifying the M925's chassis; the front springs must be attached, after which a 3mm segment must be removed 62mm rearwards of that suspension unit's centre point. Strengthening plates were needed on the inside when re-joining the sections, and these should be set aside to dry thoroughly. Note, the

cargo bed sat slightly lower on an M54, so the upstands must be reduced to just 1.5mm in height (see photo).

Extra detail can be added to the chassis, and WWP's US Army Truck Tractors was an excellent source of information, even though it relates to the 5-ton M52 articulated-tractor variant. Online and personal photos (taken at the War and Peace show) also provided useful information and there are several books dedicated



▲ The mudguard casting was neatened, before two locating ribs were added, and it was mounted on the frame, with the front axle sitting slightly forward of the centre point. The front chassis will need trimming level with the mudguards to accommodate a winch and frame.





chassis frame. Two styrene strips were added as alignment guides, to ensure it always went back into the right position during the numerous test-fittings.

Most, although not all, gun trucks sported a front-mounted winch, and a decision over whether to include one must be

made at this point. Real Models' conversion provided a neat cast unit, complete with rails, although the frame front must be modified slightly to accommodate it.

The single-piece resin radiator offered just basic representation of the headlights, so they were drilled and aftermarket items

or spare clear lenses could be installed for greater realism. Alternatively, the holes could be filled with either clear resin or Micro Krystal Klear, after adding kitchen foil reflector dishes. Unfortunately, the rear U-shaped cab mounting bracket was warped badly, so a new one

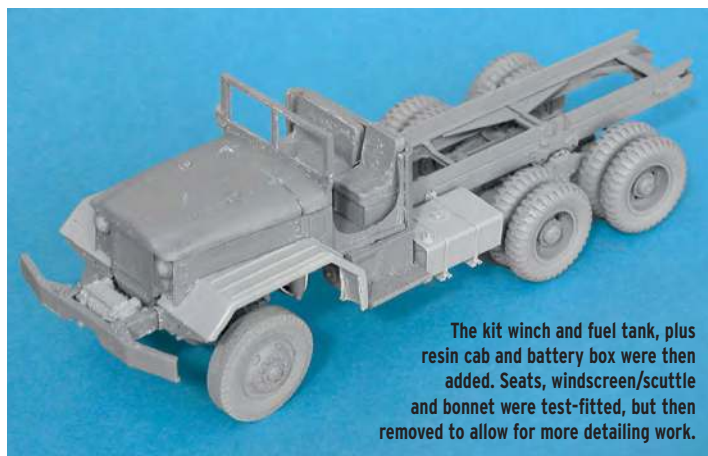
was fashioned from plastic card by taking tracings of the original and laminating pieces until the desired thickness was reached – it was then sanded to shape.



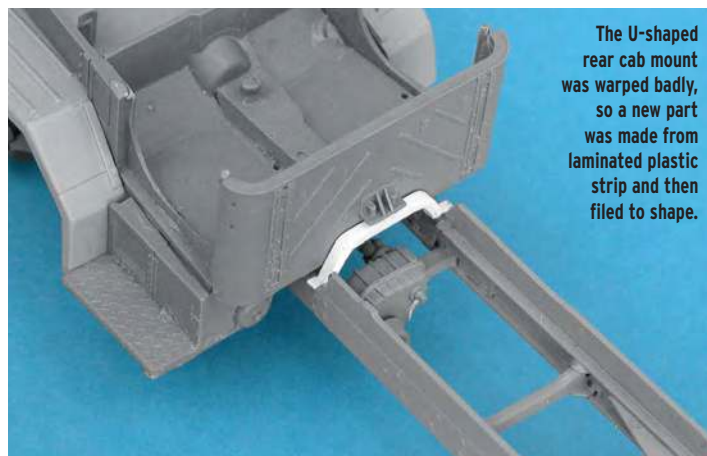
▲ Real Models' wheels were used instead of Italeri's, as they included civilian-pattern front tyres. All were washed in soapy water to remove release agent, and dried on a paper towel.



▲ The solid headlights were drilled to accept aftermarket clear glazing, with the depressions coated with kitchen foil to emulate reflectors.

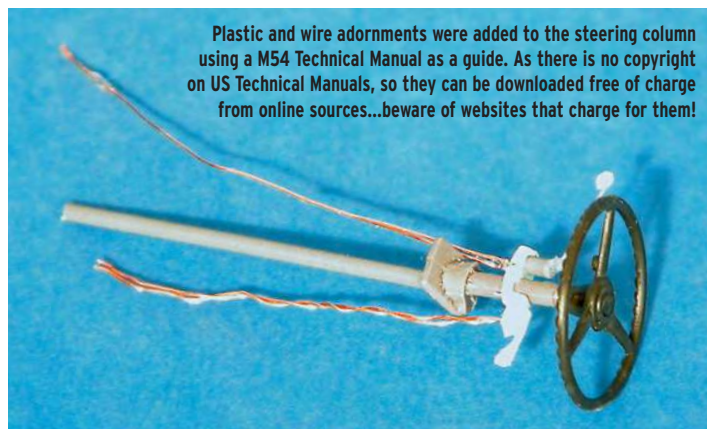


The kit winch and fuel tank, plus resin cab and battery box were then added. Seats, windscreen/scuttle and bonnet were test-fitted, but then removed to allow for more detailing work.



The U-shaped rear cab mount was warped badly, so a new part was made from laminated plastic strip and then filed to shape.

► Armour plates were fashioned from plastic card, and small triangular spacers provided sufficient room at the rear edges for access to the door handles. Narrow right-angle strip sections formed the frames, to which armoured glass would be added.



Plastic and wire adornments were added to the steering column using a M54 Technical Manual as a guide. As there is no copyright on US Technical Manuals, so they can be downloaded free of charge from online sources...beware of websites that charge for them!

More armour

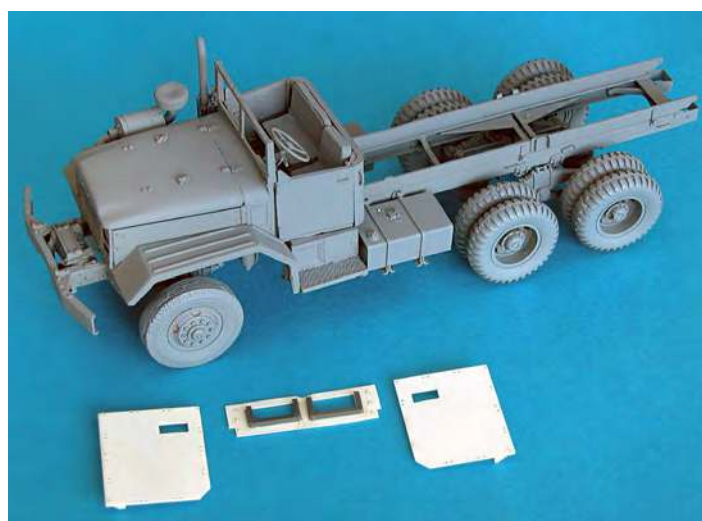
With plastic card already on the workbench, it was time for the scratch-built parts. Cab armour varied from truck to truck, but was usually based on standard plate shapes (see photos). The layout was based on the cab armour on 'Eve of Destruction', the only gun truck to survive the war and which is now displayed in the US Army's Museum of Transportation, at Fort Eustis, Virginia. All other trucks were restored to cargo carriers, transferred to the Army of the Republic of Vietnam, or scrapped.

The cab armour was of double-thickness construction, comprising plates atop the bodywork to protect the driver's head and shoulders, while the doors featured inner and outer layers, with apertures to allow vision to the sides. Triangular spacers separated the exterior plates, which offered better protection and allowed access to the door handles. The gap between the cab's rear armour sections allowed access to the cargo bed, and one of the canvas top supports was used as a handy place to hang the driver's headphones when not in use.

Drivers usually just had earpieces without a microphone, so they could monitor communications; the gunner/radio operator would have a full headset or maybe a scrounged Combat Vehicle Crewman's helmet with built-in communications.

Making the bed

Focus then shifted to modifying the cargo area. The M54 bed was made in two versions, drop- and fixed-side, and featured fewer fitments on the panels than an M923. The best way to achieve this was to remove the recessed panels and fill the voids with plastic card, cut the required items from the discarded sections with a brand-new scalpel blade, then fix them to the replacements. Note, as the new panels were just thin styrene, liquid cement could easily deform them, so it's recommended they are secured with a spot of varnish. Finally, while the M923 had two 'C-shaped' attachment points on the side bottoms, the M54 was fitted with just a single, centrally mounted item, so the kit parts must be modified accordingly.



– internally or externally to the cargo bed sides, with the panels cut to the correct lengths. Most 'second generation' trucks had additional internal walls to protect against rocket-propelled grenades, which also provided useful storage for ammunition, spares, provisions and tarpaulins.

Usually, one or two extra light machine guns were retained as 'ditch guns', as the heavier weapons couldn't be depressed sufficiently to fire into roadside ditches and paddy fields; an M3

'grease' gun was added for this purpose. Windscreen armour wasn't always fitted, but when it was, it generally comprised a hinged plate with vision cut-outs, which could be raised by means of a cord that passed over the windscreen, or could be fixed permanently, as portrayed here, with armoured glass inserts. This was fashioned from plastic card with lengths of right-angle strip for the frames and clear styrene, tinted with Tamiya's X-25 Clear Green, for the windows. Plastic



MODEL SPEC

M-925 Shelter Truck

By:	Italeri
Stock Code:	367
Scale:	1/35
Price:	approximately £20

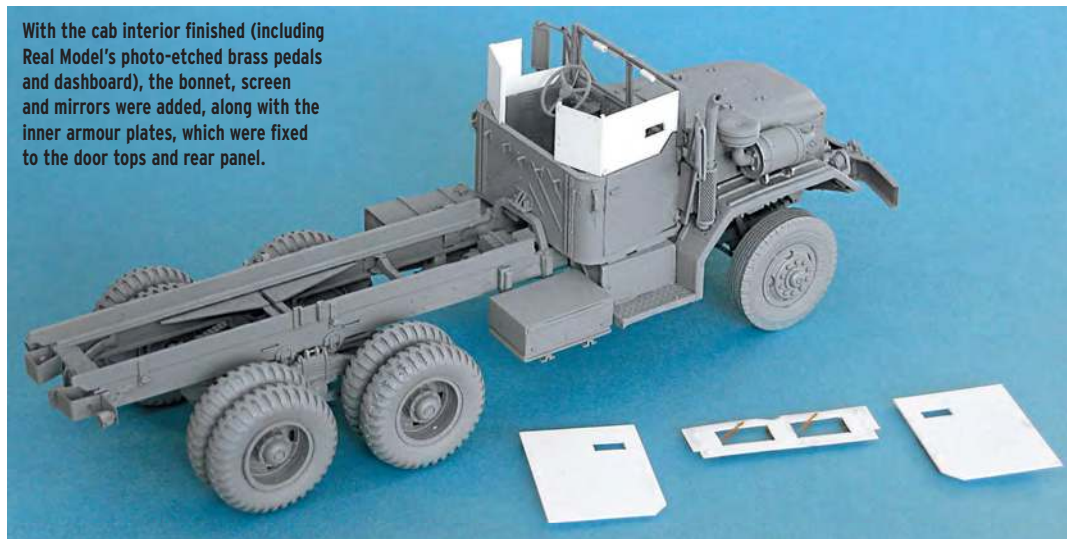
Available from: online outlets



Creating a carapace

As per the drawing, five full armour plates were fashioned from 30-thou (0.75mm) plastic card, noting that one must be cut vertically to fit the cargo bed, just as on the real vehicle. At this stage, a decision must be made on how to attach the new parts

With the cab interior finished (including Real Model's photo-etched brass pedals and dashboard), the bonnet, screen and mirrors were added, along with the inner armour plates, which were fixed to the door tops and rear panel.



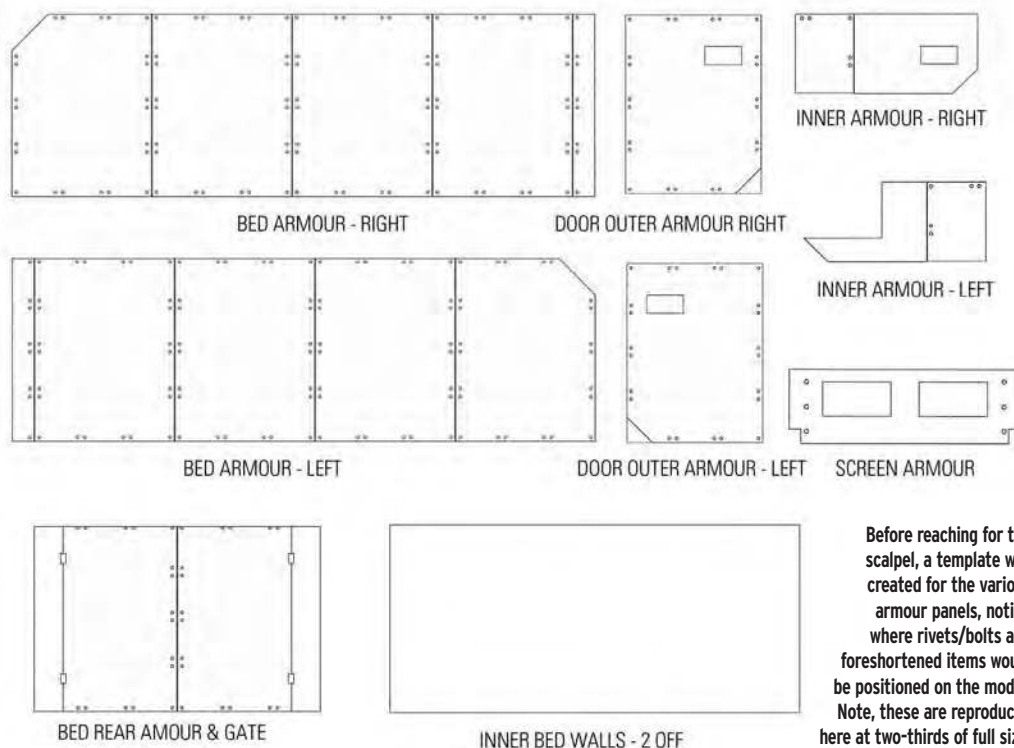
strip wiper blades were added to scratch-built motors and wire connectors on the original (now inner) windscreen.

Scrounging for weapons

Road conditions in Vietnam dictated the need to carry plenty of spares, notably wheels/tyres, both for the gun truck and other convoy vehicles. For this project, a row of extra wheels was stowed in a bespoke compartment at the rear of the cargo bed; this was a common configuration, although some trucks carried them between the inner and outer side armour plates. The cargo bed was completed by adding bracing and support struts between the spaced protection, plus mounts for the heavy weapons.

This truck boasts a pair of 7.62mm miniguns, probably scrounged from a helicopter wreck (several gun trucks carried this fit), and a single M2 .50 cal heavy machine gun. The XM134 7.62mm minigun could fire at rates of up to 6,000 rounds per minute (rpm), but was usually limited to 4,000 rpm to minimise overheating. While this would have been the weapon of choice, it was difficult to obtain; single- or twin-mounted M2s/M60s were more usual.

Legend (www.legend.co.kr) offers two resin miniguns, either a pair of weapons with a field workshop jury-rigged mount (LF1038) or a pedestal-configured version with large capacity magazine and feed chute (LF12A4), which could be bent to shape by heating the resin in boiling water.



▲ Plastic card simulated the M54's smooth cargo-bed floor, to which armour sections were added; inner/outer plate spacing was set by the width of an ammunition box.



▲ With the main assembly completed, the chassis/cab and bed assemblies were primed, before the two sections were test-fitted, highlighting the latter's substantial structure.

Radio station

The vehicle's radio came from an Academy 1/35 M151 MUTT, with modified crew seats scrounged from an M113, but given how real vehicles were equipped, seats from old cars, jeeps or even helicopters would be just as acceptable. A final touch for the cargo bed was to almost cover the floor with ammunition boxes, which replaced sandbags for mine protection and had the practical advantage of extra stowage, always

fog lights under the front bumper for recognition purposes, along with a yellow identification band on bonnet. 'Mother's Worry' also sports a red light and siren from a military fire truck (as seen on vehicles in reference photos). The latter gave warning of its approach when sprinting along a vehicle column to provide fire support/engage the enemy – or simply to alert local cyclists and moped riders to make way for the convoy.



▲ An old M113 provided two seats (one folded), and the M151 was the source of a radio set, which was placed on a scratch-built mount. Tonal variations were created via dark grey mottles and highlights, applied by airbrush.

liveries and markings. While some retained their original Olive Drab (XF-74 JGSDF Olive Drab is a good match), others received gloss or matt black coatings. My example was painted with satin black plastic bumper primer from the local motor shop, which gave it a slightly 'tired' appearance, and was then shaded with Vallejo's 71.055 Black Grey (which was also used as the tyres' base colour).

Details were picked out with Humbrol 18 Gloss Orange, using photos of real trucks as a guide. There wasn't much point giving a black truck a dark pin wash, ▶



vital given the huge demands of the on-board weaponry. Note, even this wasn't always sufficient for minigun-equipped trucks, and some towed trailers full of additional 7.62mm rounds. Other fitments included yellow

Paint it black!

What really separated Vietnam gun trucks from other vehicles was their outlandish



▲ Support struts were scratch-built for the armour plates, along with a cross-bar for the spare wheel compartment, and an aerial mount was scrounged from an M151 MUTT kit.



▲ 'Mother's Worry' and the chevrons were created on a desktop publishing programme and laser-printed onto clear decal sheet; the black surround blended with the vehicle's livery.



▲ As the orange legend wouldn't show against a black background, the armour was airbrushed with white prior to applying the large decal, which was then trimmed to size when dry.



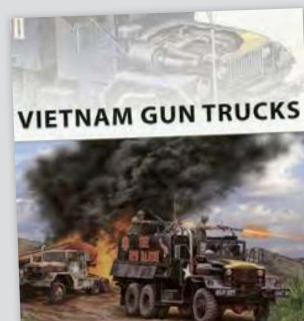
▲ A protective 'false' floor was fashioned with ammunition boxes from AFV Club's M35 Quad .50 cal gun truck kit...note the area (left) provided for the single rear .50 cal mount.

REFERENCES

Gun Trucks, by David Doyle (Ampersand Group), ISBN: 978-0-9861127-3-7

US Army Truck Tractors in Detail, by F Kořán, J Moštěk, J Spurný, M Hrabán and RC Foulks (Wings and Wheels), ISBN 978-80-86416-08-3

Vietnam Gun Trucks, by Gordon L Rottman (Osprey), ISBN:978-1-83908-355-3



but additional Humbrol AVO28 Dust Wash was applied to hinges and brackets to make accentuate them, followed by subtle dry-brushing with a black/desert yellow mix, to emphasise edges and raised features. Lastly, tiny chains on the tailgate were made from two strands of fine wire, twisted together and then crushed flat with pliers.

DIY decals

The 'Mother's Worry' legend was produced via the Quark v10 publishing programme, but could just as easily have been produced in Microsoft Word. After an unsuccessful first attempt with white decal paper, which highlighted the printed black's poor density over a white background, it was decided to use clear sheet instead.

Since orange printed on clear decal paper wouldn't

show properly on a black model, a white undercoat was needed. The orange lettering was then placed on a black background in the publishing program (to blend with the vehicle's scheme) and this was large enough to cover the armour plate, so the decal could be trimmed to size. Orange chevrons were also printed, to adorn the rear mudguards.

The 'Mother's Worry' decals settled into the scribed panel lines with minimal aid from decal solutions, which didn't seem to affect the orange or black laser-printed areas, although this may not be as successful if ink-jet printing is used. The mudguard decals needed more persuasion with

repeated applications of setting solution, but eventually conformed to the curves and high ribs. Once the side decals had dried thoroughly, the armour panel holes were opened with a pin.

The white markings comprised rub-down lettering, applied to clear decal film, which made positioning easier. Smaller text, such as tyre pressure and rear bumper markings, plus Vietnamese-language notices warning cyclists not to approach too closely, came from Archer's 'Little Respect' gun truck sheet (AR35264). The original product was purchased at a show, but probably wasn't stored properly as the decals wouldn't part from the carrier sheet. Of note, the packaging stated the firm offered a lifetime, no-quibble guarantee; true to its word, an e-mail to the company saw a brand-new

product arrive in the post just a few days later. Hats off to the guys at Archer!

Dusting off

Don't be tempted to cover the vehicle in the red mud often seen in Vietnam dioramas; this was a feature of the northern regions, which were the preserve of the US Marine Corps. While the USMC did operate their own gun trucks, they were generally less elaborate than the Army's vehicles. The soil in the US Army's area of operation was browner





▲ Fortunately, the 'Mother's Worry' decals conformed well to the sides, with minimal use of setting solutions. The stars and Playboy Bunny come from old Verlinden dry transfers, while the canvas sheet represented the cargo bed's tarpaulin.



and almost sandy in tone, and MIG Productions' 'Vietnam Earth' P031 weathering powder was used here. A slightly beige hue was mixed from various Humbrol colours and sprayed over the truck's lower regions, where road dust would accumulate. Extra Vietnam Earth pigment was then added to the bodywork and chassis joints, and in the tyre tread, to replicate a well-used appearance.

Finally, the 'extras' (which would have been damaged if added earlier) were fitted, such as the whip aerial with hold-down cable (fashioned from twisted carbon fibre strands pulled through white glue) and distance marker posts on the front bumper. These were made from plastic rod, but quite often old .50 cal machine gun barrels were used on real machines, and would make an interesting focal point on a model. Future plans for the model include a diorama base, suitably weathered to 'tie' the model and surroundings together and crew figures – possibly Yanks Miniatures' excellent US Soldiers in Ponchos, suitably converted with Vietnam-era headgear.

▲ The bonnet was masked and sprayed with an undercoat of matt white and then yellow for the recognition band. The exhaust's VHT paint was replicated with matt white, and armoured glass was fashioned from green-tinted clear styrene.

▼ Weapons and ammunition belts/boxes were then added, along with a transistor radio, driver's headphones and scratch-built fire extinguisher and posters (reproduced from old copies of Hot Rod); a row of spare wheels almost filled the rear section of the bed.



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▲ Dave Sharman finished Takom's 1/35 V-2 and Hanomag SS-100 with airbrushed camouflage schemes, and this impressive model took centre stage on Fenland and Spalding's display.



Amicable Bucks

PMS Chiltern's annual event was held at the Weatherley Centre, Biggleswade and offered a larger selection of clubs and traders in this, just its second iteration.

One of the pluses of smaller

shows is the venue, most involve a main hall and a warren of other rooms, and this was the case here, with much to discover in the separate areas, several of which were themed, including Special Interest Groups and local

Miniature Armoured Fighting Vehicle Association collections. The more intimate location also lent itself to discussions between modellers, the visiting public and traders, although many were distracted by the bacon

▲ Chiltern IPMS' Colin Patemen painted this MIG Productions 1/9 T-55 Tanker bust with airbrushed oils and acrylics, and added rust effects to the hatch section.

aroma from the kitchen! An open competition was run, with Raf Sikorski's incredible 1/12 1927 Fiat 806 Grand Prix racer taking a well-deserved Best in Show accolade. This was a fun event, and well worth popping along to in 2019. **Stu Fone**



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Hasegawa's 1/48 P-40 received lightly weathered early war camouflage by MiG SIG contributor Peter Magee, having added an aftermarket seat to the basic kit.

▼ Fenland and Spalding's Dale Sharman adorned his Takom 1/35 Gepard self-propelled anti-aircraft gun with a convincing three-tone NATO camouflage, and then weathered it to suit a field-deployed unit.



▲ Centre stage on the Fine Waterline stand was this impressive Modelist OSA-II (of unknown scale), which was converted by Don McKeand into a Finnish Navy Jymj-class vessel; the figures are from N-gauge railway sets.



Steve Abbot's almost out-of-the-box Trumpeter 1/48 Sea Hawk was finished in Suez Crisis markings and added one of several splashes of colour on the Fenland and Spalding display...the only addition was a resin ejection seat.

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Racing low over the Falkland Islands, two FGR.2s of 1435 Flight, XV472/F (Faith) and XV406/D (Desperation) display a full combat load, with four AIM-9L Sidewinders, four Skyflash, centreline SUU-23/A gun pod and 'Charlie Fit' fuel tank configuration. (Key Collection)

BEAR HUNTERS

Aviation author and former RAF navigator **Dave Gledhill** provides insight into how the RAF operated its F-4s against potential air adversaries

It may come as a surprise that the RAF's Phantoms were operated mainly in the air defence role, with 'mud-mover' units handing their mounts to 'fighter' squadrons as the Jaguar entered service.

Although basic combat tactics were common across the Phantom Force, each individual squadron had its own preferred way of fighting. Moreover, with the aircraft deployed across the globe, where a squadron was based might then dictate the tactics employed.

The author prepares for a training sortie at RAF Wattisham. (Crown Copyright 1977)



Basic manoeuvres

The Phantom FGR.2's strength was its AN/AWG-12 pulse-doppler radar, which gave a look-down, shoot-down capability against low-flying targets, which is where the threat was expected to be. It could also fly at altitudes of up to 55,000ft (16,764m) which, with a further snap-up capability via its semi-active missiles, allowed targets to be engaged at up to 70,000ft (21,336m). With an inertial navigation system, radar warning receiver, and an electronic identification system known as 'Jubilee Guardsman', it was a hugely capable aircraft. RAF Phantoms were initially armed with four semi-active AIM-7E2 Sparrow missiles (later replaced by the British Skyflash),

four AIM-9G Sidewinders (supplanted by the all-aspect AIM-9L variant), and the six barrelled SUU-23/A gun pod.

Two principle attack profiles formed the backbone of any tactics, known as the Attack-Re-attack, or ARA, and the Stern Approach. For an ARA, the fundamental question was whether the target had been designated 'hostile'. If so, the navigator positioned the Phantom in the front sector within Sparrow weapons parameters, before locking the radar to allow the pilot to engage the target. At that point, a defensive manoeuvre known as an 'F-Pol' was flown. The navigator broke the collision approach, putting the target to the extremity of radar coverage, before commencing a hard turn-in behind for a follow-up shot with either Sparrow or Sidewinder. This not only gave the Phantom turning



▲ Two 19 Squadron Phantom FGR.2s (XV400/F and XV468/D) on a training sortie, during the transition period between tactical pattern camouflage and low-vis grey scheme; note the ballast rounds in the forward Sparrow bays, ACMI pod on the starboard inner and AIM-9 acquisition missile on the port inner wing pylon. (Ian Black)

would be selected depending on the target's height and were dictated by the turning performance of the Phantom at different altitudes. At low level, the displacement would be 5nm (9.3km), increasing to as much as 15nm (27.8km) against a high-flying target above 50,00ft (15,240m). After setting the desired displacement, the navigator would initiate a turn in behind the target, aiming to roll out 2nm (3.7km) behind. From that point, the crew would fly a complex visual identification profile, aiming to approach into close formation on the target, regardless of weather conditions, day or night.

Air combat was a much more interactive process in which the 'target' was aggressive from the outset. As soon as the opponents faced each other, both would manoeuvre determinedly to



▲ A 56 Squadron Phantom, XV437, flies over snowy Norfolk farmland. (All photos David Gledhill unless stated)

room, it collapsed the opponents' weapons envelope, making it harder to respond.

Fighting in the 'Rhino'

Surprisingly, just the pilot could launch weapons, despite many of the attacks being flown without ever seeing the target. The stern attack was usually when a target needed to be identified or shadowed; it was most often used on Quick Reaction Alert sorties, when crews would intercept intruders into NATO airspace. The navigator would set up a displaced '180 attack', in which the target approached from the reciprocal heading. Different displacements



▲ This gorgeous photo depicts a taxiing 29 Squadron FGR.2 XV461/H and wearing late-style matt-finish tactical camouflage and large roundels. It is loaded with fin-less Sparrow and Sidewinder training/acquisition missiles. (Ian Black)



Loaded with just Sparrow ballast rounds and an SUU-23/A gun pod, this 19 Squadron FGR.2, XV428/E, highlights the larger intakes and re-profiled fuselage needed to house the Rolls-Royce Spey turbofans. (Ian Black)

negate the other's advantage, and prevent a missile shot before 'the merge'. Once visual, each would seek to employ basic fighter manoeuvres, to position their own aircraft within missile or gun parameters. During this phase, retaining visual contact, or 'tally' as this was known, might be the difference between success or failure. A call of 'lost contact' followed by 'continue' brought alarm to the most confident fighter crew. It was often followed by a call of 'Fox 2' indicating a missile shot had been taken. In a two-seat aircraft, either crewmember might be the one with visual contact, so back-seaters were trained to 'fly' the aircraft using verbal commands until the pilot regained 'eyes on'.

Location, location...

Where the Phantom was based had a huge bearing on how it was employed. The threat to the UK was principally from long-range bombers; it was expected operate in the presence of heavy electronic jamming, over the North Sea or in the Iceland-Faeroes Gap. A fighter threat didn't emerge until later in the Cold War, with the advent of Soviet aircraft carriers, Su-27 *Flankers*, and air-to-air refuelling.

Tiered combat air patrols (CAPs) were flown at medium level, normally 15,000ft (4,572m), and facing away from the UK coastline. These might be up to 200 miles from base, supported by airborne tankers, aiming to intercept the bombers before they could release stand-off cruise missiles. As airfields fell to the

Soviets in Central Europe, attacks by low-level fast jet bombers such as the Su-24 *Fencer* were also anticipated, with crews expected to fight in a nuclear, biological and chemical environment.

Target identification was key to employing the Phantom effectively, as the crew could employ Sparrow or Skyflash missiles at long range without ever seeing the enemy. If not, the crew were bound to identify the target visually, drawing the Phantom into a close-range, potential turning fight, for which it might not be best equipped. While the Americans employed a high-tech solution called TISEO (an electro-optic system which magnified the target and displayed the picture on a screen), to aid visual identification,

the British Telescopic Sighting System, or TESS, was an adapted tank sight fitted in the back cockpit. It was boresighted to the aircraft weapons datum, and when the radar was locked on, the pilot would centre the Sidewinder steering dot and the target appeared in the optical scope, magnified six times.

Cold War ops

The standard configuration for UK operations was 'Charlie Fit', carrying eight missiles and two external fuel tanks under the wings, which offered a typical sortie duration of approximately 90 minutes if engaging low-level targets. Expecting an electronic threat from Soviet bombers equipped with self-defence

jammers (supported by specialist electronic-countermeasures platforms), the Phantom was equipped with defensive electronic protection measures. The radar could be configured to respond to, and track, jamming emissions and the navigator was able to counteract complex deception. Although an active electronic countermeasures pod was never fitted, the Phantom was equipped with AN/ALE-40 chaff and flare dispensers on the inboard missile pylons, giving basic self-protection.

In West Germany the battlespace was radically different, with overland operations, which made it more complex to operate the radar as it could be affected by electronic interference at low level. Here the threat was principally from fighter-bombers supported by escort fighters ranging from the MiG-23/27 *Flogger*, Su-22 *Fitter* and Su-24 *Fencer*. Later, the MiG-29 *Fulcrum* and Su-27 *Flanker* emerged as potent fighter threats. Most CAPs were usually flown at 15,000ft (457m) and at tactical speeds, using more fuel. The 'Lane Cap' system was arranged in a grid, which faced east and stretched from the Low Countries to the Inner German Border.

Air defence ground radars had sporadic coverage at low level and crews expected to operate autonomously, and for that reason, visual identification was the norm. Pairs of Phantoms would fly a modified stern attack, aiming to identify the targets during the final turn, to allow the



▲ While perhaps better known for its F-4J(UK)s, 74 'Tiger' Squadron exchanged those aircraft for FGR.2s in 1991, retaining its colourful unit insignia and black fins. The demarcation between upper and lower low-vis greys is very noticeable, as is the badly worn radome. (Ian Black)

enemy to be engaged before it could react. The advent of the all-aspect AIM-9L Sidewinder helped enormously, conferring an earlier shot possibility. The North German Plain's notoriously poor weather often made identification harder, as the visual pick up came late. At low level and at close range, a robust reaction from defenders led to exciting 'furballs'. Germany-based crews operated with a similar configuration to UK Phantoms, but a gun was carried on the centreline pylon.

Although tactics were theoretically standardised, the two squadrons at RAF Wildenrath sometimes adopted a slightly different approach. While 92 Squadron crews elected to fight 'in the weeds', operating on low-level CAPs at 1,500ft (457m) and fighting at the minimum peacetime height of 250ft (76m). It's 'sister' unit, 19 Squadron, while also operating in this regime, often flew above the general aviation airspace at 5,000ft (1,524m), descending to low level later in the attack. At the outbreak of hostilities, such diversity would have kept a potential aggressor guessing.

Down south

Following the conflict in the Falklands, a squadron of Phantoms deployed to the islands to provide air defence coverage,



▲ The navigator's cockpit in the Phantom FGR.2. Note how cluttered the instruments are, and the periscope on the left-hand side; otherwise the rear crewman had little, if any, forward vision.

replacing RAF and Royal Navy Harriers. The threat in the South Atlantic was, unequivocally, from fast jets operating at low level, namely the A-4 Skyhawk, Mirage III/V and Super Etendard. The highly effective Argentinean pilots flew extremely low, at

high speeds, albeit still at the limit of their combat endurance. This would have conveyed a significant advantage to the Phantom operating relatively closer to base with more fuel. While crews expected a fighter threat, the 'bread and butter'

missions proved to be intercepting Argentinean electronic 'snoopers', which intruded into the Falkland Islands Protection Zone to gather signals intelligence.

Usually, CAPs were flown at 15,000ft (4,572m), facing westwards (looking away from the coastline of West Falkland) with the intent to intercept intruders further from the coastline and well before landfall. All flying operations in the South Atlantic were supported by air-to-air refuelling and, like their Germany-based counterparts, crews operated in 'Charlie Fit', augmented by the centreline gun.

As crews were drawn from every UK and Germany-based squadron, tactics were, necessarily, more standardised in the Falklands. While at squadron strength and operating as pairs and four-ships, the Phantoms would have met an Argentinean incursion with force. Latterly, as the deployment strength was reduced to four permanently based aircraft, the pair became the essential fighting element. Nevertheless, reinforcement options were practised regularly.

In sum, the Phantom was an iconic aircraft, much loved by its crews. That the FGR.2 is still being modelled so many years after its demise is testament to the cult-like following this magnificent war horse still enjoys.



Red-tailed 56(F) Squadron jets cavort for the camera in basic air-to-air training fit... note the fin-top radar warning receiver fairing. (Ian Black)



Andy Davies adds grunt to Airfix's re-worked Phantom FGR.2, using the latest aftermarket enhancements



PHANTOM MUD MOVER

McDonnell Douglas F-4 Phantom II – even the name conjures images of fire-breathing monsters, belching smoke and deafening

noise, and armed to the teeth. The aircraft was held in high regard by air- and groundcrews who flew and serviced the type, as well as aviation fans, who

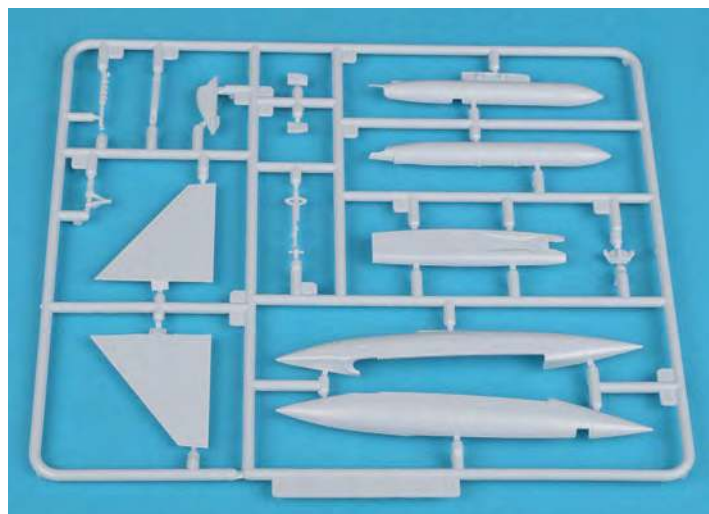
regard it as a near-mythical beast. Following hot on the heels of the initial FG.1 version, Airfix has turned its attention to the RAF's FGR.2 variant. Having not built the original release, this build was approached without prior knowledge of the kit's foibles. Bring a test-shot, there were no decals included, so these were sourced from Xtradecal.

Rhino upgrades

Several aftermarket enhancement sets, from Aires, Eduard and Aerocraft Models (see panel), were used in this project and it's wise to study the parts and instructions carefully before committing knife to plastic/metal/resin. A plan is

essential, as it often transpires that certain components require additional fettling to ensure the best results and this is particularly true when dealing with resin items. The build order as per the kit instructions may also need to be altered, so it's always a good idea to check well ahead.

The first area to receive aftermarket attention was the cockpit tub, and here Eduard's FG.1 Phantom set (73625) was ideal. The pre-painted photo-etched (PE) brass parts fitted perfectly and provided far greater detail than would be possible by brush-painting alone. While the kit seats were adequate, purists may wish to replace them



◀ Overview of the new parts as provided on Frame H, which included new non-slotted stabilisers, SUU-23/A gun pod, single-stage nose undercarriage leg, strike camera and EMI reconnaissance pod.



with resin items, but here it was decided to go with the styrene seats...plus added PE and masking tape enhancements. Reference photos of Martin-Baker Mk.7A seats were vital when adding the detail, after which they were painted Tamiya XF-69 NATO Black, followed by an Abteilung 502

ABT007 Raw Umber oil wash...highlights were added via Mr. Hobby's H315 FS 16440 Gray.

Vive la difference

A separate Runner H was included for the new FGR.2-associated parts, which enabled an interceptor, ground attack

or reconnaissance airframe to be built. For the latter, a highly detailed EMI camera/radar pod was included, along with a strike camera, while ground-attack airframes benefited from an SUU-23/A gun pod and free-fall bombs. The simpler single-stage nose undercarriage and non-slotted elevators were also present. As with the FG.1, two underside centre-sections were included, one with the later strengthening braces and one without. The detail in this area looked appropriate and matched contemporary photos.

However, there was one small oversight by Airfix on the 370gal (1,682lit) wing drop tanks. These were fitted with strengthening strips along the length of the centre sections and while they moulded integrally on the kit parts, they were 'handed', whereas they should be just on the left side. It was a simple matter of removing the right-hand strip with a scalpel blade and fitting a new one from 20-thou (0.5mm) plastic strip.

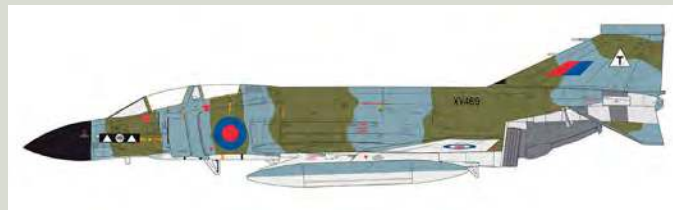
Replacements were also sourced for the kit wheels which, while being adequate, lacked the finer detail offered Eduard's resin items (672174). These included delicate tyre tread and wheel hub/brake disc detail, but also raised 'Goodyear' logos on the sidewalls. A full set of self-adhesive paint masks was also included.

Another minor issue with Airfix's Phantoms is the omission of prominent louvres running along the upper and lower sides of the engine intakes, plus those at the rear (above the exhaust nozzles) to assist cooling. While this has been addressed somewhat with the inclusion of appropriate

KIT SCHEMES

Airfix supplies schemes covering most of the FGR.2's service, featuring disruptive camouflage, low-vis grey and special (overall blue) display schemes:

- XV466/D 'Desperation', 1435 Flight, RAF Mount Pleasant, Falkland Islands, 1991
- XV469/T, II (AC) Sqn, RAF Laarbruch, Germany, 1972
- XV408/Z, 19 (F) Sqn, RAF Wildenrath, Germany, 1992



MODEL SPEC

McDonnell Douglas Phantom FGR.2

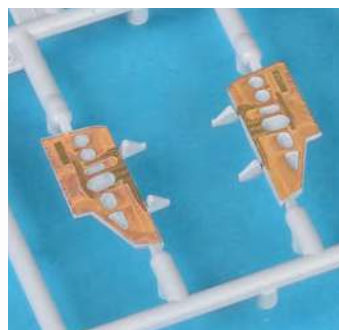
By: Airfix

Stock Code: A06017

Scale: 1/72

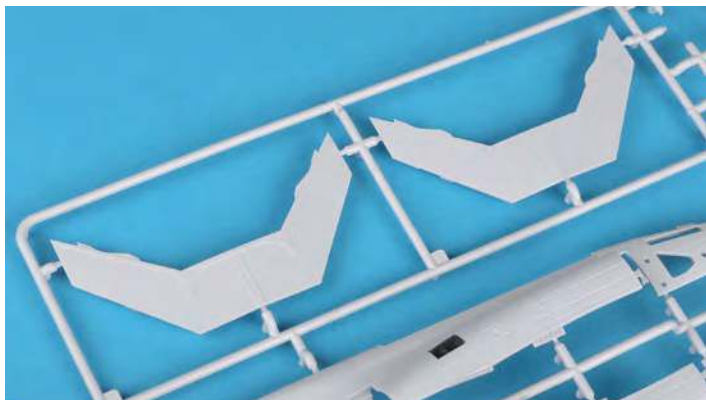
Price: £24.99

Available from: www.airfix.com



▲ Eduard's PE additions fitted perfectly, as can be seen with the airbrakes and their associated bays. The same applied for the wheel wells which, after washing and dry-brushing, really looked the part.





▲ Two styles of underside mainplane sections were included, the initial- (right) and later-style (left), which had a reinforcing strip added along the aft panel lines.

decals to replicate these areas, these weren't available for this build, so other solutions were sought. Eduard's PE substitutes required considerable delicate surgery to the kit styrene, so Aerocraft Model's resin parts were acquired instead (see panel).

All hanging out

It was decided to finish the aircraft in the 'down and dirty' configuration with drooped flaps, slats, airbrakes and deployed in-flight-refuelling probe, as well as an open cockpit and partially opened engine auxiliary air doors. Thankfully, all these options are supplied by Airfix, removing the need for cutting and re-shaping of any kit parts.

A noticeable weakness with the original release concerned the Spey jet pipes and exhaust

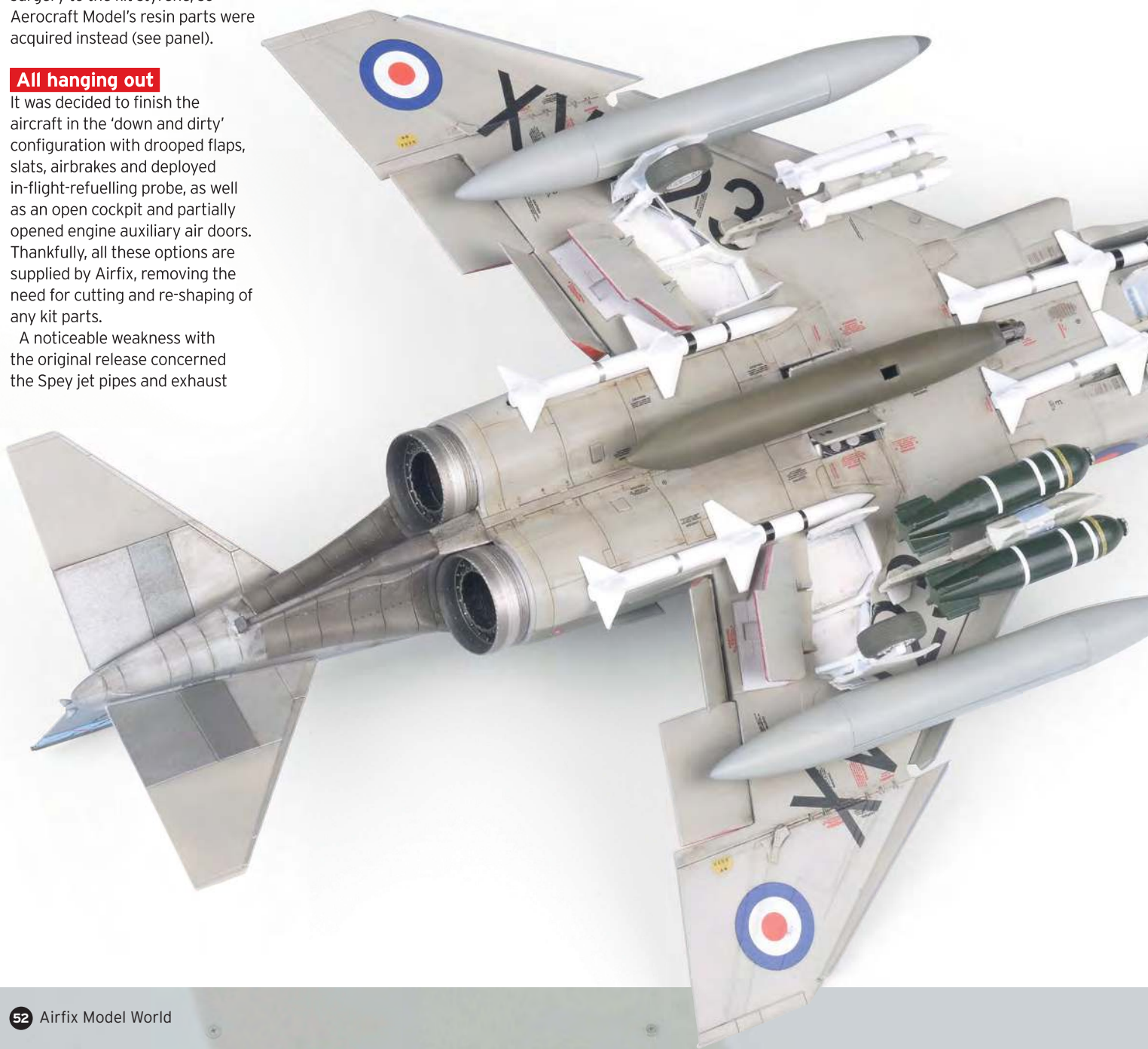
nozzles. The former had a strange 'stepped' appearance, which wasn't representative of the real engines, therefore suitable replacements were sourced. Two resin options

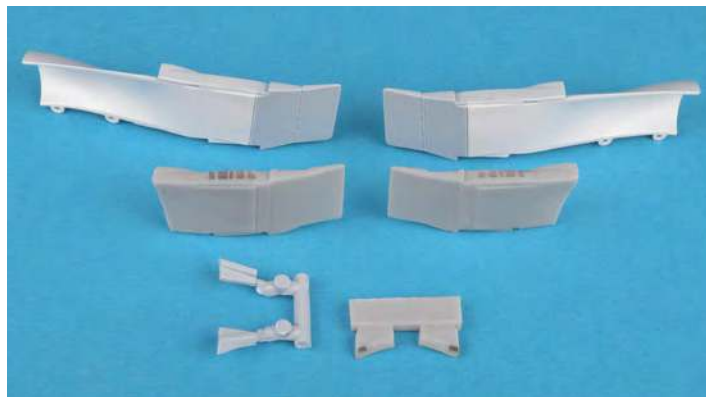


▲ Airfix's drop tanks featured 'handed' strengthening strips, which should be fitted to just the left side; this was remedied easily with a sharp knife and styrene strip.

were available for this project, one from Czech-firm Aires (7358) and the other from Aerocraft. While the latter's offerings were well defined (with commendably

thin nozzle edges), it was decided to opt for the former's more complex set, which included nozzle petal details, longer jet pipes, PE reheat rings and new





▲ A comparison between Airfix's intake ramps (top) and Aircraft's replacements (centre), plus fuselage vents (bottom); the kit components required cutting to fit the new items.

engine rear compressor faces. Detail surrounding the nozzles was superb and easy to paint, whereas Aircraft's Speys (which come as a pack of four – sufficient for two models) were smooth, albeit much improved when compared to the kit components.

Fitting the longer Aires jet pipes required removal of the integrally moulded auxiliary air boxes from each fuselage half, as these fouled the resin parts. A Dremel

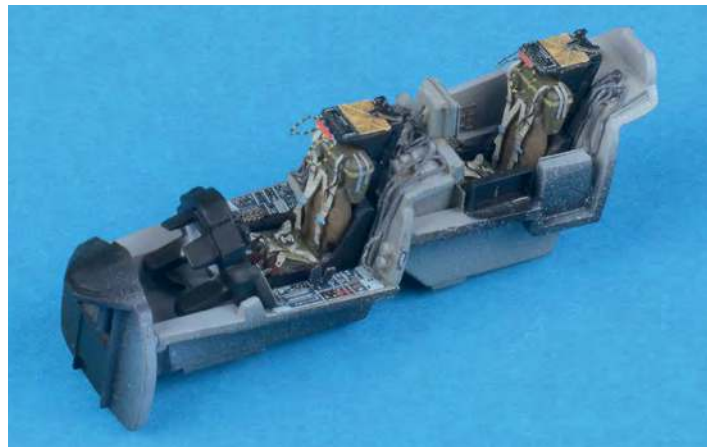
tool with grinding head, set to a slow speed to avoid melting the plastic, expedited this task. The inner fuselage sides were then sanded with 800-grade Wet and Dry abrasive paper, and Aires' parts inserted to check for clearance issues. This basic surgery allowed the completed exhausts to be slid into the rear fuselage after assembly, minimising the risk of accidental damage during painting.

Combat load

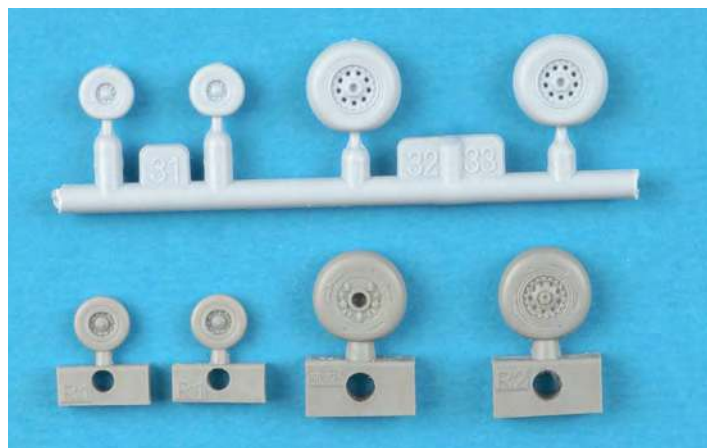
Airfix included a full suite of air-to-air and air-to-ground weapons, which included four AIM-9 Sidewinders, four AIM-7E Sparrows/Skyflash and four 1,000lb (454kg) bombs. These were basic representations,



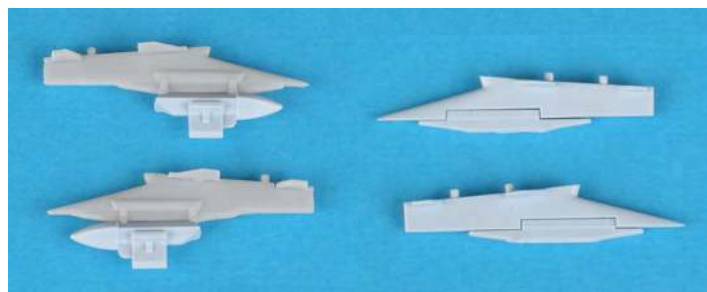
▲ It was decided to add aftermarket nozzles rather than retain the kit items with Aires' products favoured over Aircraft's, although the latter's pylons were used.



▲ After priming the cockpit tub, it was sprayed XF-69 NATO black and then Eduard's pre-painted PE components were secured with Gator's Grip PVA glue; the seats were enhanced with harnesses and firing handles.



▲ While the kit wheels were more than adequate, Eduard's Brassin items provided much finer detail to the tyre tread, wheel hub and brake areas. Even the 'Goodyear' legends on the sidewalls were present!

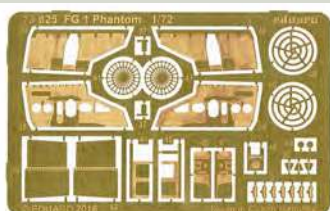
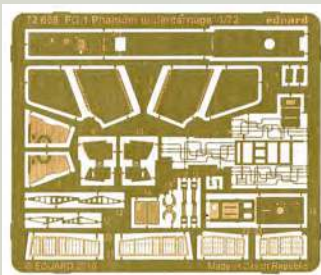


▲ The kit's inner pylons were devoid of detail and this was redressed by Aircraft's resin replacements, which featured fine panel lines, along with separate pylon/wing braces.

ALL THOSE EXTRAS...

Two of Eduard's PE products were provided for this project. The first (73625) included parts for the cockpit, airbrakes, auxiliary air doors and afterburner rings – the pre-painted instrument panels made colouring the 'office' a breeze. Undercarriage and airframe detail was supplied in 72668, including various bays and louvres for the upper and lower engine intakes splitter plates.

Aircraft Models (www.aircraftmodels.bigcartel.com) is a relatively new company, founded by Ali McLean of Alley Cat fame, and offers three excellent resin accessory sets for Airfix's Phantom. These focus on the intakes (with accurate upper and lower louvres and ramp-face detail) and rear cooling vents, pylons (replacement wing units and Sidewinder rails), and exhausts (new jet pipe nozzles). All are designed as direct substitutes for the styrene parts, though a certain amount of surgery was required for the first product.





with a case in point being the Sparrow control fins, which were rather thick, so these were thinned with a sharp scalpel and sanding stick. The decision was also made to swap the somewhat standard ordnance for something more interesting and having consulted the Editor-at-large (who worked on Phantoms in a previous life), decided upon three Lepus flares and two BL-755 cluster bombs as

observed on FGR.2s in the early 1970's. These items were kindly donated from the Editor's spares box. The SUU-23/A gun pod was moulded accurately and included a separate gun barrel, but Airfix suggest this should be fitted prior to the halves being mated. This seemed odd, as it made sanding the seams without damaging the barrel awkward, so the locating plug was removed, which allowed

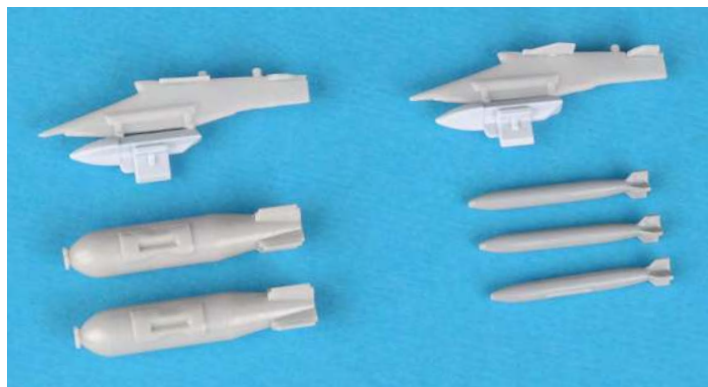
the part to be added after the pod was assembled and the joins tidied.

Tactical scheme

Once satisfied with the fuselage and wing seams, Alclad's ALC-302 Grey Primer and Microfiller was applied to the upper surfaces and ALC-306 White to the undersides. Both were then wet-sanded with 4,000-grade Micro-Mesh cloth until a smooth, glossy surface was

achieved. This was followed by pre-shading with Mr. Paint's MRP-272 Graphite along certain panel lines and random areas surrounding engine panels, flying surfaces and doors. While it isn't my favoured shading technique, time constraints for the project required this quicker method.

The MRP-113 Dark Sea Grey base coat was applied in a random pattern, allowing the pre-shade



▲ As this was to be a 6 Squadron aircraft, it was decided to fit three Lepus flares and two BL-755 cluster bombs onto the triple ejector racks for a night training sortie, as seen on several reference photos (see p.61).



▲ A Dremel tool fitted with a grinding wheel was used to remove the integrally moulded auxiliary intake 'boxes', to create space for the aftermarket exhausts. A slow setting was necessary to avoid melting/deforming the plastic.



A dry fit of the major fuselage components highlighted any clearance issues, but everything assembled as advertised. The note on the rear of the fuselage was to remind me to remove the of the auxiliary air inlet inners to accommodate Aires' exhausts.

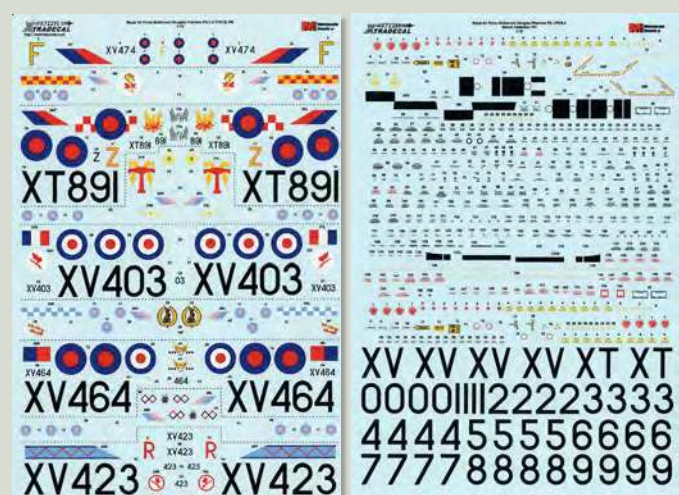


The extra length of Aires' jet pipes was the cause of this surgery, and after minor fettling they fitted snugly.

MULTIPLE 'TOOMS

Given the lack of kit decals, alternative markings were sourced from Xtradecal, with the multitude of airframe data/warning placards provided by its RAF McDonnell Douglas Phantom FG.1 FGR.2 Stencils Pt.1 sheet (X72288). After much consideration, X72295 RAF McDonnell Douglas FGR.2 Phantom Pt.6 was selected, as it offered the option of several early airframes with the 'smooth' vertical fin (no radar-warning receiver fitted). The nine schemes were:

- XV403/403, 6 Sqn, deployed to Luqa, Malta, 1969
- XV422/J 'Jaguar Killer', 19 Sqn, detached to Sardinia, 1989
- XV464/464, 14 Sqn, Coningsby, 1974
- XV401/B, 228 OCU/64 Sqn, 1988
- XV474/F, Aldergrove (paint trial), 1978
- XV498/U/4000, 92 Sqn, detached to Akrotiri, 1989
- XT891/Z, 56 Sqn, Wattisham, 1978
- XT865/U, 111 Sqn, Leuchars, 1980
- XV423/R, 6 Sqn, Coningsby, 1974



to show through. Thankfully Mr. Paint lacquers are extremely thin and easy to apply, and patience is required to build the layers gradually

to achieve a finish that doesn't obscure the finer details. To add tonal interest, various panels and doors received a lightened mix (by adding drops of white), and MRP-112 Medium Sea Grey was misted onto random panels. The dark green disruptive pattern was applied in a similar fashion, with

Deluxe Materials' Perfect Plastic Putty filler tidied the fuselage seams and around Aerocraft's replacement cooling grilles, Spey nozzles.



MRP-110 RAF Dark Green as the base tone. These colours were then unified by airbrushing a very light coat of heavily diluted X-19 Smoke.

Detail painting included the navigation lights, after which focus shifted to the Phantom's characteristic rear fuselage natural metal panels. A variety of paints were employed to replicate their appearance, with a base layer of AK Interactive's AK488 Matte Aluminium, followed by AK465 Dark Aluminium and AK482 Duraluminium on specific panels. The heat-stained area in front of the exhausts was treated similarly, with MRP-81 Anodized Aluminium base augmented by light applications of AK486 Jet Exhaust and MRP-272 Graphite. Soot staining was created with Ultimate Modelling Products' clay-based Dark Dirt wash; once this had dried, any excess was removed with a moist paper tissue,

rubbed in the direction of the airflow. Lastly, a mixture of ALC-411 Hot Metal Red, ALC-413 Blue and ALC-417 Violet was airbrushed lightly over the metallic areas to emulate further heat effects. After allowing 24 hours for the paint to cure, the model received several light coats of Mr. Color GX-100 Super Clear III gloss, diluted in a 1:2 ratio with Mr. Color Leveling Thinner. A very fine-grade sanding stick was then rubbed gently over the surface to remove any grit or imperfections, before beinguffed again with a UMP polishing sponge in preparation for decaling.

New clothes

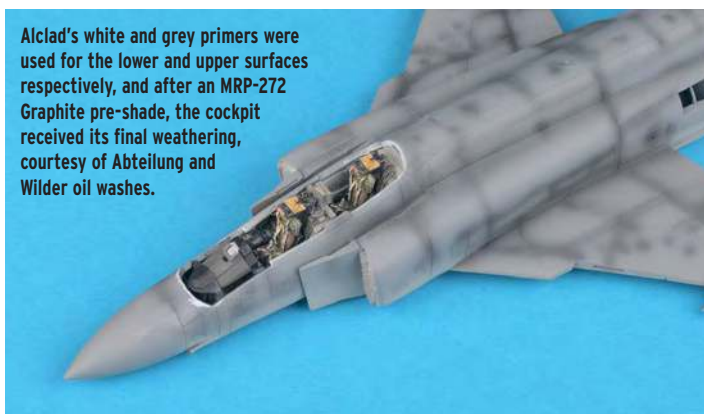
Early in the project, it had been decided to opt for a 6 Squadron airframe, based at RAF Coltishall in 1974 (see panel) which, to my eyes, was among the most attractive applied to any Phantom of the period. While the main decals



With filling and sanding complete it was time to prepare the model for priming; the optional single-piece canopy was secured with masking tape, and the delicate fin pitot probes were covered to protect them.



Alclad's white and grey primers were used for the lower and upper surfaces respectively, and after an MRP-272 Graphite pre-shade, the cockpit received its final weathering, courtesy of Abteilung and Wilder oil washes.



were applied without issue, there was a problem concerning the stencils that required serious head scratching. The side and upper views were logical and easy to follow, but the small supplementary underside location guide didn't appear to relate to the decal numbers. After some deliberation, it was decided to try and match as many of the decals to the location guide as possible and in this instance, some 90% of the decals could be applied.

All decals reacted well to setting-solutions, in this case, Micro-Set and Micro-Sol, and they bedded in well to the fine surface detail. Thoughtfully, separate serial codes were included for the wing undersides, minimising the possibility of silvering, though care must be taken to assure

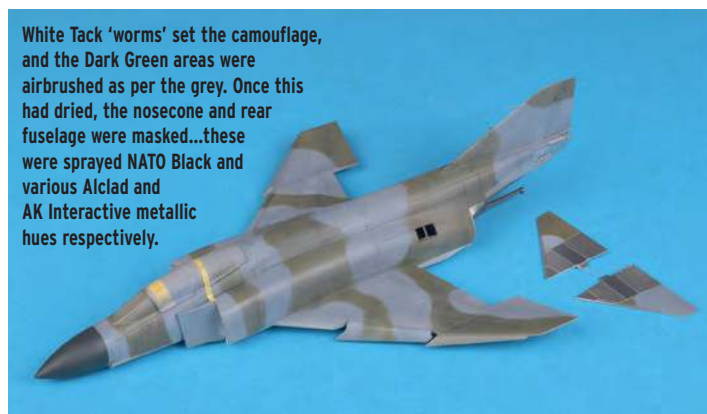
the correct orientation. With all decals applied, it was time to apply a matt varnish and for this ALC-313 Klear Kote Matte was sprayed via airbrush at approximately 15psi (1bar), and the model was set aside for 48 hours to dry thoroughly before weathering.

The external stores were the final items to receive decals. The Lepus flares received X-1 Gloss White, plus



▲ Thin layers of MRP-113 Dark Sea Grey were applied as a base tone – highlights were created by adding drops of white to the original hue, and airbrushing random patches of MRP-112 Medium Sea Grey.

White Tack 'worms' set the camouflage, and the Dark Green areas were airbrushed as per the grey. Once this had dried, the nosecone and rear fuselage were masked...these were sprayed NATO Black and various Alclad and AK Interactive metallic hues respectively.



strips of self-adhesive silver Solar Film in accordance with reference photos, while the BL-755s were bronze green with yellow 0.5mm Azia tape applied to their noses and white decal strips added to represent the sling guides. Lastly, the four overall white Sparrows each received H-51 Light Gull Grey seeker heads and black/silver Solar Film stripes.

Weathering

Phantoms were dirty beasts at the best of times and the RAF version was certainly no different. Reference photos indicated showed substantial accumulations of muck and grime around access panels and wing pylons, with the under-fuselage engine panels being





notably stained. Undercarriage bays, beneath the wing flaps, slats and airbrake bays also seemed to be heavily affected by airflow-affected grime. Weathering commenced with a wash of heavily diluted ABT007 Raw Umber, applied along the underside panels and around areas where hydraulic and engine oils would leak. The same firm's ABT510 Starship Filth was then applied to flap and slat hinges and, once dry, the oils were blended into the surface via a cotton bud moistened with ABT112 Matt Effect Thinner.

Strike package

An accurate 1/72 Phantom FGR.2 has been high on many modellers 'must have' lists ever since it was announced by Airfix. However, having built several of the firm's superb new releases, including the Victor,

Whitley, Wellington and Mitchell, I was left a little disappointed with the Phantom. The fit was awkward in a few places, the panel details

a little heavy-handed and vague for the scale and it was felt that the omissions (although small), did detract somewhat from the overall impression. However, if one is prepared to take the time and occasional expense to redress these issues, it builds into a fine model and as such is highly recommended to all.



▲ The sheer number of stencils was impressive. The only let down was the Xtradecal location guide didn't match the decal numbers on the sheet. However, this was overcome by matching them to the images on the supplementary diagram...time-consuming, but effective.



▲ A combination of thinned oils and UMP's Dark Dirt clay wash was applied to sooty areas on the airframe, paying particular attention to areas around the engine exhausts and centreline gun pod.



▲ And now for something a little different. As a change from the kit's bombs, it was decided to opt for a night-attack fit of Lepus flares and BL-755 cluster munitions.



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A Phantom in its element at altitude; this 6 Squadron airframe (XV432) carries a full complement of six SNEB pods, plus what appears to be three live AIM-7E2 Sparrow missiles, strike camera and centreline SUU-23/A gun pod. (All photos Chris Bolton unless stated)



FLYING 'CAN-OPENERS'

Former RAF 6 Squadron pilot **Chris Bolton** describes how the unit employed its Phantom FGR.2s in the 'mud-moving' role

It's a rare honour for a squadron to be selected as the first operational unit for a new aircraft type, but this was the case with 6 Squadron and the Phantom FGR.2.

At the time, many of its pilots were ex-Day Fighter Ground Attack (DFGA) Hunter guys – with the emphasis heavily on

the 'D'. In the Hunter days, a determined pilot could land from his monthly night continuation flight, just after sunset.

Training hard

The F-4 was a very versatile platform for weapons delivery and in the early days with 38 Group (part of RAF Strike



▲ Flight Lieutenant Chris Bolton, during his time as an exchange pilot flying with the Royal Navy on HMS Ark Royal.

Command), we practiced extensively, by day, with SNEB rocket pods, 20mm cannon and free-fall/retarded 1,000lb (454kg) bombs. Although the Phantom was equipped with an inertial navigation and attack system (INAS), weapons delivery was still very much a hand-and-eye event. The INAS was a primitive analog system, with massive terminal errors and rudimentary ballistics plugs. Despite these aircraft limitations, the Allied Command Europe (ACE) standard for free-fall 1,000lb bomb accuracy was 30ft (9m) from the target reference point, highlighting the degree of skill required from crews.

The squadron was detached twice annually to the NATO base at Decimomannu, Sardinia, for Armament Practice Camp (APC), as part of the rigorous training to achieve these requirements. These were focussed purely on weapons delivery, and the concentrated practice with 20mm cannon, 68mm rocket projectiles (from SNEB pods), free-fall and retarded bombs enabled most of us to achieve reasonable standards – remember, this was long before the advent of laser- or GPS-guided munitions in the RAF. A summer month in Sardinia



▲ One for fans of weathering; this line-up of 41(F) Squadron FGR.2s highlights the retouched paintwork along panel joins, with matt, rather than the original gloss paint employed. (Denis J Calvert/I-AP)

offered a distinct plus for leisure time...the winter month less so. The German Luftwaffe was also a regular attendee, and its personnel were great company, although we did occasionally argue about whose turn it was to have the Italians in the next war.

Night attack transition

Regular weapons training was maintained during normal flying routines when based at RAF Coningsby. Practice munitions were loaded and visits to a wide variety of ranges were incorporated into instructional sorties. As an example, a 90-minute low-level navigation flight could culminate in a single-pass bombing run at Wainfleet, Lincolnshire, which was mere minutes from Coningsby.

Simulated weapons drops were a part of everyday life. A huge range of approved targets were used, and the quality of the attack could be assessed during post-mission debriefings, using strike camera footage. By about 1972, 6 Squadron was tasked with working up for self-illuminated night ground attack, using Lepus flares for illumination. For we DFGA types, the prospect of frequent night flying was horrific...after all, the mess bar opened at 1800hrs! The more cynical among us thought it was a ploy by the Squadron CO to get an award. No such thought



▲ This pair of 6 Squadron Phantoms (XV481/E and XV490/M), at Coningsby in 1974, both sport strike cameras in the forward port missile bay; note the 228 OCU/64(R) aircraft in the background (left). (Denis J Calvert/I-AP)

crossed my mind.

Initially we underwent training in simulated conditions to establish roughly what could be seen under this illumination at varying ranges, visibilities, and numbers of flares. This enabled our weapons experts to plan methods of attack. After a fairly short period we settled on a five-aircraft formation, nicknamed a 'Magic Circus'. The lead ship carried just flares, while #2 carried both flares and weapons, such as free-fall/retarded bombs or SNEB rockets... the remaining three aircraft carried just weapons.

Illuminated sorties

Take-off was in 10-second stream and transit to the selected range

was in 2nm (3.7km) radar trail, at 500ft (152m) above ground level. Radar prediction maps were employed, but these were only reliable at the specific height for which the prediction was made.

Initially, sea targets were large buoys with radar reflectors. The lead flare ship would dive in at 450kts (833kph) and 500ft, and at 2.5nm (4.6km) from the target, he would initiate a brisk 4G pull-up, releasing flares at pitch angles of 30, 35 and 40°. The pilot would then overbank to starboard immediately to kill the climb, reverse into a port turn onto a pre-briefed escape heading and depart. This aircraft carried six Lepus flares on two Carrier Bomb Triple

Ejectors (CBTEs) and could thus illuminate twice, while Number 2 carried three flares, plus practice weapons. In summary, each Magic Circus executed three attacks.

Each of the three flares had slightly different timings in free flight, before their parachutes opened and they illuminated the target. If all went according to plan, they would straddle the intended aim point. Subsequent aircraft also pulled up at the same distance as the lead, to identify the target visually. On acquisition, a very rapid decision was made as to which weapon to employ. For example, was the aircraft too low for a free-fall bomb, in which case a retarded munition was the



Two RAF squadrons, 2 (AC) and 41 (F), conducted tactical reconnaissance and carried the huge EMI pod, which was packed with cameras, infra-red line scan gear and side-looking airborne radar, as in this 1973 photo of 2 Squadron's XV430/S.

(Key Collection)



When 6 Squadron first received its Phantoms, they didn't wear the fin-top blue band with zig-zag pattern, as exhibited here by XV461; these machines were finished with gloss paint. Note the early style practice bomb carrier on the inboard pylon.

right thing...or perhaps SNEB rockets should be opted for instead? Decisions, decisions. Then select the appropriate weapons switches. Stub out cigarette. Put on gloves, and don goggles. The pilot then manoeuvred the aircraft into the correct dive angle, heading and speed; this was a brief period of intense activity. With practice (or luck), a good weapons solution was achieved, and it would be released in an approximately 20° dive, before a 4G recovery onto a pre-briefed egress heading. At this point, the aim would be to look on the radar for the leader or preceding aircraft.

No plan survives...

In an ideal situation, all five aircraft would again be in a long line astern, but this was a very rare event indeed. What stopped it being ideal? One strange and disorientating phenomenon was the 'ghost flare', whereby the light of one flare cast shadows from another within a 'goldfish bowl'. On occasion the ghosts could appear suddenly, causing the pilot to jink in avoiding action. As each aircraft recovered from its respective attack, the number of individual escape headings could vary considerably. Chaos could then ensue as the formation tried to recover some semblance

of the briefed requirements... the weather could add to the problems for obvious reasons.

Aircraft serviceability was a major factor, as the flare ships had to have serviceable radar to identify the target. Radar was highly desirable for the attack aircraft, but time and heading would get them to roughly the right place. Eyeballs then took over, as the flares could generally be seen from a great distance.

Surprising a 'visitor'

One of these 'Flying Circuses' springs to mind from the mists of time. Firstly, we had five aircraft available for the sortie, which

was no mean achievement by the engineers after a full day-flying programme on what (for its time), was a complex aircraft. The briefing provided the usual comprehensive coverage of all the flight details. While the weather wasn't wonderful, it was sufficiently good enough not to cancel, and the target was near the former RAF Jurby, on the Isle of Man, which entailed a low-level transit each way. On this occasion, an easterly wind dictated taking off on runway 08 at Coningsby. Somehow one of the stream turned too early (or perhaps another turned too late), and the fact one aircraft had an unserviceable radar didn't help, so who was who remained a mystery behind the leader. Confused radio calls between various formation members failed to resolve the matter, and then poor weather forced us to climb. Once this cleared, the formation let down again to Safety Height and re-established ground contact. But the show had to go on, and the leader/flare ship released the Lepus at the appropriate point and time. When it came time for the first attacker to approach, instead of a clear range, he was presented with a small merchant vessel in all its glory, it having transited into the danger area despite the national warning system Notices to Airmen



▲ Similarly, 54 Squadron's XV478/0 displays a patchy appearance as it taxis at RAF Coningsby for a training sortie. (Denis J Calvert/I-AP)

(NOTAMs) to all relevant parties. This trespasser then witnessed the unexpected impact of small bombs under a sky suddenly lit by three mini-suns, although it was never in danger from the 28lb smoke and flash bombs, or inert 68mm rockets.

But that's just the basic practice stuff. As we improved, we used land ranges after long low-level transits, and graduated to live 1,000lb bomb drops. One weather abort at West Freugh, southwest Scotland, forced the aircraft to jettison the weapons into the sea, as landing back at Coningsby with fully armed munitions was

not judged safe. Due to armourers having 'bodge-taped' the arming wires onto the CBTEs, some of the released bombs detonated on impact with the water, which perhaps understandably rather irritated the West Freugh Range Safety Officer.

Had we needed to employ this night delivery system in anger, the lead flare ship would have tossed three pairs of flares, which would greatly increase the illumination over the target. The following four aircraft would then attack from different directions at approximately 30-second intervals and egress on different



▲ Down on the range. An early 6 Squadron FGR.2 (possibly XV461) fires 68mm rockets at a target. It's also equipped with practice bombs, a centreline gun pod, strike camera and Sparrow training round.



Arguably one of the RAF's most famous Phantoms, XV495/X 'Brewer's Droop', with its shark mouth artwork, was a 41 (F) Squadron jet when this photo was taken in 1976, loaded with four 1,000lb concrete-body practice bombs. The black panel on the intake ramp listed the recovery crew sent to Akrotiri, Cyprus, to recover the airframe after it was damaged in an accident. (Denis J Calvert/I-AP)



▲ How's this for modelling inspiration? Phantom FGR.2 XV420/H wears 6 Squadron markings and is loaded with Lepus flares, BL755 cluster munitions, AIM-7E2 Sparrows and a centreline gun pod.

headings. As may be imagined, the effect of up to 24 free-fall or retarded 1,000lb bombs exploding on/near the same spot would throw up serious amounts of debris, presenting risk of damage to the final three attackers. Thankfully, we never found this out in anger.

Two-seat swansong

All too soon, the Phantom's ground-attack days came to an end and Jaguars took over the role. I had thought F-4 self-illuminated night ground/sea attack was sweat inducing, but the Jaguar pilots had to do it all in single-seat machines. As for me? I went on exchange to the Royal Navy, where it had rid itself of Glow Worm (3in flare rockets) and acquired Lepus. A wheel to be reinvented!



- 1 Glass-fibre radome, hinged to starboard
- 2 Radar scanner
- 3 Scanner mounting and tracking mechanism
- 4 Radar mounting bulkhead
- 5 Nosewheel leg extending pneumatic bottles
- 6 AWG-11 (FG.1)/AWG-12 (FGR.2) radar equipment module,
- 7 Angle-of-attack transmitter
- 8 Air-conditioning system ram-air heat exchanger intake
- 9 Temperature probe
- 10 Deck approach lights (FG.1)
- 11 Nosewheel leg door
- 12 Offset torque scissor links
- 13 Twin nosewheels, aft retracting
- 14 40in nosewheel leg extension for catapult launch (FG.1)
- 15 Hydraulic steering wheel
- 16 Nosewheel leg strut
- 17 Nosewheel bay door
- 18 Avionics cooling system equipment, cabin conditioning to starboard
- 19 Cockpit front pressure bulkhead
- 20 Rubber pedals
- 21 Control column
- 22 Instrument panel shroud
- 23 Windscreen panels
- 24 Pilot's optical display
- 25 Disposition of internal fuel tanks, total system capacity 1,545 gal (7,025 lit, 1,855 US gal)
- 26 Flight refuelling probe, extended
- 27 Probe actuating arm
- 28 Forward cockpit canopy, upward hinging
- 29 Ejection seat face blind-firing handle
- 30 Pilot's Martin-Baker Mk.7 ejection seat
- 31 Canopy external latch
- 32 Port side console panel with engine throttle levers
- 33 Front cockpit floor level
- 34 Kick-in boarding steps

- 35 Forward AIM-7E Sparrow, air-to-air missile, semi-recessed carriage (FG.1 and FGR.2)
- 36 Extended boarding ladder
- 37 Boundary layer splitter plate
- 38 Boundary layer diverter
- 39 Avionics equipment racks
- 40 Intake ramp boundary layer bleed-air perforations
- 41 Intake front ramp
- 42 Port engine air intake
- 43 Intake rear ramp
- 44 Liquid oxygen converter
- 45 Variable area intake ramp jack
- 46 Hydraulic reservoir
- 47 Intake ramp bleed air spill louvres
- 48 Rear canopy external latches
- 49 Navigator's instrument console
- 50 Fixed centre arch and canopy hinge point
- 51 Rear cockpit canopy cover, upward hinging
- 52 Starboard external fuel tank
- 53 Navigator's Martin-Baker Mk.7 ejection seat
- 54 Gyro unit
- 55 IFF antenna
- 56 Rear avionics equipment bay
- 57 Control cables runs
- 58 Boundary layer spill duct
- 59 Intake duct framing
- 60 No.1 fuselage fuel tank
- 61 Engine bleed-air ducting to conditioning system and boundary layer control (BLC) system
- 62 Position of pressure refuelling connection to starboard
- 63 Catapult strop support fitting (FG.1)
- 64 Wing centre-section carry-through structure
- 65 Spar attachment fuselage main frame

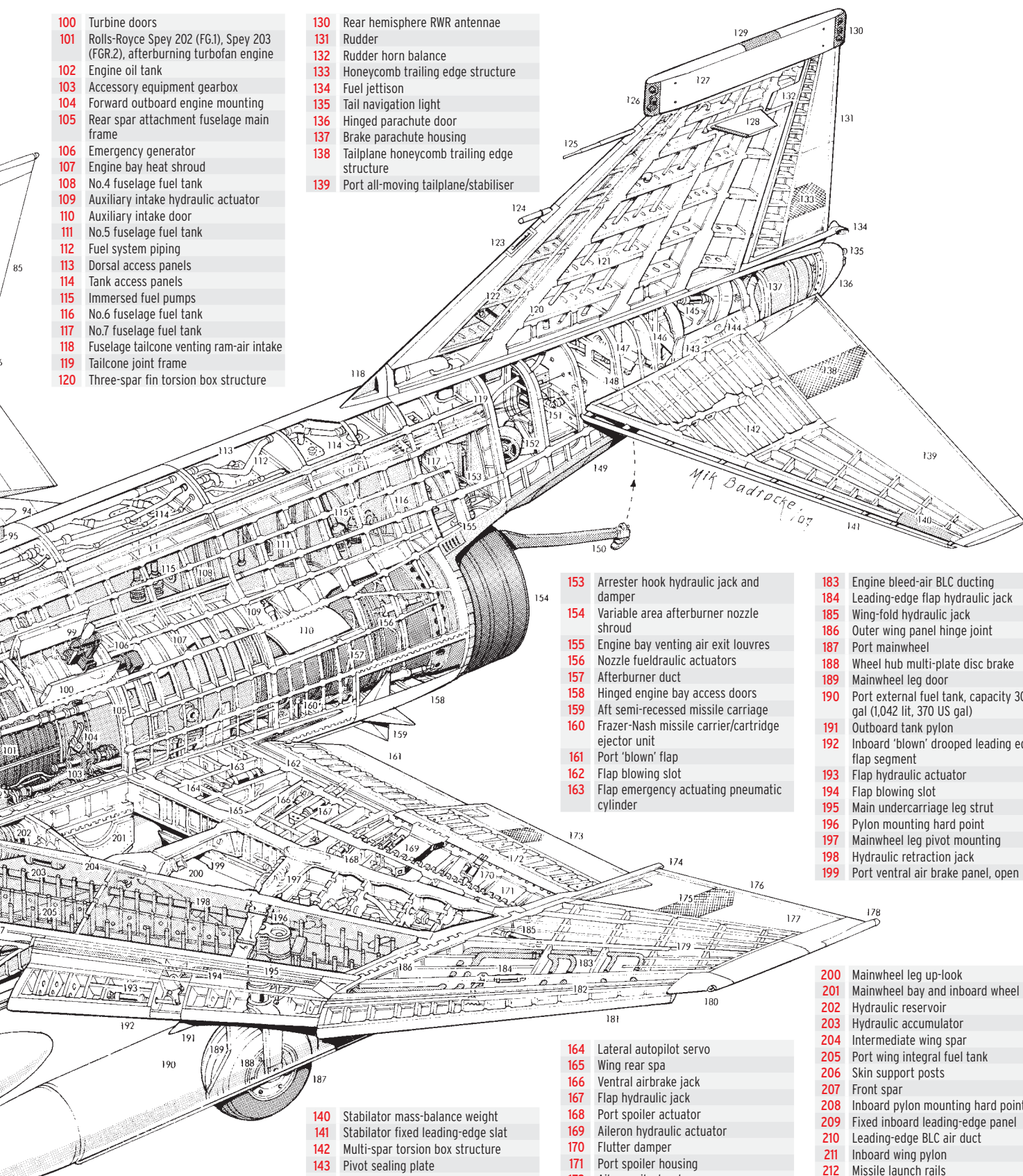
- 66 Fuel transfer pipes
- 67 Fuel system feed and vent piping
- 68 Engine intake casing
- 69 Low pressure compressor
- 70 Fuselage main frame
- 71 No.2 fuselage fuel tank
- 72 Fuel system piping
- 73 Starboard main undercarriage pivot mounting
- 74 Starboard wing integral fuel tank
- 75 BLC air slot
- 76 Inboard blown drooped leading-edge flap segment
- 77 Outboard stores pylon mounting
- 78 Outer wing panel hinge joint
- 79 Wing-fold hydraulic jack and down-lock actuator
- 80 Outer wing panel BLC air ducting
- 81 Outboard 'blown' drooped leading edge flap segment
- 82 Starboard navigation light
- 83 Rear position light
- 84 Dihedral outer wing panel
- 85 Outer wing panel folded position
- 86 Wing tank vent jettison
- 87 Starboard spoiler panels, open
- 88 Aileron flutter damper
- 89 Starboard spoiler drooping aileron, open
- 90 Spoiler hydraulic actuators
- 91 Fuel jettison and vent valves

- 92 Aileron hydraulic actuator
- 93 Starboard ventral airbrake panel
- 94 Inboard 'blown' flap, maximum deflection 60°
- 95 TACAN antenna
- 96 Upper fuselage light
- 97 Fuel tank access panels
- 98 No.3 fuselage fuel tank
- 99 Emergency ram-air turbine (RAT)



- 100 Turbine doors
- 101 Rolls-Royce Spey 202 (FG.1), Spey 203 (FGR.2), afterburning turbofan engine
- 102 Engine oil tank
- 103 Accessory equipment gearbox
- 104 Forward outboard engine mounting
- 105 Rear spar attachment fuselage main frame
- 106 Emergency generator
- 107 Engine bay heat shroud
- 108 No.4 fuselage fuel tank
- 109 Auxiliary intake hydraulic actuator
- 110 Auxiliary intake door
- 111 No.5 fuselage fuel tank
- 112 Fuel system piping
- 113 Dorsal access panels
- 114 Tank access panels
- 115 Immersed fuel pumps
- 116 No.6 fuselage fuel tank
- 117 No.7 fuselage fuel tank
- 118 Fuselage tailcone venting ram-air intake
- 119 Tailcone joint frame
- 120 Three-spar fin torsion box structure

- 130 Rear hemisphere RWR antennae
- 131 Rudder
- 132 Rudder horn balance
- 133 Honeycomb trailing edge structure
- 134 Fuel jettison
- 135 Tail navigation light
- 136 Hinged parachute door
- 137 Brake parachute housing
- 138 Tailplane honeycomb trailing edge structure
- 139 Port all-moving tailplane/stabiliser



- 153 Arrestor hook hydraulic jack and damper
- 154 Variable area afterburner nozzle shroud
- 155 Engine bay venting air exit louvres
- 156 Nozzle fuel hydraulic actuators
- 157 Afterburner duct
- 158 Hinged engine bay access doors
- 159 Aft semi-recessed missile carriage
- 160 Frazer-Nash missile carrier/cartridge ejector unit
- 161 Port 'blown' flap
- 162 Flap blowing slot
- 163 Flap emergency actuating pneumatic cylinder

- 183 Engine bleed-air BLC ducting
- 184 Leading-edge flap hydraulic jack
- 185 Wing-fold hydraulic jack
- 186 Outer wing panel hinge joint
- 187 Port mainwheel
- 188 Wheel hub multi-plate disc brake
- 189 Mainwheel leg door
- 190 Port external fuel tank, capacity 308 gal (1,042 lit, 370 US gal)
- 191 Outboard tank pylon
- 192 Inboard 'blown' drooped leading edge flap segment
- 193 Flap hydraulic actuator
- 194 Flap blowing slot
- 195 Main undercarriage leg strut
- 196 Pylon mounting hard point
- 197 Mainwheel leg pivot mounting
- 198 Hydraulic retraction jack
- 199 Port ventral air brake panel, open

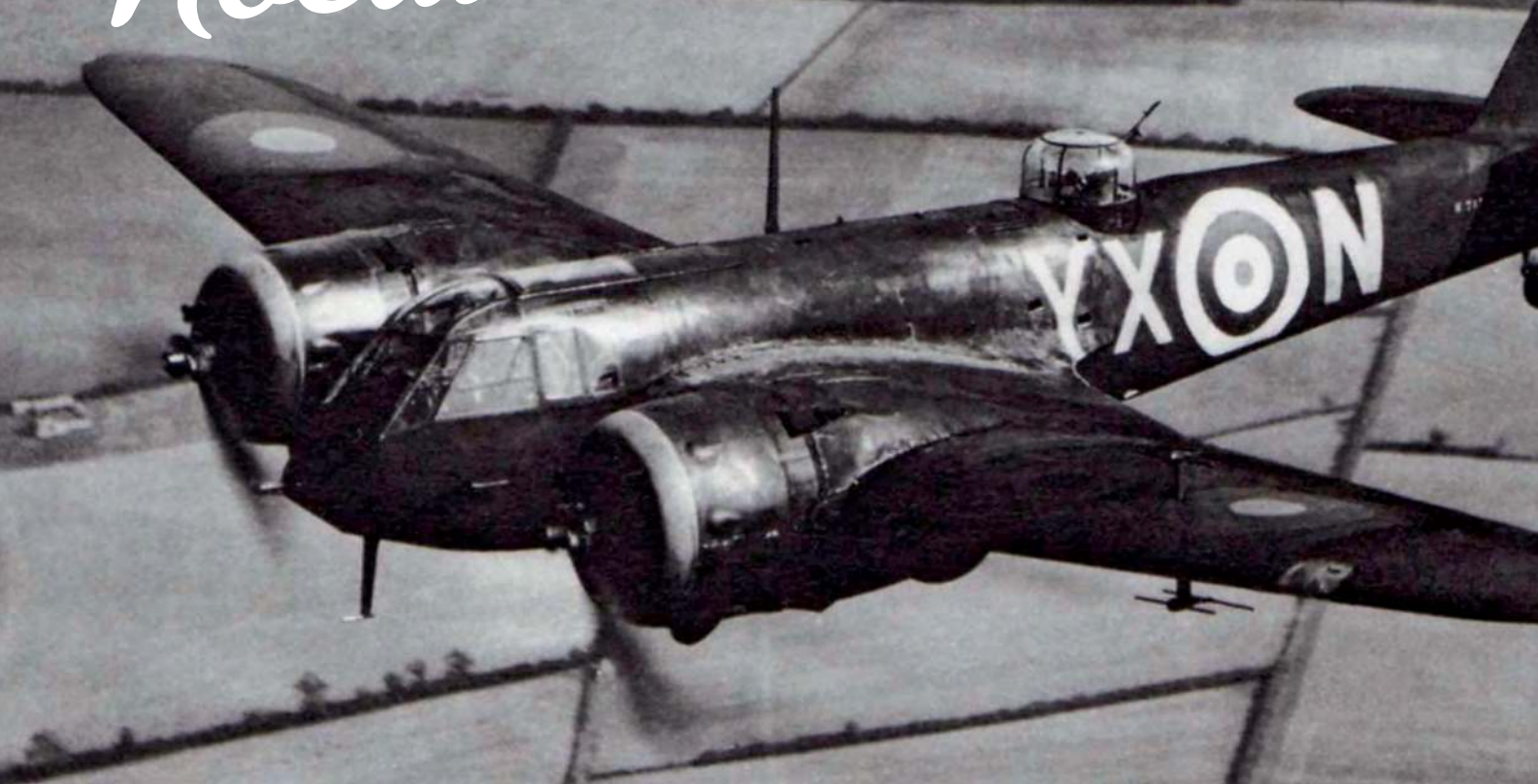
- 121 Fin ribs
- 122 Flush HF antenna (F-4M)
- 123 Anti-collision beacon
- 124 Stabiliser feel system pressure head
- 125 Pitot head
- 126 Forward hemisphere RWR antennae
- 127 Fin tip antenna fairing, Phantom FG.1 (F-4K) and FGR.2 (F-4M)
- 128 ILS localiser antenna
- 129 UHF antenna

- 140 Stabilator mass-balance weight
- 141 Stabilator fixed leading-edge slat
- 142 Multi-spar torsion box structure
- 143 Pivot sealing plate
- 144 Stabilator hinge mounting
- 145 Rudder hydraulic actuator
- 146 Stabilator centre-section and hinge arm
- 147 Stabilator hydraulic actuator
- 148 Fin spar mounting bulkheads
- 149 Heat-resistant titanium blast shield
- 150 Arrestor hook, lowered
- 151 Stabilator feel system balance mechanism
- 152 Feel system pneumatic bellows

- 164 Lateral autopilot servo
- 165 Wing rear spa
- 166 Ventral airbrake jack
- 167 Flap hydraulic jack
- 168 Port spoiler actuator
- 169 Aileron hydraulic actuator
- 170 Flutter damper
- 171 Port spoiler housing
- 172 Aileron rib structure
- 173 Port drooping aileron
- 174 Wing tank venting air jettison
- 175 Honeycomb trailing edge panels
- 176 Port dihedral outer wing panel
- 177 Fixed outboard trailing edge
- 178 Rear position light
- 179 Outer wing panel multi-spar structure
- 180 Port navigation light
- 181 Outboard 'blown' leading edge flap
- 182 Flap blowing slot

- 200 Mainwheel leg up-look
- 201 Mainwheel bay and inboard wheel door
- 202 Hydraulic reservoir
- 203 Hydraulic accumulator
- 204 Intermediate wing spar
- 205 Port wing integral fuel tank
- 206 Skin support posts
- 207 Front spar
- 208 Inboard pylon mounting hard point
- 209 Fixed inboard leading-edge panel
- 210 Leading-edge BLC air duct
- 211 Inboard wing pylon
- 212 Missile launch rails
- 213 AIM-9G Sidewinder (FG.1 and FGR.2)
- 214 Fuselage centreline external fuel tank, capacity 500 gal (2,273 lit, 600 US gal)
- 215 AIM-9L Sidewinder (FG.1 and FGR.2)
- 216 BAe Dynamics Skyflash semi-active radar-homing air-to-air missile (FG.1/FGR.2)
- 217 SUU-23A cannon pod with 1,200 x 20mm rounds, carried on aircraft centreline
- 218 M61-A Vulcan six-barrel rotary cannon

Nocturnal Pioneer



Malcolm V Lowe recounts the story of the early fighter conversions of Bristol's famous Blenheim light bomber, including the type's important night fighting career

One of the significant warplanes that entered service with Britain's RAF during the later 1930s was the Bristol Blenheim. For its time this light bomber was of advanced monoplane design and all-metal construction, and the type was destined to become

highly significant in the RAF's early operations during World War Two.

Developed in the mid-1930s by the famous Bristol Aeroplane Company from a private venture project, the initial example of the Blenheim first flew on June 25, 1936. The original frontline version for the RAF was the Mk.I, with its

distinctive raked-nose profile made up of multiple transparent panels. Initial deliveries to a frontline unit were made to 114 Squadron, in March 1937, during the service's increasingly hurried build-up at that time. The Mk.I was a dedicated light bomber for the nascent Bomber Command, able to carry a

bomb load of 1,000lb (454kg) in its fuselage bomb bay.

Fighter conversion

However, the potential of the Blenheim as a multi-role warplane was not lost on its designers. Similarly, the RAF was developing its own far-reaching fighter requirements during the later 1930s. In particular, the service's on-going re-equipment process was short of a viable long-range fighter, with sufficient endurance to provide cover of the British Isles and its nearby sea lanes. The Blenheim appeared to be a potentially suitable platform for such a warplane, and would be a major advance over the existing multi-seat fighter then in service, the two-seat Hawker Demon biplane. Bristol therefore adapted the basic Mk.I into a fighter. This was a very simple modification, its most obvious effect being the fitting of a gun pack with four fixed forward-firing .303in (7.7mm) Browning machine guns, attached to the lower fuselage in the area of the normal bomb bay. It was designated as the Blenheim Mk.If (the 'F' standing for 'Fighter').

Production of the gun pack itself



An early-war image of a 25 Squadron Blenheim Mk.If, K7090, wearing that unit's wartime fuselage code of 'ZK'. A groundcrew member can be seen sitting on the ubiquitous starter trolley external power source.



The functional lines of the Blenheim Mk.If are obvious in this image of YX-N/ K7159 from the training unit 54 OTU. The partially streamlined gun pack can be seen attached to the lower fuselage. (All Malcolm V Lowe Collection unless stated)

suggest that some 200 Blenheim Mk.I light bombers were modified in this way, but that total appears low considering the number of squadrons that eventually flew the fighter version.

Further development by Bristol of the Blenheim led to the improved and more powerful Mk.IV, with a completely redesigned forward fuselage and modified glazing. Again built primarily as a bomber, some examples were reconfigured to fighter layout as the Blenheim Mk.IVf stable mate and follow-on to the Mk.If.

With a wing span of 56ft 4in (17.17m) and a length of 39ft 9in (12.12m) the Blenheim Mk.I seated a crew of three in its comparatively cramped interior. They comprised the pilot, navigator/bomb aimer or observer, and wireless operator/air gunner. Power for the Mk.I was provided by two Bristol Mercury VIII radial engines, each of 840hp maximum output at 14,000ft (4,267m). These gave a top speed, according to official RAF figures,

of 279mph (449km/h) at 15,000ft (4,572m). Armament for the Blenheim Mk.If comprised the battery of four .303in Browning machine guns below the fuselage with 500 rounds per gun, together with a single .303in machine gun in the Mk.I's normal Bristol dorsal fuselage turret, usually a Vickers 'K' gun. A .303in Browning machine gun was often, but apparently not always, mounted in the port wing.

Operational debut

Although advanced and highly regarded for its maximum speed at the time of its service entry, rapid steps forward in warplane design during the 1930s and into the 1940s rendered the Blenheim Mk.I increasingly vulnerable. The appearance of the Messerschmitt Bf 109 as the Luftwaffe's main fighter, with its excellent performance and firepower, represented a real threat to the RAF's rapidly growing Blenheim force. This was as true for the fighter-configured Blenheims as it

was for the bomber version.

Among the first RAF squadrons to receive the Blenheim Mk.If were 23 and 64, as well as 600 Squadron of the Auxiliary Air Force, during the latter part of 1938 and early 1939. By the outbreak of World War Two in September 1939, the RAF's Fighter Command had 111 Blenheim Mk.If examples on strength, spread over several squadrons; these included 23 (ex-Demon), 25 (ex-Gloster Gladiator), 29 (ex-Demon), 64 (ex-Demon), 600 (ex-Demon), 601 (ex-Gloster Gauntlet), and 604 (ex-Demon).

Fighter Command Blenheims were among the first British aircraft to fly wartime sorties, from September 3 onwards; their tasks included daylight air cover (with Avro Ansons) of British coastal shipping, investigating German maritime movements, and protecting convoys in coastal waters when the convoy system started to be developed. During late November 1939, Blenheim Fighters of 25 Squadron carried

Featured in a series of contemporary air-to-air photographs, this night fighter-configured Blenheim Mk.If K7159 wore the code letters 'YX' of 54 OTU. Noteworthy is the aerial fitting visible beneath the port wing.

was contracted to the Southern Railway's workshops at Ashford in Kent. The RAF carried out much of the conversion work on selected existing Mk.I airframes (not all Mk.I bombers were reconfigured), apparently at several Maintenance Units (MUs), but the exact number is unknown. Several sources



Wearing the 'RX' fuselage code of 25 Squadron, this pre-war Blenheim Mk.If displayed an already-worn appearance, and the commonly light-coloured wing walkway.

A head-on photograph of a radar-equipped Blenheim Mk.If night fighter. The gun pack beneath the fuselage, and the prominent radar aerial array on the port wing, are evident in this dramatic view.



The configuration of the gun pack beneath the fuselage of the Blenheim Mk.If is evident in this view, although the four .303in Brownings aren't installed. Some Blenheim Fighters were initially delivered without the gun pack fitted.

out a famous strafing raid on the Heinkel He 115 seaplane base at Borkum, Fighter Command's first offensive action of the war.

Blenheim Mk.If squadrons were fully involved in meeting the German invasion of France and the Low Countries that began on May 10, 1940. This included raids against German aircraft at various locations in the Netherlands, 600 Squadron from RAF Manston for example shooting up Junkers Ju 52 transports at Waalhaven airfield on that first day but losing five aircraft to marauding Luftwaffe Bf 110s.

Unlike RAF Spitfires and Hurricanes, the Blenheim Mk.If squadrons of Fighter Command were not tasked with the daylight interception of incoming Luftwaffe bombing raids when the Battle of Britain commenced during July 1940. Nevertheless, they continued to play an active and vital role particularly in their established tasks of supporting the Royal Navy for coastal protection and the cover of merchant and naval shipping, maritime surveillance and action against German warships.

This little-known nautical tasking continued to be an important aspect of the fighter-configured

Blenheims well into World War Two, with several squadrons specialising in this role. They included 248 and 254 Squadrons, which often do not appear on lists of fighter squadrons because they were delegated appropriately to the RAF's Coastal Command.

Nocturnal pioneer

It was in the vitally important role of night fighting that the Blenheim Mk.If gained a significant place in

aviation history. On the night of 22/23 July, 1940, Fg Off G Ashfield piloting Mk.If L6836 of the Fighter Interception Unit (FIU), operating from RAF Tangmere with Sgt RH Leyland as radar operator, shot down a Dornier Do 17 of KG 3 over the English Channel. It was the first-ever radar-guided victory achieved at night.

Due to its comparative size the Blenheim Mk.If was a suitable platform for early radar

experimentation, with primitive on-board radar in the form of AI (Airborne Interception) Mk.III gear being successfully tried out, before the more advanced Mk.IV type achieved widespread use. In fact, Blenheims had been employed for nocturnal combat from the early part of the war, with several units (including 23 Squadron) pioneering non-radar 'eyeball-only' interceptions at night prior to the radar sets becoming available - and achieving some non-radar victories. Eventually several Blenheim Fighter units flew with radar-equipped aircraft, but in essence the Blenheim Mk.If turned out to be only an interim night fighter until more powerful types came into service. Many of the night fighter squadrons that used Blenheim Mk.If eventually transitioned onto other types, including the newer and more suitable Bristol Beaufighter, although 23 Squadron pioneered the use of the Blenheim for night-time Intruder sorties over the Continent. However, at this stage of the war, radar-equipped aircraft were not permitted to fly over Occupied Europe on these Intruder forays.



A neat line-up of Blenheim Mk.If fighters wearing the 'NG' codes of 604 Squadron, Auxiliary Air Force, at RAF Northolt. The image was dated April 1940. (John Batchelor Collection)



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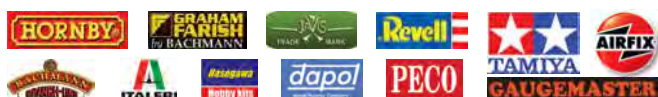
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ALCE101 Matt White	ALCE308 US Vietnam Camouflage Dark Green
ALCE102 Matt Black	ALCE310 Black Tyre Rubber
ALCE202 RLM 02 Grau (Grey)	ALCE601 Israeli Camouflage Pale Green
ALCE215 RLM66 Schwarzgrau (Black Grey)	ALCE602 Israeli Camouflage Pale Blue
ALCE304 US Camouflage Tan (FS595-30400)	ALCE603 Israeli Camouflage Sand
ALCE305 US Camouflage Earth (FS595B-30118)	ALCE604 Israeli Camouflage Tan
ALCE021 RAF Dark Earth (BS381C-450)	ALCE605 Signal Red
ALCE104 Zinc Chromate Yellow (FS33481)	ALCE606 RAF Training Yellow
ALCE216 RLM70 Schwarzgrün (Black Green)	ALCE607 RAF Training Orange
ALCE309 USN/USAAF WWII Interior Grn (FS595-34151)	ALCE608 Royal Blue
ALCE319 USN WWII Intermediate Blue (FS595-35164)	ALCE609 Air Superiority Blue (FS35450)
ALCE001 RAF Extra Dark Sea Grey (BS381C-640)	ALCE610 Mod Eagle Grey (FS36176)
ALCE003 RAF Medium Sea Grey (BS381C-637)	ALCE611 Aggressor Grey (FS36251)
ALCE050 British Deep Bronze Grn (BS381C-224)	ALCE612 White Grey (FS36628)
ALCE250 RLM74 Graugrün (Grey Green)	ALCE613 Aggressor Blue (FS35109)
ALCE221 RLM75 Grauviolett (Violet Grey)	ALCE614 Light Grey (FS36495)
ALCE250 Panzer Schwartzgrau (RAL7021)	ALCE615 Skyline Blue (FS25250)
ALCE901 Canadian Voodoo Grey (FS595-36515)	ALCE616 Dark Grey Blue (FS15102)
ALCE214 RLM65 Hellblau (Pale Blue)	ALCE617 Olive Drab (BS381C-298)
ALCE222 RLM76 WEISSBLAU (WHITE BLUE)	ALCE618 Nato Brown (BS-499)
ALCE231 RLM78 Himmelblau / Hellblau	ALCE619 Nato Green (BS-285)
ALCE251 Panzer Dunkelgelb (RAL)	ALCE620 Nato Black (BS48000ES3)
ALCE252 Panzer Signalbarun (RAL8020)	ALCE621 Medium Gunship Grey (FS361766)
ALCE253 Panzer Olivgrün (RAL6003)	ALCE622 Russian Tank Green
ALCE314 Camouflage Gray (FS595-36622)	ALCE623 RAF Pru Blue
ALCE315 Gunship Gray (FS595-36118)	ALCE624 Dark Sea Grey
ALCE650 Israeli Sand Grey	ALCE625 RAF Middlestone
ALCE062 British Brown Bess	ALCE626 RAF Azure Blue

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Tantalising Twin

Chris Jones eagerly unwraps
Airfix's brand-new quarter-scale
Blenheim Mk.If

Bristol's Blenheim was among the first truly 'modern' bombers to enter RAF service in the 1930s. Its forerunners featured biplane wings, fixed undercarriages or both, but the Blenheim did away with such outmoded design philosophies. Unfortunately, aeronautical progress was so rapid during the inter-war period the type rapidly found itself menaced by contemporary single-engine fighter designs, but still provided valuable war service. Although designed primarily as a bomber, fighter variants were created by adding a ventral gun pack (housing four .303 cal Browning machine guns) in the bomb bay, while night fighters were also fitted with radar, to help turn the tide against the Luftwaffe's nocturnal 'Blitz'.

Delights galore

Airfix's newly tooled Blenheim is the first time this wonderful aeroplane has been released as a mainstream 1/48 injection-moulded kit. Previously, it was available in this scale as a limited-run offering by Classic Airframes;

while well regarded and generally still available, this was a somewhat time-consuming build, and demanded extra modelling patience. Thankfully, there is now a new

option in town!

A fair amount of plastic was on offer in Airfix's sturdy box, and there were examples of truly superb detail to dive straight into. The cockpit was



▲ Airfix's bomb bay detail was out of this world; alas, none would be seen in fighter configuration. Black marks denoted where the integrally moulded bay doors were trimmed.



▲ After the central frame was reduced in height, assembly was swift, combining the bomb bay with the wing spars and fuselage 'bath tub'.

KIT SCHEMES

Two early war airframes will feature in the Airfix kit, offering different takes on night fighter liveries:

- K7159/YX-N, 54 Operational Training Unit, RAF Church Fenton, December 1940
- L6739/YP-Q, 23 Squadron, RAF Wittering, 1940

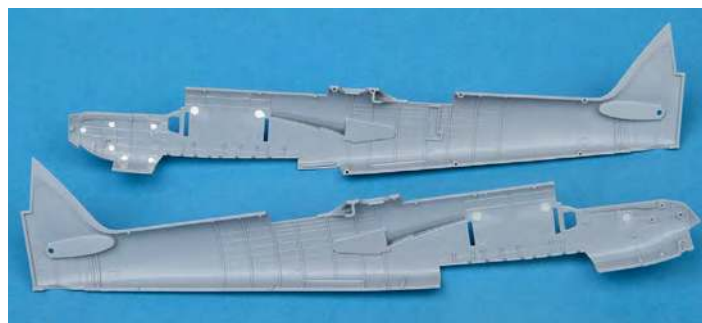


wonderfully busy, the Mercury engines were marvellous, the turret framework (and assembly jig) were extraordinary, but the standout was the main wheel undercarriage leg assemblies. These were quite simply breathtaking and represented a completely faithful miniature of the

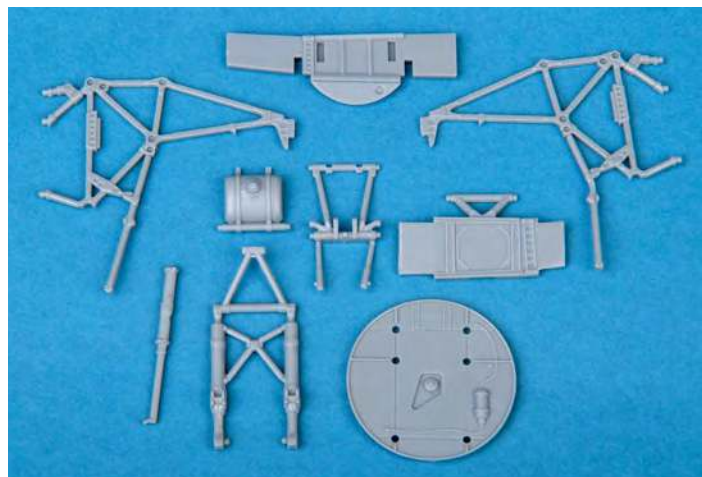
complex structure on the real aircraft. As ever, the panel lines were recessed, neat and consistent across the entire model, and it was clear there was clever design work at play. Finally, both day and night fighter variants were catered for, with appropriate radar antennas for the latter.

Blenheim begins

Of course, the most obvious place to start with this wonderfully well detailed kit was...the tyres. Legendary tyre company Dunlop were the manufacturers of real-life Blenheim tyres, but in 1/48 styrene it appears lesser-known copycat brand 'Donlor' were responsible. Unfortunately, due to issues surrounding trademarks it was impossible to use the original

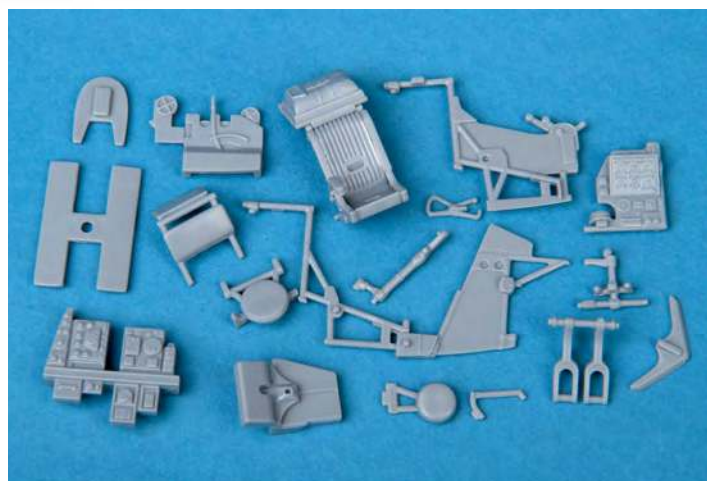
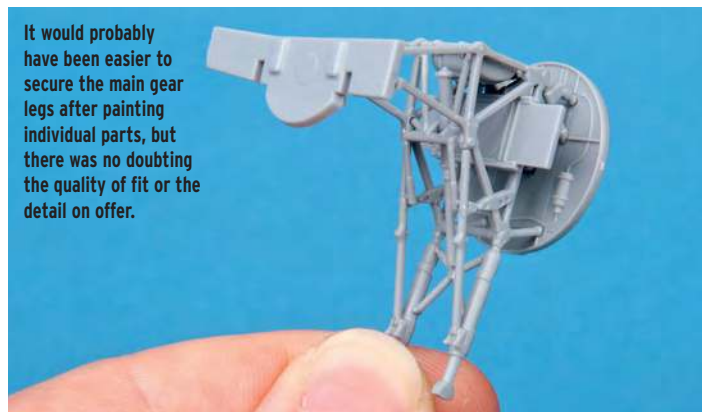


▲ Interior detail on the fuselage halves was well rendered, although there were several ejector pin marks to fill.

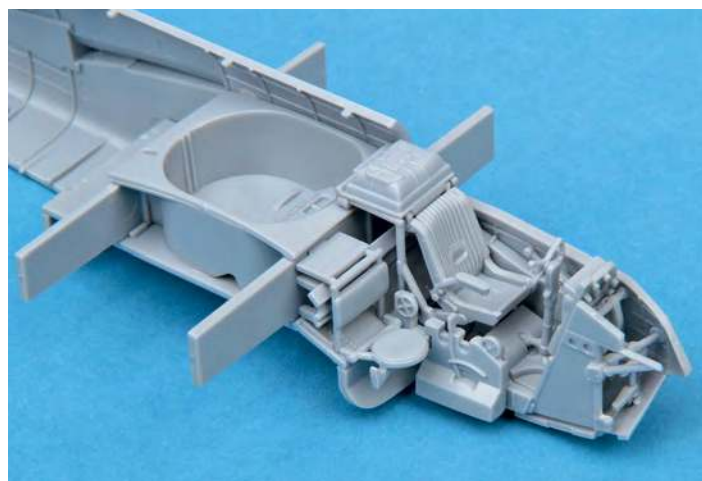


▲ The kit's extraordinary main undercarriage legs were one of many standout elements, here viewed before assembly.

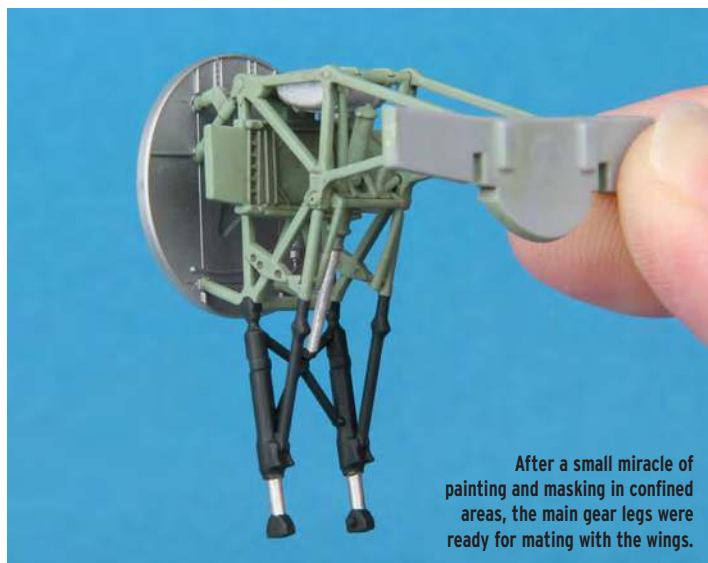
It would probably have been easier to secure the main gear legs after painting individual parts, but there was no doubting the quality of fit or the detail on offer.



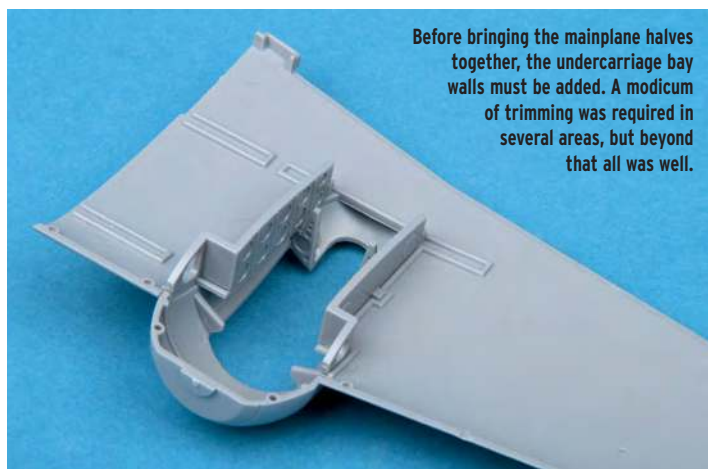
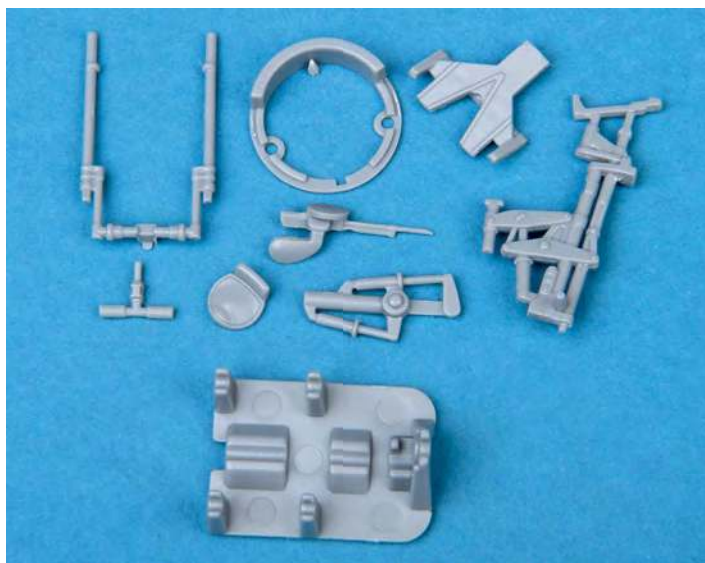
▲ There were plenty of parts to tackle when assembling the comprehensively detailed cockpit, even more so when that compartment's cramped confines were taken into account...



▲ ...so, the temptation for a test-fit was too much to resist, with all parts sitting snugly within the fuselage. All that was needed were the seatbelts.



After a small miracle of painting and masking in confined areas, the main gear legs were ready for mating with the wings.



Before bringing the mainplane halves together, the undercarriage bay walls must be added. A modicum of trimming was required in several areas, but beyond that all was well.



▲ The mid-upper turret was a glorious mini-model and the inclusion of an assembly jig was genius!



◀ However, with just a small amount of glue, the completed unit looked amazing.

brand name, but with careful scalpel and sandpaper work on the raised titles, it was possible to achieve a result more in keeping with the original aesthetic. With this obscure task complete, attention turned to more serious matters, namely construction of the internal sub-assemblies.

Undoubtedly, bomber Blenheims

will be on their way before long, as the first job was to remove the integrally moulded central bomb bay doors from the respective framework. After this surgery was completed, they were mated and set aside to dry. Gloriously, the bomb bay detail displayed no ejector pin release marks whatsoever, which boded well

for future releases. However, several of these blemishes were present on the cockpit sidewalls, but they were filled and sanded with minimal effort. Meanwhile, the interior 'bath tub' (Part A27) was attached to the two wing spar elements and fixed atop the bomb bay roof. The previously constructed central framework

was then secured underneath, before the front and rear bulkheads were also attached. Following on, control runs were attached to the area behind the crew seats, before focus shifted to the cockpit.

The pilot's seat was affixed to its side frame/armrest parts, before it was mated with the



"THE MID-UPPER TURRET WAS A GLORIOUS MINI-MODEL AND THE INCLUSION OF AN ASSEMBLY JIG WAS GENIUS!"



seatbelts, so an 'informed guess' was the next best thing.

After bringing the centre section and cockpit assemblies together, the harnesses were painted, and the entire area was muted

with Xtracolor XDFF Flat Varnish, before edges were chipped with Prismacolor pencil, and pigment was worked into the floor. At this point, the instrument pedal and rudder pedals/linkages were attached and, after securing the radio in the rear fuselage, the halves were joined with Revell Contacta Cement. The fit was very good, although it seemed tighter just forward of the bomb bay, so Tamiya Tape was used to hold

▼ It was easier to paint and weather the cockpit initially as two separate sub-assemblies. The seatbelts were made from small strips of Tamiya Tape, cut with a sharp scalpel blade, to avoid any rough edges.

MODEL SPEC

Bristol Blenheim Mk.IF

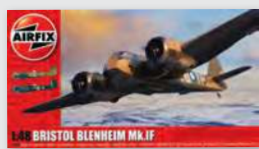
By: Airfix

Stock Code: A09186

Scale: 1/48

Price: £36.99

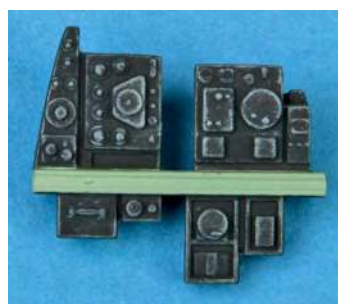
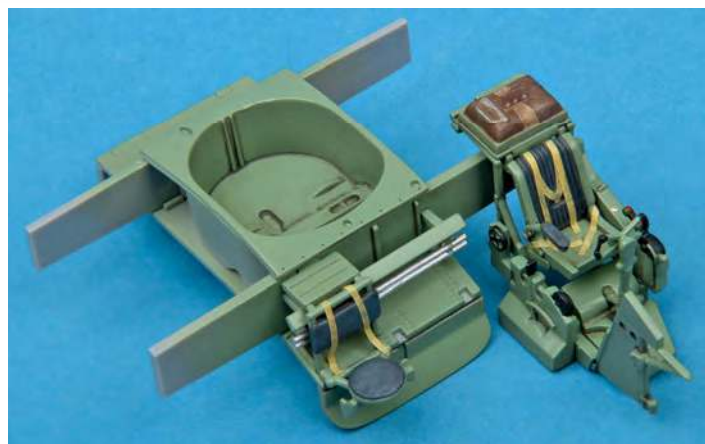
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the starboard fuselage half. The instrument panel itself was lovely, with authentic raised detail, while the rear compartment radio set was also well rendered. This was no mean feat, as apparently, there are precious few reference photos of Blenheim Mk.I radio sets.

The interior elements were treated with a 3:2 mix of XF-71 Cockpit Green and XF-2 White, before being sealed with Alclad's ALC-600 Aqua Gloss. Once this had dried, a grimy oil wash was applied and neatened, before subsequent detail painting could take place. In addition, the leather seat cushions and parachute were stippled with light and dark oil shades, to provide a distressed look and tonal variation. Once the kit is released, aftermarket companies will no doubt have a field day with seatbelts and the like, but here, Tamiya Tape gave an approximate representation of Blenheim crew harnesses. However, despite possessing some excellent reference material, it was difficult to discern the exact arrangement of the navigator's

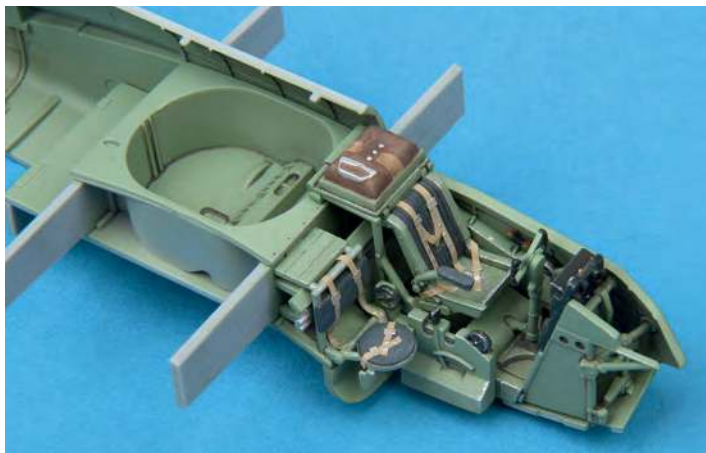
cockpit framework and parachute stowage. This sub-assembly was left devoid of several items (rudder pedals, control linkage and instrument panel) and kept separate from the rest of the 'office' until later, to ease painting. Meanwhile, the bomb aimer/navigators seat was attached to the centre-section assembly, while the 'jump' seat was secured to



▲ The radio was well detailed and highly accurate, but since it was going to be all but invisible, it received just a cursory dry-brushing to highlight the detail on offer.



▲ No need for photo-etched extras here! The instrument panel was moulded superbly, with just careful painting and dry-brushing needed to tackle the raised features.



▲ The completed cockpit was a testament to Airfix's clever design. Chipping effects were provided by Silver Prismacolor pencil, while pigments were scrubbed into the floor.

everything. Beyond this, clamps applied pressure to the fuselage around the closed bomb bay door inserts to ensure these parts aligned correctly. Even before the cockpit was completed, the extraordinary undercarriage and turret sub-assemblies had been receiving attention...

Nice legs

It would be difficult, or perhaps impossible to give the reader a true sense of just how wonderful the main gear legs were in this kit by using words alone, which is of course the joy of seeing pictures in a magazine! At first, the instructions appeared to be completely baffling, but after removing parts from runners and test-fitting, it all began to make sense, and once construction began, it was clear the entire sub-assembly was virtually snap fit.

In retrospect, it may have been easier to paint the parts before

they were glued together, but on this occasion, it was decided to paint everything after they were mated, which involved tricky masking and brush work. Following on from this, the turret assembly was another standout item. As with the main gear legs, the instructions took time to decipher, but as test-fitting began, everything made sense. The inclusion of an assembly jig was sheer genius and made the whole process more fun than pain...which is always to be commended.

Before the wings could be completed, the lower engine nacelle half and wheel well sidewalls must be secured to the lower mainplane and, although it was necessary to trim two small side frames (located part way down the nacelle), this wasn't too taxing. With the main gear legs complete and weathered, they were inserted into the nacelles,



▲ Fit was tight around the bomb bay, so clamps were brought into play, to assist while the glue dried.

the flap base frames were attached, and the wing halves joined, with commendable fit. Once the fuselage set fully and the seams were sanded, another piece of excellent design work

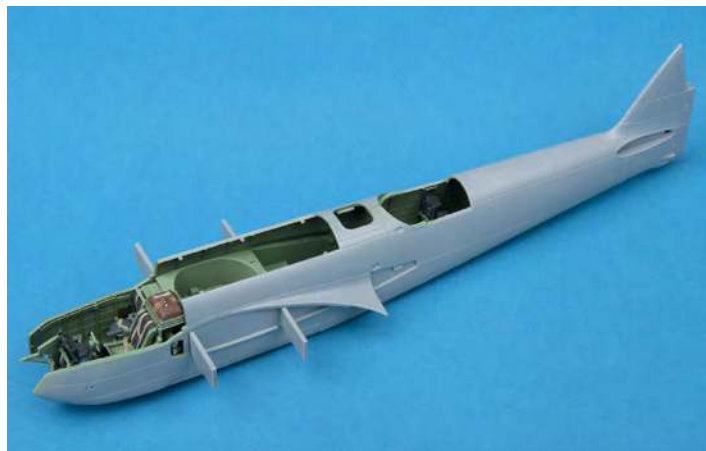
came to the fore, namely the two ventral fuselage inserts. The longest of these covered a large area behind the canopy, while the other sealed the area around the turret. Both demonstrated a snug fit, and of course their presence reduced the amount of

fuselage seams to sand.

Once the wing had also been neatened, they were mated with the fuselage.

To achieve the best possible fit, large amounts of Tamiya tape were needed to apply pressure above and below the wing root joins, but this method seemed to work well. The separate ailerons, rudder and tailplane assemblies were also fitted at this point. Although Blenheims would generally be seen with their flaps raised on the ground, the detail was so good it seemed a shame to hide it, so these were left off until the end.



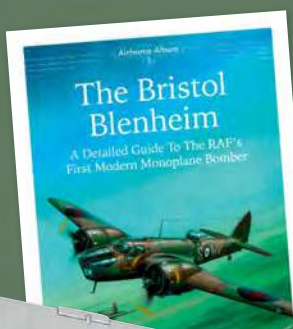


▲ The fuselage spine was another example of excellent design, as the inserts reduced the amount of seam sanding to a minimum.

REFERENCE MATERIAL

Airframe Album No. 5, The Bristol Blenheim, by Richard A Franks (Valiant Wings), ISBN: 978-0-9575866-5-9

It's difficult to recommend this book more highly, as it provided an extraordinarily comprehensive range of excellent walkaround photos, plenty of explanatory notes, a wonderful pictorial reference to the large number of Blenheim variants and a compact operational history. For anyone considering a Blenheim build, particularly considering the incredible detail Airfix has crammed into their new 1/48 offering, this book should be almost mandatory for modellers.



powerplant without pressure, tape secured them in position, while tiny drops of Cyanoacrylate glue were applied to the top sides of the joins, where they wouldn't be visible after the cowls were assembled. The nacelle flaps came with a small notch in each of them to accommodate a small vent, but these weren't present on Mk.I Benheims, so they were modified via plastic card and strip, while locating holes for vents on the wing nacelles were filled.

Unfortunately, when it was time to paint and weather the exhaust pipes and collector ring exterior, way the former were recessed into the cowls made for tricky masking. These areas were first painted ALC-101 Aluminium, before being covered lightly with highly diluted XF-72 JGSDF Brown. This was followed by a 1:2 blend of X-6 Orange and X-9 Brown, before being lightly sealed with gloss. Finally, after completing the painting and varnishing of the power eggs, the exhaust collector rings were stippled with 'mucky' brown/grey oil wash.

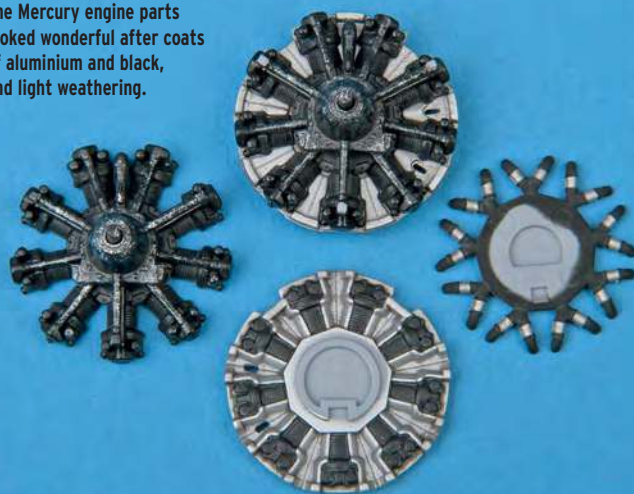
Those who live in glass houses...

...shouldn't throw stones, or so the saying goes. Certainly, for anyone near a Blenheim, stone throwing is definitely not advisable, due to the extensive glazing. The multi-part cockpit transparencies were always going to make or break this kit, but the good news is they were rather good. Unfortunately, on this test shot it was discovered the nose section (Part G11), which constituted one half of the Blenheim's extensively glazed nose, was short shot underneath. This resulted in a large gap

Mercury rising

It was much easier to build and colour the power 'eggs' separately from the rest of the model, so the assorted Mercury engine parts were duly painted and assembled. As the exhaust collector ring pipes didn't quite meet the rest of the

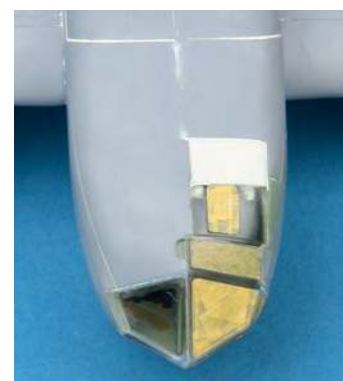
The Mercury engine parts looked wonderful after coats of aluminium and black, and light weathering.



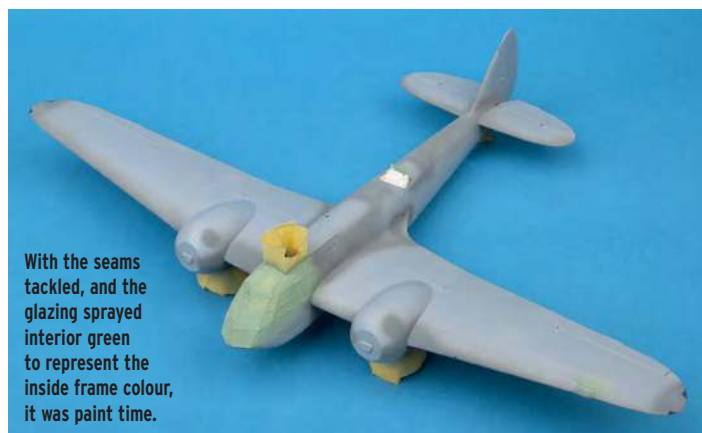
▲ After attaching the powerplants to their respective exhaust collector rings, the rest of the power 'egg' could be brought together.



▲ The gap in the cowls was for a vent not present on Mk.I Benheims, so it was filled with plastic card and strip.



▲ Unfortunately, the test-shot nose glazing was short shot underneath; to remedy this, tiny support beams were attached inside, before a plastic card blanking plate was added.



With the seams tackled, and the glazing sprayed interior green to represent the inside frame colour, it was paint time.



After a coat of XF-2 White, the underside demarcation was masked carefully.



▲ Once satisfied with the main colours, various light and dark mottles were applied to weather the camouflage.



▲ The next stage was to apply a homemade coat of RAF Dark Earth, followed by airbrushed RAF Dark Green, applied freehand.

where it was meant to meet the fuselage on the underside. I managed to square the edges and plug the void with plastic card, but hopefully this will be addressed before the kit hits the shops.

After clearing the glazing mating surfaces of paint, Tamiya Extra Thin Cement secured it to the fuselage, with lengths of Tamiya Tape applied to hold it tightly, as soon as there was no risk of

wet liquid glue marring the clear sections. After the glue had set, it became clear (after checking reference materials) the lower glass frame on the port side was moulded mistakenly as an opaque panel but should have been transparent plexiglass. To remedy this, increasingly fine grades of West and Dry abrasive paper were used to sand the surface, before 4,000- through to 12,000-grade



▲ With the decals sealed, the airframe sheen was muted with matt varnish, before post-shading and final weathering began.

Micro-Mesh cloths provided a polished finish. Two light coats of Johnson's Klear, applied by brush, completed the process.

Araldite filled several awkward apertures, with excess adhesive cleaned with damp cotton buds, while Micro Kristal Klear was used around the glazing seams to prevent any micro-gaps through which paint could infiltrate. While the cockpit transparencies

were being dealt with, it seemed prudent to work on the turret, but unfortunately the runner gates attached directly to the clear sections, which can be tricky or sometimes impossible to remedy. A similar method to the one outlined above may have gone some way towards helping here, but thanks to publishing deadlines it was necessary to make rapid progress, so the attachment



◀ A reference photo of a Blenheim revealed a gloriously chipped wing root, so this was recreated with silver pencil. Grime from ground crew footfall was supplied with heavily diluted Engine Grime, applied via 'dry' sponging.



▲ The .303 barrels in the gun pack boasted great cooling jacket detail and a matt black/red brown mix replicated appropriate staining, in keeping with reference material.



▲ The exhaust stacks required particularly tricky masking during painting, but the result was well worth the effort.

points were neatened as well as possible with a new scalpel blade. At last, and after much laborious masking, the canopy frames were painted with the cockpit's interior green mix.

Priming and painting

Tamiya's XF-54 Dark Sea Grey was airbrushed along seams to check for blemishes, and several corrections with

filler and sanding were made before painting could begin. Half the underside was coated with XF-2 White, sealed with a light spray of gloss varnish and then masked, but since the rest of the underside was going to be black, it seemed prudent to deal with the upper camouflage first.

Homemade RAF Dark Earth started proceedings, before XF-81 RAF Dark Green was

airbrushed freehand. Both tones were weathered with various light and dark tones, before it was time to spray the flaps and anti-slip walkway. Interestingly, although the decal guide indicated the latter were on both wings, apparently this was a post-war addition; wartime Blenheims carried just one, on the port side. After gloss varnishing the airframe, the decals were applied and sealed with further gloss, before it was time for oil washes. These consisted of unique colours, slightly darker than the underlying paints to avoid high contrast. Xtracolor's XDFF Matt Varnish subdued the glossy surfaces, and after being left for 48 hours to harden fully, more weathering could commence.

Black/red brown acrylic was then post-shaded carefully across the panel lines to suggest a hint of built-up grime, before AMMO-MIG's A-MIG.1408 Fresh Engine Oil was applied via tiny brush strokes to represent oil thrown back from the engine. Further work with a dry-sponged oil wash simulated grime from footfall. With this completed, the same black/red brown mix provided additional staining back from the engine and around the guns, and a dark metallic tone was dry-sponged, to suggest leading edge chipping. After everything had dried thoroughly, final assembly was a pain-free process, bringing this impressive project to an end.

Final thoughts

Airfix has incorporated truly exquisite detail on this model, with the cockpit, main gear

ALTERNATIVE MARKINGS

Since the kit decals weren't available at the time of print, Xtradecal sheet X48187 was employed for this project. The sheet catered for various attractive Blenheims, including a particularly eye-catching desert scheme:

- K7078/139, 139 Squadron, RAF Wyton, late 1937
- K7133/44-L, 44 Squadron, RAF Waddington, 1938
- L1426/RX-M, 25 Squadron, RAF Northolt, 1939
- L8612/OB-W, 45 Squadron, RAF Helwan, Egypt, 1940



legs, engines and turret being the stand outs. Beyond this, the fit of the multi-part nose glazing was rather good, and the 'sit' of the finished model was just right. At last, there is a mainstream 1/48 injection-moulded kit of this handsome aeroplane, and what's more, there will surely be more to come!

AMW



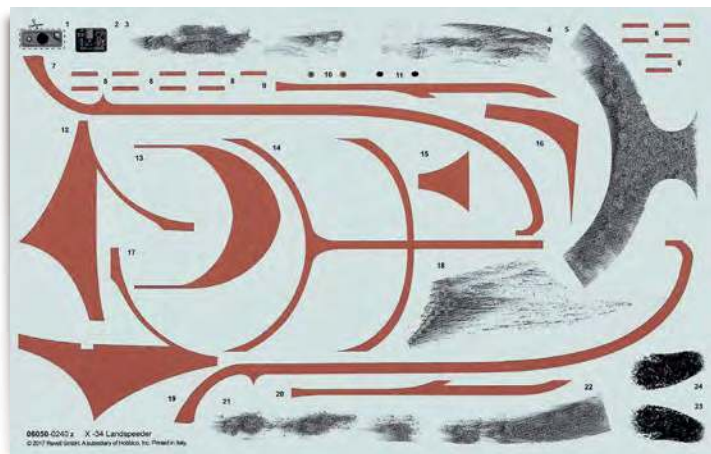


— SKYWALKER'S — SPEEDER

Ian Grainger gives a George Lucas 'used universe' look to Revell's 1/14 Landspeeder

"If there's a bright centre to the universe, you're on the planet that it's farthest from" was how *Star Wars*' hero Luke Skywalker described his desert home world of Tatooine.

The preferred mode of transport across that planet's dusty plains and dune seas was the SoroSuub Corporation X-34 Landspeeder, which combined a repulsorlift engine (to 'float' the vehicle), and three turbine engines (to propel it). For the film, Luke's Landspeeder was realised in



▲ The kit's decals looked great on the backing sheet, but it was discovered they lacked colour density when applied to the model's surface.

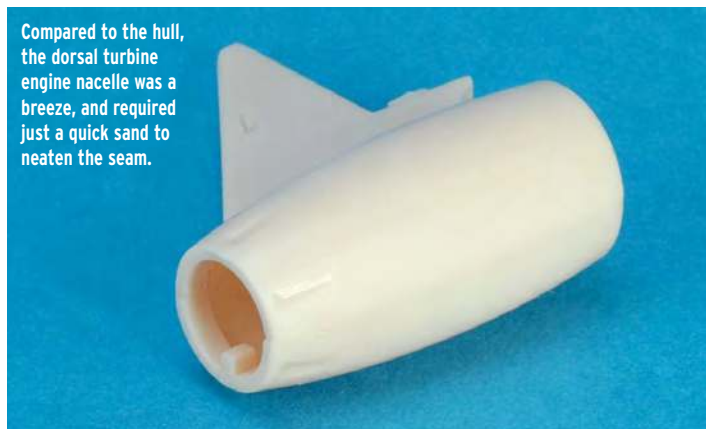
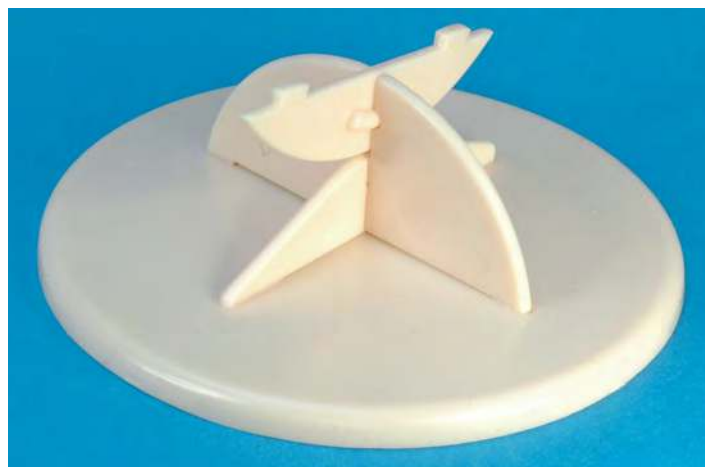


▲ Designed originally as a 'snap-fit' offering, minimal glue was necessary; here the two-man cockpit tub has been readied for attaching onto the lower hull.

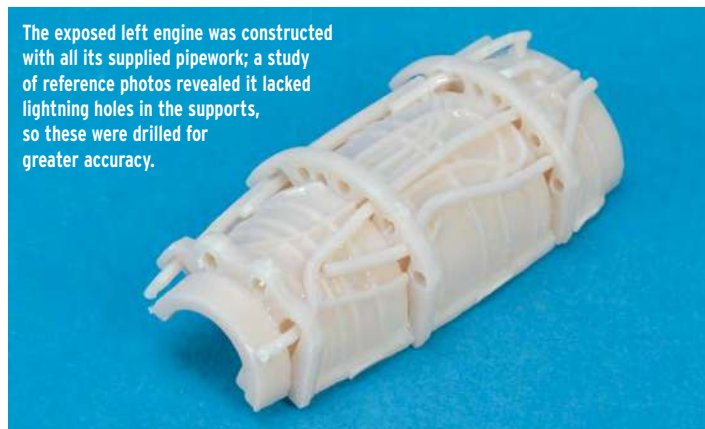


A small quantity of Deluxe Materials Perfect Plastic Putty dealt with any seam gaps, although the fit was commendable.

► The articulated stand was constructed from four parts, with care taken when applying liquid cement, to ensure the upper section would still move. This was later airbrushed with 74.602 Black Primer.



Compared to the hull, the dorsal turbine engine nacelle was a breeze, and required just a quick sand to neaten the seam.



The exposed left engine was constructed with all its supplied pipework; a study of reference photos revealed it lacked lightning holes in the supports, so these were drilled for greater accuracy.

both miniature and as a full-scale three-wheeled motorised vehicle – the latter was allegedly seen in California being driven by persons unknown after it was shipped back from England!

The filming miniature was almost three-feet long and accommodated modified toy shop action figures. Revell's offering is quoted as 1/14, which approximates as being one-third of the movie model's size. I was excited upon receiving the kit from the Editor and decided immediately the rationale behind

the build would be to re-create what its creator George Lucas called a 'used universe'. His thinking was that objects in the future would not look perfect and shiny, there would be texture and the look of some vehicles would be 'junky and bio-degraded'.

"Going into Tosche Station"

However, my initial reaction to the packaging wasn't positive as, instead of the usual 'inspirational' action artwork common to other *Star Wars* releases,

the boxtop was dominated by a single photograph of a completed model. It reminded me of the early 1980s Airfix 'photographic' boxes, when that company was owned by US firm General Mills. The kit's contents, however, made up for any disappointment. As a limited-edition release to celebrate first film's 40th anniversary, it contained not just the kit, but a brilliant A3 replica

Star Wars movie poster, five paint pots, a brush and small Contacta Professional cement bottle with needle applicator.

Revell's Landspeeder comprised 41 styrene parts on two large runners, with a third for the clear windscreen, all bagged



"THE INTENDED EFFECT WAS FOR A BADLY CHIPPED/PEELED SURFACE"



separately. A final bag contained two figures, Luke Skywalker and protocol droid C3-PO. The approximately A5-sized decal sheet featured printed weathering marks and body stripes for the Landspeeder. All parts were moulded to a high quality, despite this being designed originally as a 'snap-fit' kit for beginners. Research revealed this was a re-release of kit 06685, which was a more expensive, pre-decorated item

from Revell's 'Easykit' range. It was assumed the photograph on the boxtop was in fact this kit, which appeared 'factory painted'. An easy-to-follow, high-quality, colour construction booklet was a great improvement on previous Revell offerings. The kit oozed potential, so the decision was made to finish the kit as a basic build, but add easily achievable weathering and painting effects, to recreate Lucas' intended 'junky' look.

"Feel the Force"

Thanks to the snap-fit design, test-assembly of the various components seemed the appropriate initial action to take. This was so successful that parts then had to be prised apart carefully, to prevent damage. The instructions suggested the windscreen glazing should be attached during the project's mid-point, but to avoid unnecessary paint masking and safeguard the item against scratches caused by handling, it was modified by removing the locating tab, and then refitted to check it would still attach securely later. Fortunately, the modification proved successful, and the part could return to its bag for safe keeping.

The cockpit 'tub' became the first item constructed (minus the bench seat), followed by the lower

MATERIALS

Alclad (www.alclad2-online.co.uk)

ALC-102 Duraluminium

ALC-108 Pale Gold

ALC-111 Magnesium

ALC-310 Klear Kote Gloss

Mr. Hobby (www.albionhobbies.com)

Mr. Mark Setter Neo

Mr. Mark Softer Neo

Mr. Masking Sol Neo

Mr. Masking Sol R

Tamiya (www.hobbyco.net)

87003 Tamiya Cement

Masking tape (various widths)

87979 Tamiya Weathering Master Set

A Sand

87080 Tamiya Weathering Master

Set B Soot

Vallejo (www.creativemodels.co.uk)

70.341 Flesh Base

74.601 Grey Primer

74.602 Black Primer

62.062 Premium Matt Varnish

70.955 Flat Flesh

70.815 Basic Skintone

70.926 Red

70.859 Black Red

70.862 Black Grey

71.080 Rust

71.084 Fire Red

71.161 Thinner

71.199 Airbrush Cleaner

AMMO-MIG (www.migjimenez.com)

A.MIG-3015 Brick Dust

Games Workshop

(www.games-workshop.com)

Citadel Shades

Nuln Oil

Citadel Colours

Abaddon Black

Codex Grey

Chainmail



▲ Vallejo 74.602 Black Primer acted as a base tone, before ALC-111 Magnesium was airbrushed in a series of light coats.



▲ After receiving grey primer, Mr. Hobby's Mr. Masking Sol Neo fluid was applied randomly to the hull with a sponge; this was repeated after each subsequent paint tone...



▲ ...and extended to the smaller engine parts. The intended effect was for a badly chipped/peeled surface, reflecting its long-term exposure to Tatooine's harsh environment.



▲ The Landspeeder's lateral grilles/vents received several applications of Alclad's ALC-102 Duraluminium to ensure complete coverage of the corrugated relief.



▲ Lateral and rear grilles were airbrushed with 74.602 Black Primer as a base layer. Once this had dried, the former apertures/vents were sprayed with ALC-111 Magnesium, to replicate their darker appearance in the film.



▲ A combination of masking tape and Mr. Masking Sol R was employed to seal the metallic hues, before attention turned to the hull tones...note the random application of extra masking fluid to the Landspeeder's surfaces.

hull, which also received lateral air intakes and repulsor vents. Fitting the upper hull, effectively 'sandwiching' the latter parts, was achieved with ease, but a small amount of Deluxe Materials' Perfect Plastic Putty (www.deluxematerials.co.uk) bridged gaps in small areas at the sides, notably around the air intakes and on the nose tip. No filler was required for the upper and right-hand turbine engine nacelles; these seams were merely sanded smooth.

In a deviation from the instructions, the four-piece stand was constructed, requiring careful glue application to allow the top cradle to move on its central fulcrum. The Landspeeder's left-hand engine was portrayed as being exposed to the elements, and integrally moulded pipes and fuel/power lines were included, though several apertures were omitted in the dorsal bracing spars. After studying reference photos, the exact locations of these holes were identified, and opened with a selection of drill

bits, of between 1mm and 2mm diameters, for added realism.

"Not such a bad pilot"

Vallejo's 74.602 Black Primer was airbrushed onto the seat, steering column, assembled base, upper section of the exposed engine and C3-PO figure (but more on this later). The powerplant then received a coat of Alclad's ALC-111 Magnesium, applied by airbrush

at a relatively low 15psi (1bar), followed by a quick dry-brushing with Citadel Chainmail and a thinned Citadel Shade Nuln Oil wash to mute the contrast. All remaining components were treated with 74.601 Grey Primer; for ease of handling, the body

was attached to a wooden handle, while smaller items, such as the thruster nacelles, were clipped onto a Tamiya Spray Works stand.

Next came the fun part of the build, the weathering. Mr.





▲ The cockpit's interior colour was formulated from several Vallejo acrylic shades, to match a test sample of Revell's suggested mix.

Masking Sol Neo, for those who have not experienced it before, is a green masking fluid and was ideal for creating chipped paint effects. The glass bottle included a brush in the lid, for more conventional spreading, but for this occasion a more esoteric method was employed, which involved dabbing the fluid onto the parts via the corner from an old sponge dish-washing/scouring pad. The product 'dried' to form patches of rubber film, and required careful handling from this point forward, to ensure it

wasn't removed inadvertently. More black primer was applied to the lateral repulsor vents and rear field-system generator panels, followed by a coat of ALC-102 Duraluminium on the former and in random areas on the body; ALC-111 Magnesium was then sprayed onto the rear panels. Once dry, the rear and side metallic vent areas were masked with tape and sealed at the edges with Mr. Masking Sol R. This was a similar, but less viscous masking fluid, and was designed to flow (over aircraft



▲ After masking the two-man 'office', the upper hull colour was applied; curiously, this hue appeared strikingly similar to the RAF's 'desert pink' shade on Operation Granby aircraft.

canopies), after application with the included brush.

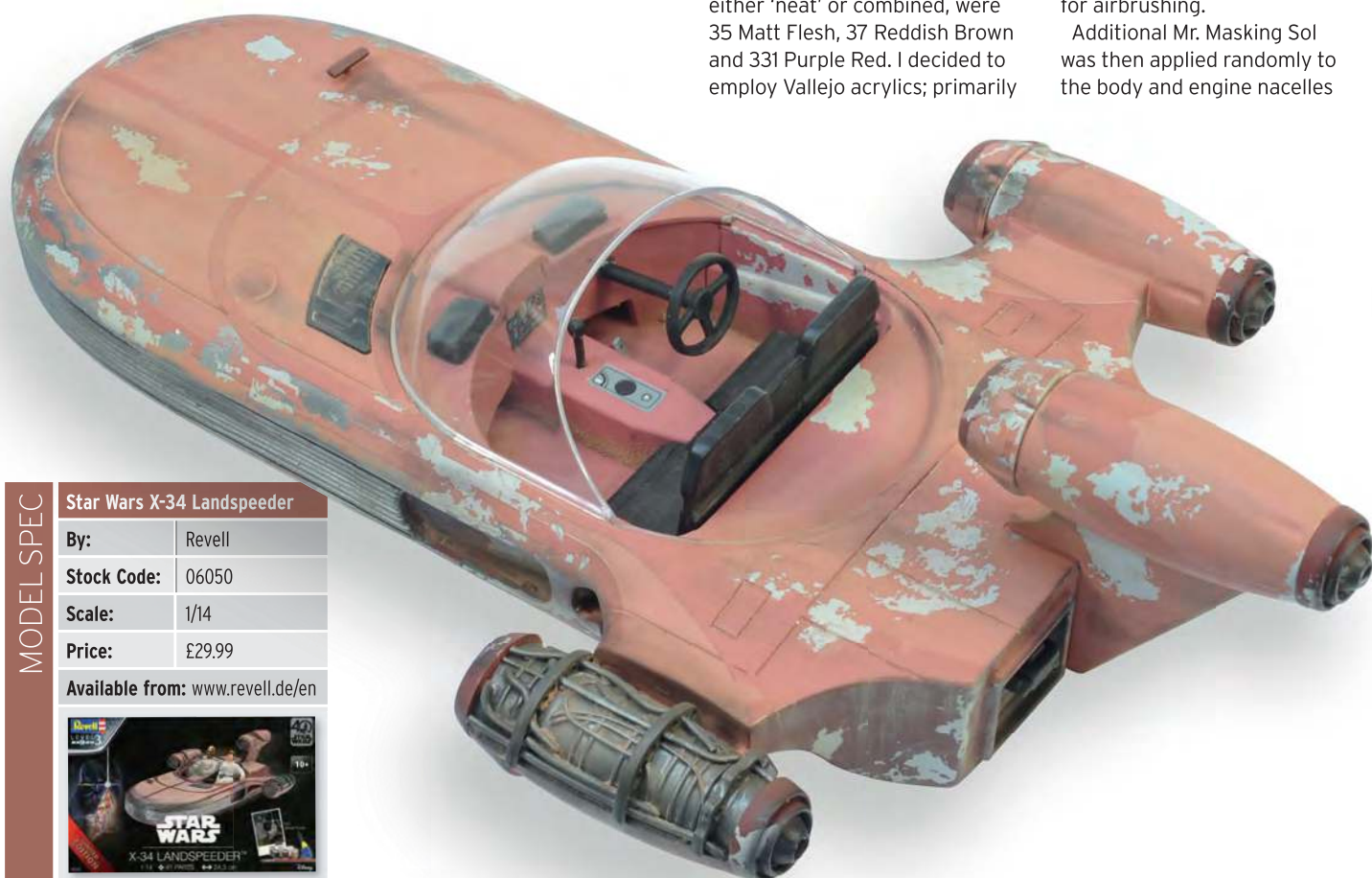
"I used to bull's-eye womp-rats"

Revell provided a highly useful guide to the Landspeeder's colours as part of the instructions, along with the actual paint pots supplied with the kit. I hadn't intended to use the latter, so the various mixes were blended as test samples, and painted as reference swatches on a piece of white card. For information, Revell's suggested primary tones, either 'neat' or combined, were 35 Matt Flesh, 37 Reddish Brown and 331 Purple Red. I decided to employ Vallejo acrylics; primarily

because they were a known quantity when airbrushing and second, they were designed to mix easily.

Painting began with the interior 'tub'. Quoted as colour 'I' on the instructions, this was a 50:50 mix of 35 Matt Flesh and 331 Purple Red Silk Matt, which after trial and error was matched by blending 70.815 Basic Skintone, 70.859 Black Red, 341 Flesh Base and 71.084 Fire Red. The matched colour was decanted into an old paint jar and diluted with Vallejo's proprietary thinner, in readiness for airbrushing.

Additional Mr. Masking Sol was then applied randomly to the body and engine nacelles



MODEL SPEC

Star Wars X-34 Landspeeder	
By:	Revell
Stock Code:	06050
Scale:	1/14
Price:	£29.99
Available from: www.revell.de/en	





▲ After removal of the masking fluid, the brick-red tone of the underside contrasted starkly against the chipped paint layers.



▲ With all the masking removed, the chipped hull surface was notable, and well worth the extra effort; it's appearance was far superior to the kit's 'weathered' decals.



between each hue, to create chipping effects for each layer. Next, the main upper hull received a 90:10 combination (annotated as colour 'A') of 35 Matt Flesh and 331 Purple Red Silk Matt, which dried to a 'desert pink' shade (similar to that used in 1991 by the RAF in Operation Granby). This was again formulated with Vallejo acrylics. Lower and rear darker areas of the hull were shown as 37 Reddish Brown (similar to a brick red hue), created on this occasion from 71.080 Rust and 71.084 Fire Red.

"A Jedi, like my father"

After leaving everything to dry fully, it was time for the 'makeover' big reveal, and the masking fluid layers were removed by scrubbing gently with an old toothbrush and scouring lightly with the rough side of a foam pad (employed earlier to

apply the fluid). The weathering and paint chipping revealed a spectacular patchwork of distress, more than suitable for Lucas' 'used universe'.

The model then received airbrushed ALC-310 Klear Kote Gloss, which supplied a base for the decals and further Citadel

Nuln Oil washes, which were applied to the lateral and aft vents. Mr. Hobby Mr. Mark Setter NEO and Softer NEO, plus gentle heat from a hairdryer, eased positioning of the markings. Revell's decals were excellent but, because they were sufficiently thin to conform to the vehicle's complex curves, they lacked print colour density, especially when placed over areas with highly contrasting tones.

What appeared a perfect colour match for 37 Reddish Brown on the dry printed sheet



▲ The contrast between the upper and lower hull paint colours was striking, but it was important to ensure the chipping effects were applied equally.



▲ All the Landspeeder's trim came in decal form, but the markings were then 'distressed', to match the battered paintwork, and sealed with matt varnish.



▲ Once the seams were tidied, C3-PO received a base coat of 74.602 Black Primer.

translated into a washed-out shade on application. This created a double dilemma, as once it was realised they were insufficiently opaque, it was too late for them to be used as paint templates. All was not lost though, as the tones were still visible on the upper surfaces, but they didn't match the lower and rear hull paint hues; note, Revell's pre-printed weathered items weren't used. Once cured, the markings were then 'chipped' to remove any areas of wear and sealed with 62.062 Premium Matt Varnish.



▲ The protocol droid's metallic 'skin' was replicated via ALC-108 Pale Gold, which appeared convincing in this scale.

Returning to the figures and, at the Editor's instruction, C3-PO was finished with a coat of ALC-108 Pale Gold, before the eye decals were applied and it was sealed with ALC-310 Klear Kote Gloss. The droid looked fairly accurate, but wasn't permanently fitted, because the companion Luke Skywalker figure was a disappointment in terms of quality (and resemblance to Mark

Hamill's character)...and was set aside. Consequently, the unsightly seat pad locating holes were covered with rectangles of black electrical tape; handily, these also simulated a vinyl covering (or at least its Tatooine equivalent).

Final construction was completed 'by the numbers' and the kit components fitted superbly, with just minimal

cement use. Final weathering was achieved via AMMO-MIG's A.MIG-3015 Brick Dust pigment, which replicated the dusty patina noted in the film. Lastly, with the main windscreen glazing snap-fitted over the cockpit, the Landspeeder was complete and ready for Luke to trade in at Spaceport Speeders Mos Eisley, after vowing never to return to Tatooine!

"I told you I'd make it"

Despite initial reservations, Revell's Landspeeder turned out to be a joy to construct and finish. The anniversary kit's movie poster hangs proudly on the wall of my youngest son's bedroom and the model is posed upon its stand on his shelf. Given subject matter like this, he may be inspired to enter the hobby himself; it offered an ease of construction highly suited to a beginner, but also appealed to a seasoned builder like his father. The Force was strong with this kit.



▲ After the primer was applied, it was obvious, and most unfortunate, that the Luke Skywalker figure was of a poorer quality to the droid; as a result, both would be left off the model.



▲ However, removing the figures left an unsightly hole in the seats, which was covered by black electrical insulation tape...and doubled as 'Tatooine-vinyl' padding.

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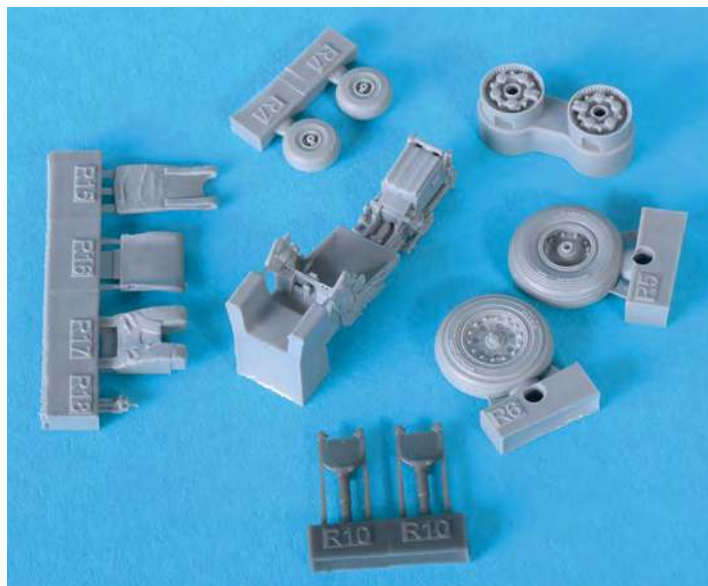
Smart-Stop Hanger pauses the compressor when airbrush is placed into hanger and restarts when airbrush is taken off again.

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▲ The styrene parts were by Hasegawa, and exhibited that manufacturer's typical clean and crisp moulding, with fine engraved panel lines.

▼ Eduard's resin extras were a substantial improvement on the kit's alternatives, notably the M-B Mk.12 ejection seat.



COLD WAR ICON

In his inaugural *Airfix Model World* build, **Richard Spreckley** takes advantage of the extra detail in Eduard's re-boxed 1/48 Harrier GR.7

A 'Harrier' is defined as 'something that engages in persistent attacks on others or incursions onto their land'...which sums up BAe Systems' Harrier GR.7/9 pedigree in a nutshell. The type's success wasn't just due to its revolutionary vertical/short-take-off and landing design, but also the hard work of units such as the Strike Attack Operational Evaluation Unit (SAOEU). Long since subsumed into what is now the 41 (R) Test and Evaluation Squadron (based at RAF Coningsby), the SAOEU's role was to develop and enhance RAF's ground attack and reconnaissance capabilities. Its main facility was at Boscombe Down, from where it operated Harrier GR.7, Tornado GR.4 and Jaguar GR.3 aircraft.

Impressive contents

Building an SAOEU subject always makes for an interesting aircraft and, when Eduard provided such a scheme in





its limited-edition re-boxing of Hasegawa's 1/48 Harrier, it was too tempting to refuse. This kit sets the bar for an accurate second-generation 'jump-jet' and the styrene parts are unchanged, being presented on 15 runners. Additions include photo-etched (PE) brass and metal parts (the latter are pre-painted), resin

Martin-Baker (M-B) Mk.12 ejection seat, wheels and outrigger 'stirrups', plus pre-cut self-adhesive canopy and wheel masks.

Disappointingly, the opportunity to correct one of the kit's main failings, namely the lack of ordnance, was missed (although

Eduard does provide certain items in its Brassin range).

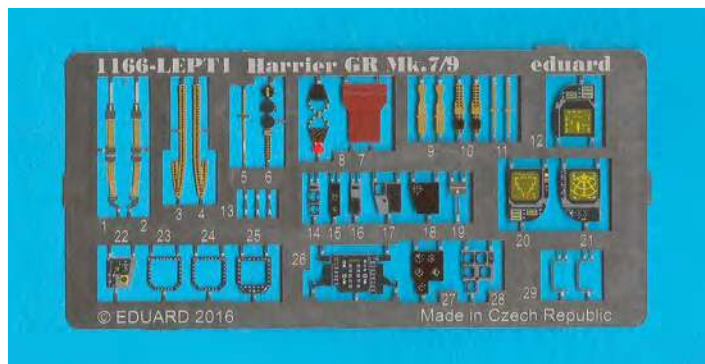
Harriers carried a broad range of ordnance, and SAEU airframes tested it all, so to replicate this, aftermarket BL755s were obtained from Wingman Models. Another area often commented on is the type's exhausts, and while the styrene examples were passable, getting the internal vanes to align can be challenging. Thankfully, replacements are also available from Eduard (648267) and these were employed here.

The beautifully printed decal sheet featured vibrant colours for the various markings options, along with full airframe stencilling (see panel).

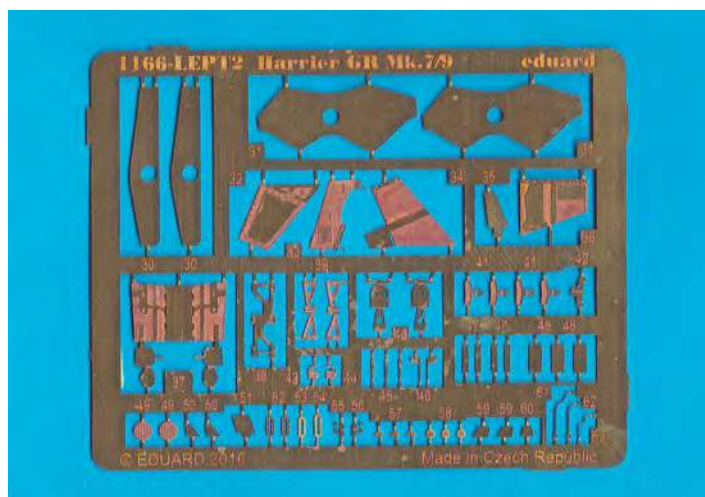
Note, the styrene parts were moulded in a hard plastic, so more care than usual was needed to avoid damage when removing pieces from the runners and trimming any excess. One helpful (if slightly unusual) aspect of building a Harrier is the requirement for a modular approach to assembly, driven in the main due to the difference in width between the cockpit and the rest of the aircraft. This enables multiple sections to be constructed side by side and allows the project to be completed quicker than a 'normal' kit.

Going against the grain

Assembly deviated frequently from the suggested sequence, ▶



▲ Further refinement was added to the cockpit and airframe courtesy of PE brass and metal parts; the latter included pre-painted items for the instrument panel and harnesses.



When removing the canopy's mould seam, great care was taken to avoid causing stress fractures in the comparatively brittle clear parts.

MODEL SPEC

Harrier GR.7/9

By: Eduard

Stock Code: 1116

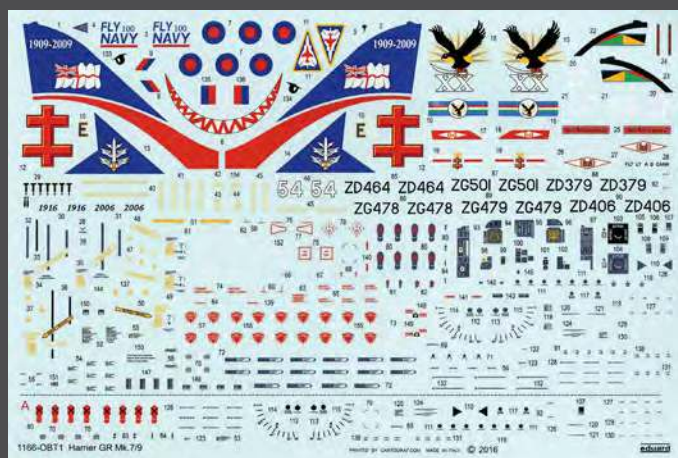
Scale: 1/48

Price: €74.95

Available from: www.eduard.com

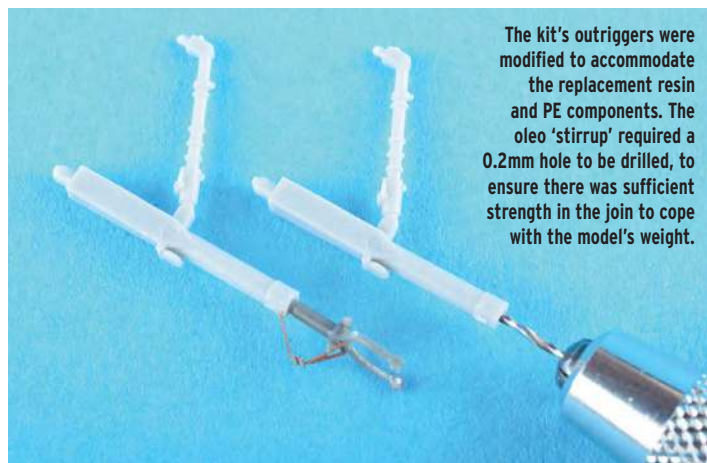


COLOURFUL LIVERIES



Eduard supplied six different schemes in this limited-edition boxing, covering both GR.7 and 9 variants, and offering a choice of early two-tone green camouflage, late two-tone grey and winter distemper-treated airframes. The subject chosen for this build was ZG501/E as it appeared when assigned to the SAOEU in 1996, and wore the then-standard NATO Green/Lichen Green livery.

- GR.9, ZD406, Royal Navy Strike Wing, RAF Cottesmore, 2009
- GR.7, ZG479/69, IV (AC) Squadron, Operation Telic, Ahmed Al Jaber, Kuwait, spring 2003
- GR.7, ZD464/54, 20 (R) Squadron, RAF Wittering, 2002
- GR.7, ZD379/27, 1 (F) Squadron, Bardufoss, Norway, January 2004
- GR.7, ZG501/E, SAOEU, Boscombe Down, 1996
- GR.9A, ZG478/68, 41 (R) Squadron, RAF Coningsby, March 2006



The kit's outriggers were modified to accommodate the replacement resin and PE components. The oleo 'stirrup' required a 0.2mm hole to be drilled, to ensure there was sufficient strength in the join to cope with the model's weight.



▲ A convincing metallic finish to the engine fan blades was achieved with Vallejo metallic acrylics, but the key element was a smooth gloss back base layer. The finishing touch was a dark grey wash, which created an exaggerated depth effect.



▲ Once assembled, the ejection seat received Mission Models' grey primer, which provided a smooth painting foundation. Extra detail on the cockpit rear bulkhead was fashioned from 0.2mm and 0.3mm wire.

due to the amount of painting required prior to assembly, notably the need for the air intakes and engine fan blades to be addressed prior to the front fuselage being fitted. The main fuselage was a joy to build, as the quality engineering resulted in an excellent fit; with care it's even possible to articulate the nozzles individually.

The main air intake 'bell' and fan blades were the first elements to receive Mission Models' MMS-003 Grey primer system. This is fairly new to the market and involves mixing the base colour with MMA-003 Thinner and MMA-001 Polyurethane Mix Additive in a five:three:one ratio; although time-consuming, the paint's quality is worth the extra effort.

Vallejo's metallic acrylics offer arguably one of the best finishes of their type, the key being a suitable undercoat, in this case the firm's own 73.660 Gloss Black Surface Primer. This was airbrushed in a series of thin layers to build the required gloss sheen, and was then left to cure for at least 6 hours. The metallic tone, 77.702 Duraluminium, was then sprayed in a similar fashion, using a pressure of approximately 15 psi (1 bar), after which Vallejo's 77.657 Metal Varnish was applied, which provided a convincing finish. A dark grey wash accentuated the blade detail, with any excess removed via cotton bud. The intake inners were then airbrushed with white, along with the separate doors; these were



▲ The combination of painted and weathered ejection seat, plus PE harnesses, provided a focal point in the cockpit.

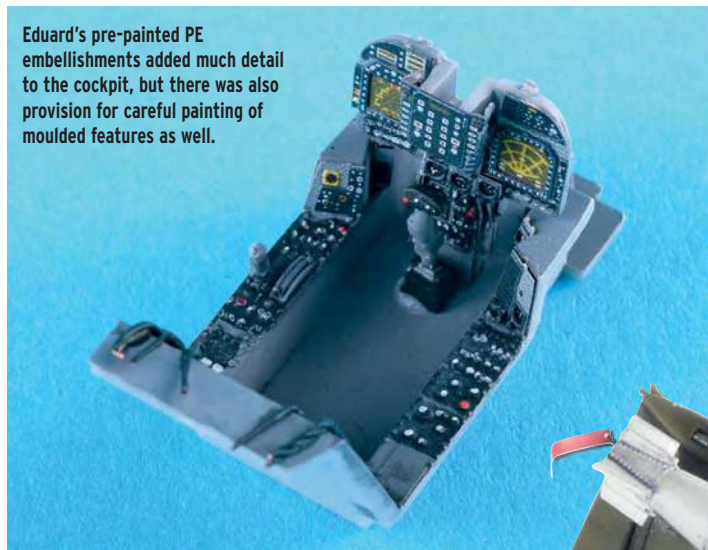
sealed subsequently with 70.510 Gloss Varnish.

The 'office'

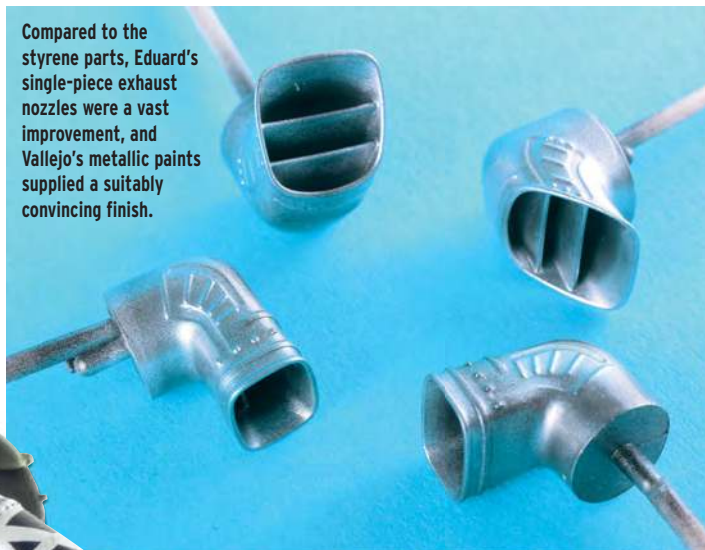
The kit's cockpit was well-appointed straight from the box, but the resin seat and PE embellishments raised it to another level. That said, Eduard still left scope for modellers to use their detail painting skills on the side panels, in conjunction with the pre-coloured PE additions. Purists may note the main displays feature stores and tactical data, which would only be pertinent for an aircraft connected to a ground power unit or with the engine running; otherwise they would be blank. On a positive side, the 'active' screens brought the cockpit to life and added another level of interest.

The office innards received 71.050 Light Grey and then a lightened post-shade of the same colour with a hint of white, to provide contrast. Gloss varnish sealed the work to date, after which a dark grey wash was

Eduard's pre-painted PE embellishments added much detail to the cockpit, but there was also provision for careful painting of moulded features as well.



Compared to the styrene parts, Eduard's single-piece exhaust nozzles were a vast improvement, and Vallejo's metallic paints supplied a suitably convincing finish.



applied, to highlight the moulded detail. Lastly, everything was airbrushed 70.520 Matt Varnish to mute the finish.

Creating a bird of prey

Marrying the front and rear fuselage sections was simple, due to the excellent engineering, with the intake sides added next. It was vital to check which version of leading-edge root extension (LERX) to use, as there are two types, 100% and 75%; here the latter was required. This was the most complex assembly phase, so it was worth taking time to test-fit the parts as the LERX/wing/fuselage join can cause major issues. Modellers may find it advantageous to pre-mask elements of the intakes prior to construction, to make life easier during the main paint stage.

Eduard's resin nozzles and the styrene blast plates were treated at the same time as the fan blades, which optimised the use of paint and primer mixes. The former received additional hues, with 77.706 White Aluminium and a hint of AMMO-MIG's A.MIG-196 Warhead Metallic Blue airbrushed over the aluminium base layer.

Similarly, the blast plates were sprayed lightly with 77.721

Burnt Iron to replicate the heat staining. Vallejo's metallic



colours worked perfectly from pot to nozzle, but the airbrush was cleaned thoroughly with hot water between each colour, to prevent excessive paint accumulations.

Focus then shifted to the undercarriage, with the outriggers modified to receive the resin 'stirrups'; holes were drilled into the styrene 'legs' to accept these parts, and the completed units were set aside to minimise damage, as the resin was very fragile. Otherwise, assembly proceeded generally in accordance with the instructions. The upper wing/fuselage join was rather tight, so masking tape secured this part while the glue dried, to ensure the mainplanes were level.

Clear or frosted canopy

The bulged nature of many modern aircraft canopies is a challenge for model companies, and subsequently the hobbyist, to replicate, as multi-part moulds are required, which inevitably leaves a seam along the glazing. Clear styrene's brittle nature compounds the issue, due to its tendency to fracture easily if too much pressure is applied. It's therefore essential to support the underside when removing the seam line, and the curved shape lends

itself to the mark one finger being ideal. Here, progressively finer grades of sanding/abrasive sticks were employed after which wet-sanding techniques were employed to restore the canopy's shine. As always with such items, patience is a virtue, and this

cannot be rushed.

The rest of the PE parts then replaced the airframe antennas and pitot tubes, before the cockpit and air intakes were masked, prior to an airbrushed application of MMS-003 Grey Primer. To ensure the best possible finish, the model was set aside for 12hrs

for the primer to cure, after which it was sanded lightly to remove any blemishes or dust particles. This process was repeated for the weapons and external fuel tanks, which were mounted on cocktail sticks for easier handling.



▲ Once the fuselage and wings had been married and seams neaten where necessary, the air intakes were masked to protect the white surfaces.

► Just small amounts of filler were required at the wing/fuselage/LERX joins, although much test-fitting was needed to achieve the best results.





Green...or green?

The SAOEU jet wore the same camouflage scheme as the earlier GR.5 version, with BS 381C/285 NATO Green upper surfaces and BS 4800/10B.21 Lichen Green undersides. Eduard's colour reference (which listed Mr. Hobby shades) for the latter was slightly suspect, but this wasn't surprising due to its unusual tone. After much research and sampling, 71.011 Dark Green and Hataka 'Red Line' A128A All Green 'Protective' were selected for the upper and lower surfaces respectively.

Reference photos indicated this airframe was well-used, and not as pristine as other test aircraft, which presented an opportunity to weather the finish. All panel lines were pre-shaded with diluted black acrylic, starting with the underside. Hataka's All Green Protective was then airbrushed lightly, ensuring the underlying tones were still visible, before a

hint of white was added to provide visual contrast, concentrating on the centres of panels and those areas subject to more wear and tear. After this had dried fully, the lower surfaces were masked, with the colour guide images used as a guide, after which the Dark Green areas were painted similarly.

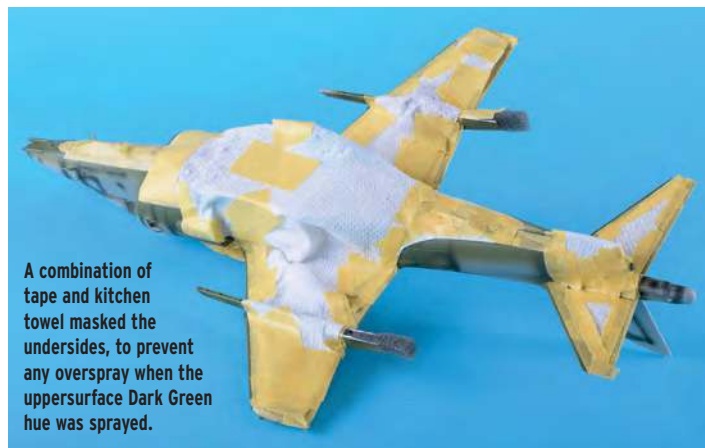
Hit or miss?

Attention then turned to the ordnance, and Wingman's (www.wingmanmodels.com) resin BL755s (WMF 32006) were effectively small models in themselves, comprising a single-piece main body with PE additions. While decals were supplied, these were for 'live' munitions, rather than the trial versions required for this project. First impressions were the raised detail was slightly 'clunky' and arguably over-scale, but this wasn't as apparent once the bombs were painted. The unusual markings were specifically for test purposes to allow easier monitoring of weapon release and the bombs' ballistic properties. Past experience has proven it's easier to apply the lighter colour first so, they were first painted white, then masked once dry, and the black areas airbrushed subsequently. These BL755s would have been freshly painted, so there was no attempt to weather them. Once the masking was removed, and any corrections made, they received satin varnish.

Similarly, the training AIM-9 Sidewinders were painted with referral to reference photos, after the airframe was sprayed white overall, the mid-section was



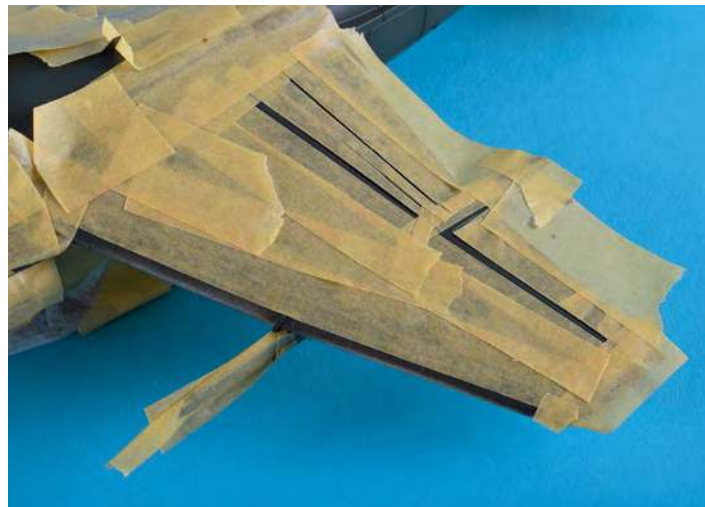
▲ Hataka's A128A All Green 'Protective' was airbrushed onto the lower surfaces, as this was the closest match to BS 4800/10B.21 Lichen Green.



A combination of tape and kitchen towel masked the undersides, to prevent any overspray when the upper surface Dark Green hue was sprayed.



▲ Post-shading for both camouflage colours was achieved by adding a drop of white to the base tone and focussing on panel centres and areas of high wear (as highlighted on reference photos).



▲ The wings required extensive masking to create the different-coloured sections on the wing leading edges, flaps and ailerons.

After the underside openings (air dam, mainwheel bay and airbrake) had been airbrushed white, they were masked and then a black pre-shade was applied to the panel lines.





▲ Vallejo's acrylic gloss varnish was employed to seal the main paint scheme and prepare the surface for the kit's decals.

masked and airbrushed 71.089 Light Sea Blue. The kit missiles were more than adequate, but modellers seeking extra refinement may wish to replace them with aftermarket versions.

The wheel bays and undercarriage are white on all second-generation Harriers and, following a gloss varnish, they were treated with dark grey wash to enhance the moulded features. Eduard's resin wheels were superb, featuring delicate sidewall detail and an accurate tread; once the white hubs had dried, the kit-supplied masks were added, and Tamiya XF-85 Rubber Black sprayed on the tyres.

Hard-working warrior

Decal preparation consisted of a further airbrushed layer of gloss varnish; the airframe was then set aside for 24hrs to allow it to cure. Perhaps unsurprisingly, kit markings behaved without fault, and required just minor applications of Micro Sol to conform to the airframe contours. It was important to use the correct stencils, as they changed in form during the GR.7/9's service...in this case, standard high-visibility versions were required. Gloss varnish then sealed the decals and provided a suitable surface for weathering.

As mentioned previously,



▲ Wingman Models' BL755 cluster munitions were a delight, with well-cast main bodies and PE arming vanes; their addition would enhance the appearance of any RAF Harrier.

reference photographs indicated ZG501 wasn't the most pristine airframe, and while the degree of weathering applied is a personal choice, I have found the balance between reality and a 'good' scale model a fine line to tread. Areas identified as requiring work were the jet blast plates and rear fuselage, underwing pylons, various vents and the wing flaps.

A variety of techniques were employed, but all involved building thin layers (via airbrush or Tamiya's 87079 Weathering Master Set A) until the desired effects were achieved, with wet

palettes for streaks or dry application for other forms of grime. The colours employed were 77.713 Jet Exhaust, 71.074 Radome Tan, 71.075 Light Sand and 71.044 Gray. A light dusting of earth-toned pigments on the wheels added contrast and evidence of many take-offs and landings.

With all sub-assemblies completed, the next stage was to attach the undercarriage, which wasn't quite the usual 'glue and attach' process, due to ensuring all five wheels touched the ground. Attaching the front and outrigger units first was the key to

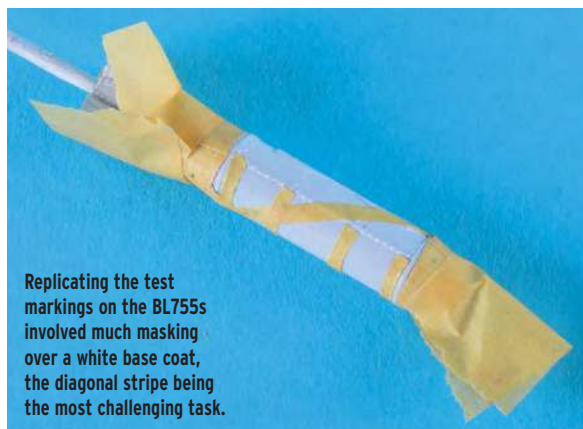


success, with the former's landing light replaced by a Little-Lenses 2.5mm item (www.modellingtools.co.uk). An assessment could then be made as to whether the mainwheel leg had to be adjusted to fit. The final elements to be attached included the BL755s, AIM-9s and external fuel tanks.

Cold War icon

The completed model was posed on Coastal Kits' pre-printed CKS670-48 Flight Line (www.coastalkits.co.uk), which was attached to an MDF base; modelling static grass was added along the boundary. A further focal point, in the form of Aires' Harrier Pilot (QAB480086) was then selected – while nominally a Falklands figure, the safety equipment appeared accurate for a 1990s aircraft. The flight suit received 71.012 Dark Green, while the helmet was white, with a satin black visor cover, with highlights and detail added through post-shading and dark wash techniques.

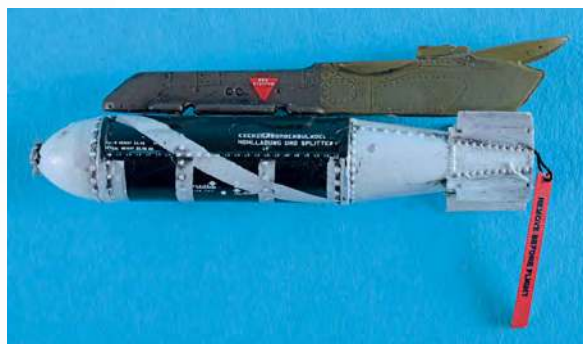
Eduard's extra refinements and colour schemes provide modellers with an ideal means of replicating this iconic aircraft for a comparatively low price, and while there are plenty of additional aftermarket products for the detail hounds, it builds well straight from the box.



Replicating the test markings on the BL755s involved much masking over a white base coat, the diagonal stripe being the most challenging task.



▲ The kit's AIM-9 Sidewinders were more than adequate and were painted as per reference photos, with medium blue centre sections. A gloss varnish prepared these items for decals and weathering.



▲ As a final touch, Eduard's 'Remove Before Flight' tags were added to the BL755s and AIM-9s with pieces of thin wire.



▲ While resin additions embellished the outriggers, and the kit wheels were also replaced with aftermarket items, the nosewheel landing light was swapped with a Little-Lenses 2.5mm lens.



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Jamie Hagg
discovers unlikely
inspiration for his
camouflaged Revell
1/24 Trabant 601S

CARTOON 'TRABIE'

When Eduard first released its 1/48 MiG-21MF, it produced a series of cartoons depicting various vehicles in the aircraft's decal schemes. One was a particularly eye-catching Trabant in East German colours, which was the inspiration for this article. So, eventually, after

many years, Revell's 1/24 offering was purchased to model this admittedly fictional vehicle.

This newly tooled Trabant kit was issued in 2009, rather than it being a modification of the original 1990 iteration. Unfortunately, Revell decided to mould the parts in white styrene, which can be awkward to work

with as it's difficult to see mould seams, joins and blemishes... and there was much to neaten. That said, the detail was pleasing, with a complete engine and comprehensive interior. Rubber tyres completed the package; while some modellers dislike this medium, others prefer it, due to the ease of reproducing a convincing finish.

Powerplant fun

Rather than dive straight into assembly, the one-piece body received an airbrushed coat of Alclad ALC-302 Grey Primer and Microfiller, for a uniform surface. It required just a light polishing

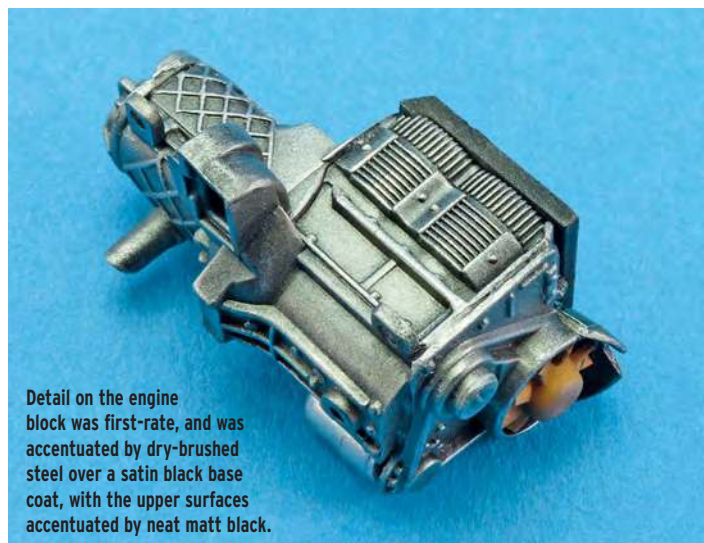
with a worn sanding sponge for a smooth finish, although this wasn't too important as eventually it would receive camouflage.

That done, work could start under the bonnet with the engine. The engine block and ancillaries were the first parts to be mated, and formed a well-detailed sub-assembly, which was hand-painted with Mr. Metal Color MC-212 Steel. This was then set aside to cure, after which a realistically shiny lustre was created by dry-brushing the unit. However, as the model was destined for a heavily weathered finish, it wouldn't stay that way for long.

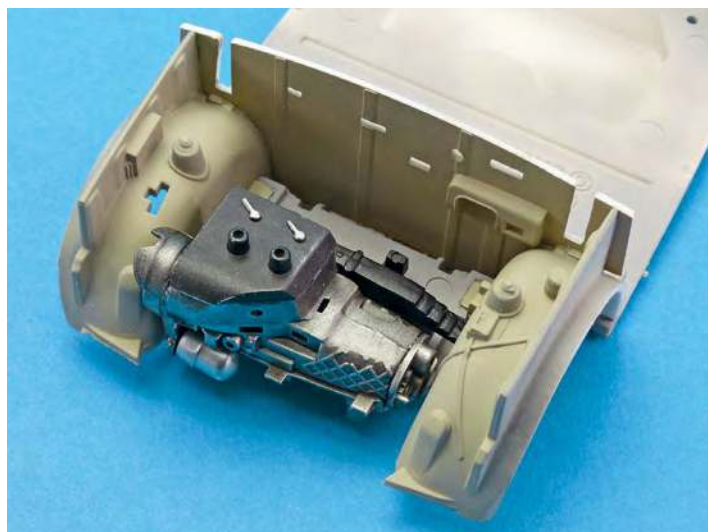
The engine was mounted onto



The first task was to cover Revell's glaring white styrene with a colour more suitable to checking for blemishes...Alclad's Grey Primer and Microfiller was ideal.



Detail on the engine block was first-rate, and was accentuated by dry-brushed steel over a satin black base coat, with the upper surfaces accentuated by neat matt black.



▲ With the engine positioned correctly, the pre-bulkheads were attached; while the compartment appeared bare at this stage, this would change as the build progressed.

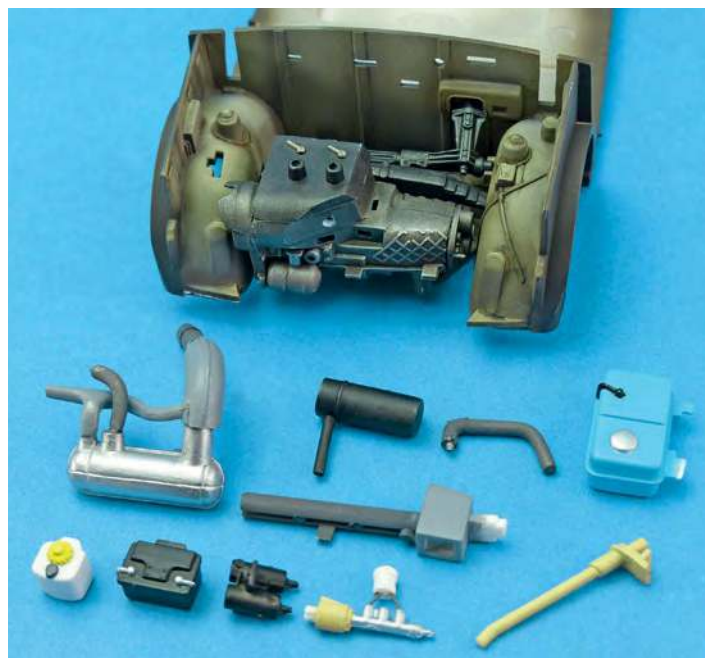
the previously painted chassis, along with the front suspension. While the leaf springs received satin black, as per Revell's suggestion, in hindsight these should probably have been chipped and weathered, as most reference photos revealed a heavily rusted appearance.

Before the box structure of the engine bay was attached, the parts received Tamiya XF-55 Deck Tan, along with elements of the main body. Trabants were often painted light beige, and this extended onto the interior sections of the shell. Weathering commenced at this stage, and the first task was to accentuate the moulded detail, courtesy of ALCHW-001 Dirt & Grime. Any excess was removed by

a moist brush and enamel thinner. Post-shading effects, comprising heavily diluted black/brown/grey, were applied in recesses and corners, to increase the bay's grubby appearance.

Two-stroke installation

Attaching the main engine components was easy, as the fit was impeccable. Next, the myriad detail parts were separated from their respective runners, neatened and then painted separately. Although time-consuming, the effort expended was well worth it, as when everything was added, the engine compartment appeared busy. As with all motors, there was much wiring to add; here it was fashioned from various



▲ Minor weathering served to add character to the engine bay, before ancillary components were painted and installed.



▲ Most parts fitted well, with the exception being the probable washer fluid bottle (white container on the far right). Note, several items were repainted after a study of reference photos.



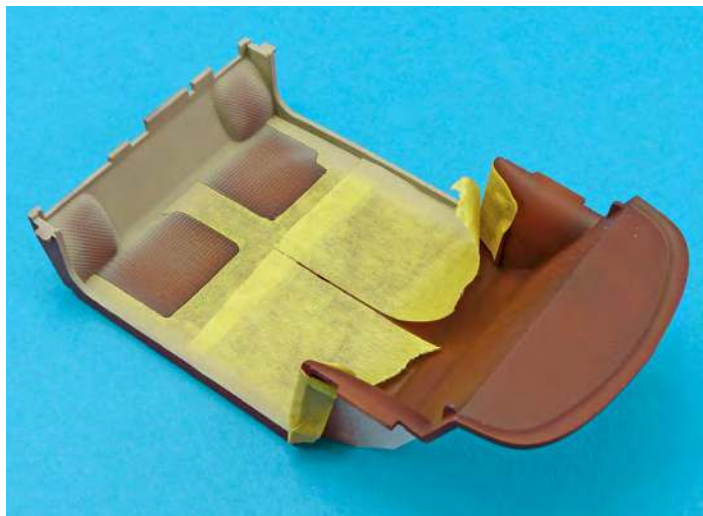


▲ Cables were replicated with varying diameters of thin wire. The aim wasn't to replicate everything, with just enough to make this area busy and colourful, although the tones were muted by weathering, which aimed for a well-used appearance.

thicknesses of brass wire, inserted into pre-drilled holes. Bright colours for the various cables provided an extra dimension to this area's appearance, by adding a further layer of detail to the basic styrene.

Once completed, the fun could begin, to change a spotless

showroom engine bay into a filthy, well used one. Diluted AMMO-MIG A.MIG-1407 Engine Grime was then applied, followed by various dust- and earth-toned pigments from the same manufacturer to replicate the dusty patina noted in references. These were worked into the various recesses with a brush, and then fixed with enamel thinners. Lastly, this thoroughly enjoyable mini-project was completed by flicking a thinned mix of Engine Grime and A.MIG-1408 Fresh Engine Oil with a small brush and cocktail stick.



▲ Despite looking straightforward, painting the floor was complicated, with much masking involved. In hindsight, the buff colour wasn't necessary as it couldn't be seen on the finished model.

Bouncing along

The suspension was equally refined and was painted and built as per the instructions. In a neat touch, the front wheels could be posed...albeit if care was taken during assembly. The undertray was then primed with black, after which a layer of dusty dark grey was applied to simulate road grime. An MC-212 Steel undercoat prepared the exhaust, before an airbrush was employed to apply misted layers of XF-64 Red Brown and a dark orange hue (the latter sparingly) for a rusty effect. The

instructions then called for the wheels to be added, but these were left off until near the end.

Being a one-piece affair, the vehicle's floor required much masking. Tamiya's XF-68 acted as a suitable base colour and, once the floor mats were masked, the lower bulkhead was sprayed XF-55 Deck Tan to replicate the beige tone. In hindsight this wasn't necessary as the doors were moulded shut, so this detail was hidden. After this had dried, the floor was covered with Tamiya tape and the floor mats

MODEL SPEC

Trabant 601S

By:	Revell
Stock Code:	07256
Scale:	1/24
Price:	£24.99

Available from: Revell stockists



painted dark grey.

Attention then shifted to weathering the interior, which began with an Abteilung502 ABT-105 Shadow Brown wash, to accentuate the moulded detail, followed by matt varnish. Dusty-hued pigments were then worked into recesses and fixed via enamel thinner. Lastly, the floor mats were dry-brushed with black to highlight the relief.

The seats received a base tone of XF-68 NATO Brown as this approximated the original vinyl shades seen in Trabis. Various dark oil tinges were then used to 'lift' the detail, after which the upholstery was dry-brushed with light brown and orange oils.

The door cards were masked and sprayed, to replicate a typical 1970s appearance (in other words, brown and black vinyl). Once the pedals and hand brake were painted, everything was brought together to create a neat sub-assembly, which would eventually

be added to the body shell after the latter had been airbrushed; to avoid any tricky masking.

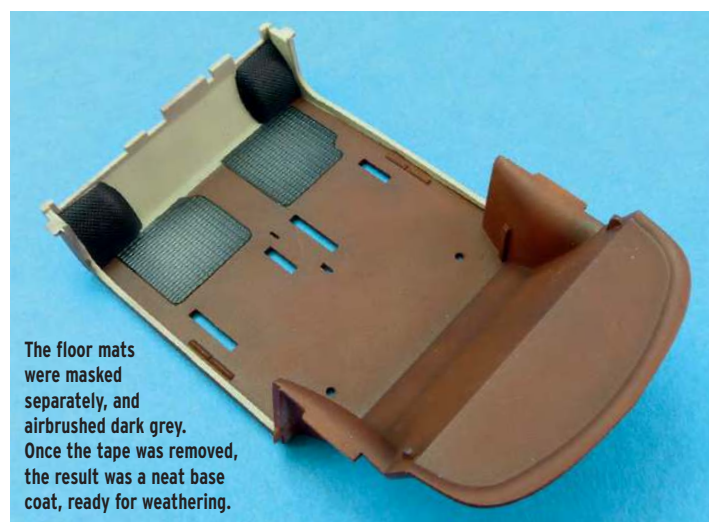
Duraplast hues

Using the original cartoon and Eduard's MiG-21 instructions, the

camouflage was applied from light to dark, starting with Mr. Paint's MRP-058 RLM 65. Tamiya tape was then added to set the hard-edged boundary between upper and lower colours, and the lighter green, represented by

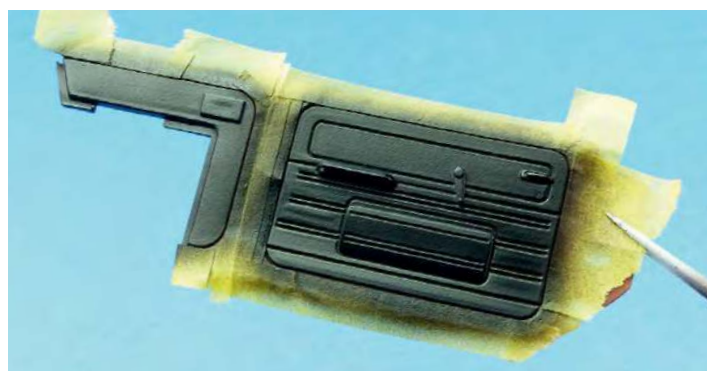
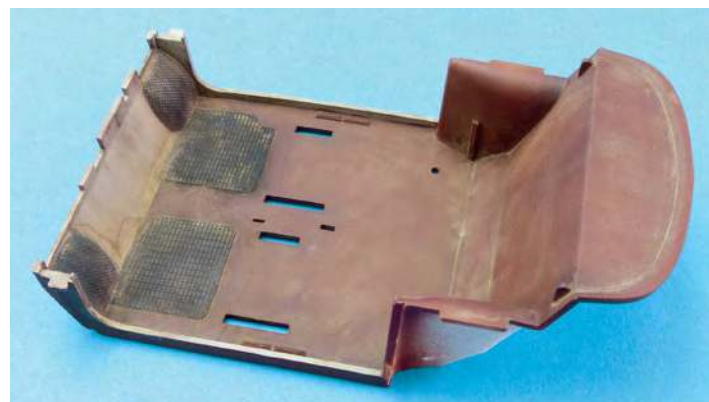
Mr. Hobby H52 Olive Green was then sprayed. The end cap was removed from the airbrush to allow a tight freehand pattern of H60 IJA Green to be applied. After this had dried overnight, yet more masking was added, in this case

“CABLES WERE REPLICATED WITH VARYING DIAMETERS OF THIN WIRE”

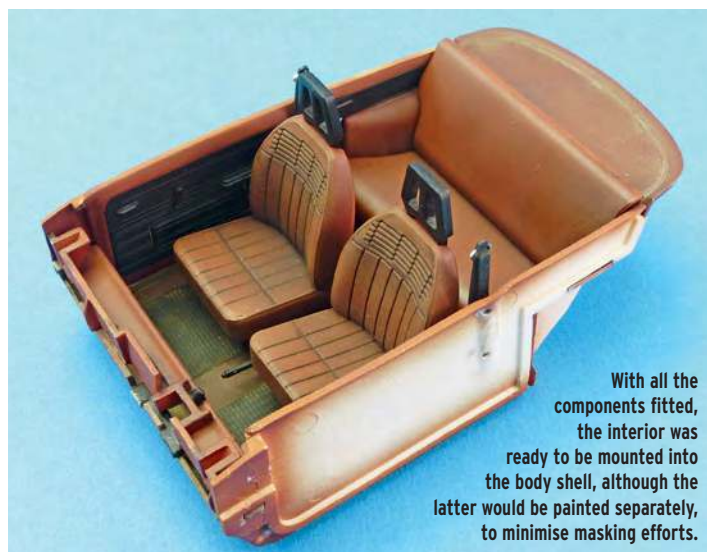


The floor mats were masked separately, and airbrushed dark grey. Once the tape was removed, the result was a neat base coat, ready for weathering.

▼ Extensive use of dust- and earth-toned pigments created a suitably dirty appearance, especially in the footwells.



▲ The door cards also required extensive masking; a quick method for creating curved corners was to use a suitably sized Punch-and-Die tool to cut circles in the tape.



With all the components fitted, the interior was ready to be mounted into the body shell, although the latter would be painted separately, to minimise masking efforts.



▲ Mr. Paint RLM 65 replicated the light blue-toned 'underside', and this was then covered with tape for a sharp demarcation line. The lighter green tone, H52 Olive Green was then airbrushed, with the original Eduard cartoon and MiG-21 instructions used as reference.



▲ This was followed by the darker hue, H60 IJA Green, which was also sprayed freehand.



The car's 'dielectric panels' in the form of rear light fairings, received garish Russian Wheel Hub Green.

for the bright green sections of the rear wing and the bumpers; the mudflaps and registration plate holders were painted at the same time.

With the body complete, the markings, which were sourced from Eduard's 1/48 *Fishbed* for the national insignia, and kit decals for the remainder. Miracle Masks were employed for the large serial number – these were custom produced for the project by Mal Mayfield. The bodysell was then set aside to dry thoroughly, and Mr. Paint Matt Varnish was applied

in a series of misted coats, for a smooth finish.

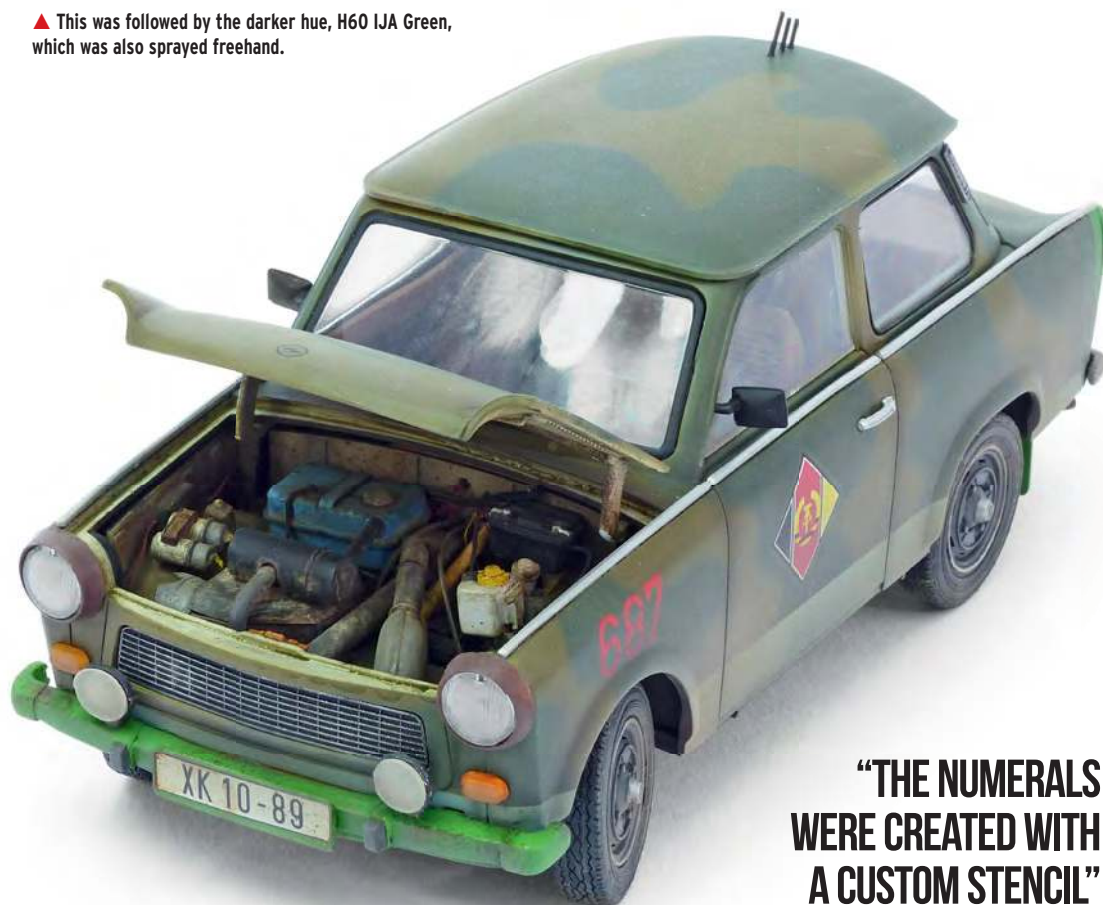
Space for six

As with the engine, there were many small fittings to add to the exterior...a time-consuming process, as each must be painted before assembly. While most construction was straightforward, there were several notable glitches, especially the windows, with the side units too small for the openings. They must be manipulated in such a way to minimise the gaps, otherwise there were glaring openings.

The indicators and rear light clusters were painted on the inside, although the final effect appeared slightly toy-like, and the colours didn't seem correct, so X-26 Clear Orange was applied over the top for a superior finish. A sanding sponge provided a suitably scuffed effect for the vinyl tyres, and fitting them to the wheels was helped by the 'cut-out' sections on the latter. Finally, mould seams on the chrome-plated brightwork parts caused much consternation as they were in awkward locations, a situation not aided by two pieces being broken while still on the runner; however, MC-218 Aluminium supplied a suitably shiny finish for these components.

Eastern grime

As with all exterior weathering, it's a good idea to think of a layered approach, where each complimented the other, without being too dominant. Although this was a fictional vehicle, the intention was for a realistic appearance, therefore just a light touch was required.



**"THE NUMERALS
WERE CREATED WITH
A CUSTOM STENCIL"**

First came the chipping effects for the bodysell. On the real vehicle this was a plasticised paper-based material, similar to Bakelite, so minor marks were made on the bumpers and registration plates via a sponge and A.MIG-044 Chipping. Next a tiny amount of rust-hued oil paint was worked into those metal surfaces, with the adage of 'less is more'. Post-shading was created with dark black/brown tones to add more depth to the paint finish.

A brown/green filter, mixed from various commercial off-the-shelf enamel washes, served to blend the colours and mute any stark contrasts, followed by further road grime, which was applied by airbrush. This comprised a diluted dark grey/brown mix of Tamiya acrylics, and was built in light layers, working upwards from bottom, and represented dirt thrown up by the wheels. At that stage the process stopped; mud splatters were considered, although it was felt the car would have been driven around the airfield as a squadron hack and not used cross-country!

Terrific Trabant

This was a highly enjoyable project, as Revell's kit was well-detailed and assembled easily, although there were several negative aspects, such as the white styrene, heavy mould seams and undersized glazing. Despite this, my primary interests remain with aircraft and the odd AFV, so while another car subject isn't planned, never say never! Here's hoping Eduard replicates its Velorex/Mi-24 combination with a Trabi in one of its forthcoming Mig-21 releases.



▲ While most markings came from the kit or Eduard's MiG-21, the numerals were created with a custom stencil by Mal Mayfield of Miracle Masks.



▲ The fit of the various major sub-assemblies was generally good, with the notable exception of the windows, which were too small. In hindsight, the front windows should have been edged in black as per the windscreen.



▲ Once the wheels were attached, the ancillary parts could be added. Most of these were attached prior to final weathering, to ensure they exhibited the same appearance as the rest of the vehicle.

Road grime was built gradually, working upwards from the bottom of the body panels.



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AMERICA'S FIRST JET BOMBER

240 pages



Boeing B-47 Stratojet

By: C Mike Habermehl, Robert S Hopkins III

ISBN: 978-1-91080-908-2

Price: £27.95 Format: 280 x 215mm

Web: www.crecy.co.uk

With more than 2,000 B-47s built, it's hard to believe this Cold War bomber started as a propeller-driven straight-wing design, and was viewed as an 'interim' design. Yet, as described in this exhaustively

researched narrative, the Stratojet influenced subsequent US heavy bomber designs (notably the B-52), and served in roles that weren't considered at the time of the XB-47's first flight in 1947. While there have been other histories of the type, this volume benefits from recently declassified USAF documents. The result is arguably the definitive account of the first all-jet bomber to serve with the USAF, and covers all aspects of its career dispassionately, highlighting successes as well as failures. While bombers may have all the glamour, they were never flown in anger, as described here, it was the later electronic and photographic reconnaissance variants that operated at risk when conducting missions over the Soviet Union and China, and several were shot down. All variants are described in depth, and there is a complete listing of every B-47 airframe built, plus a summary of all crashes/incidents. This is a treasure trove of information and one every Stratojet aficionado should possess. **SF**

GUSTAV IN DETAIL

160 pages

Messerschmitt Bf 109G with DB 605A Engine

By: Robert Pęczkowski

ISBN: 978-83-65281-68-5

Price: £17 Format: A4

Web: www.mmpbooks.biz

Messerschmitt's Bf 109 is easily one of the most recognizable and popular German aircraft, and this is reflected in the number of kits and reference books on the type. Mushroom's latest examination covers the -G variant, or 'Gustav' as it was known, and begins with a concise description of the various sub-types, starting with the G-1 and culminating with the G-12 and G-14. The narrative for each is augmented by 1/48 scale drawings (including cross-sections for several variants) and period photos reveal changes and improvements as the aircraft was developed. Field modifications, in the form of the Rüstsatz series, have a separate chapter as these applied to most, if not all, versions. While modellers will appreciate all the above, the real 'meat' follows with an overview of the Bf 109G, followed by a performance



comparison with Allied and Axis fighters (Spitfire, P-51, P-47, Yak-3 and A6M Zero). The extensive walk-round features period, museum and warbird aircraft to cover the airframe in depth. High-quality digital artwork throughout this volume serves as a mere teaser for the finale, namely 16 pages of full colour profiles, which highlight differences in camouflage and markings for German, Hungarian, Romanian, Swiss, Slovakian, Finnish and Italian airframes. **SF**

NORMANDY PERSPECTIVE

432 pages



La Percée du Bocage

By: Stéphane Jacquet

ISBN: 978-2-84048-435-6

Price: £77 Format: 215 x 305mm

Web: casematepublishers.co.uk

Having dealt with the British XXX Corps in its first volume on the post-Normandy invasion breakout, Heimdal's second examines events from the perspective of British VIII Corps. This is a tour de force, with the comprehensive French-language text augmented

by more than 1,000 photos (most previously unpublished), plus maps depicting notable actions. Using a mixture of operational archives and personal accounts, Stéphane Jacquet offers a breath-taking insight into the events between July 30 and August 16, 1944, which was a period of ferocious fighting between VIII Corps and the heavily armed German defenders. Events are broken down chronologically and specific units in action are identified wherever possible, with features on the uniforms, insignia and organization of the opposing forces; photos of museum exhibits aid explanation of how soldiers were attired and equipped during this period. While there aren't huge numbers of close-ups, there is plenty for modellers to appreciate, and diorama builders are spoilt for choice, such is the selection of visual riches. Regardless of whether one is fluent in French, this is a magnificent treatise on VIII Corps' actions, which contributed greatly to the eventual Allied breakout. **SF**

FROM EIGHT WHEELS TO SIX

112 pages

Panzer III on the Battlefield 2

By: Tom Cockle

ISBN: 978-615-5583-10-0

Price: £25.99

Format: 300 x 217mm

Web: www.panzerwrecks.com

Peko's second selection of Panzer III photos is just as impressive as the first, offering views of these tanks on parade, in barracks, on the front line and post-combat. The dual language Hungarian/English captions provide a wealth of additional information, while also highlighting details on individual machines. It's a veritable gold mine of modelling reference, with examples of the early Ausf.A/B/C/D variants, with eight road wheels, mixed in with the more familiar six-wheeled versions. The latter include command versions, and it's notable how the amount of add-on armour increased as the war progressed. The photos are an eclectic mix of propaganda, combat camera and crew images, and the latter lend a human touch, especially when



misfortune struck, such as a Panzer III that flooded while fording a river... dozens of soldiers gathered to watch the crew recover their gear. All climes and terrains are featured, and it's interesting to see how exterior stowage varied between fronts and at different times of the year. While other references may be more comprehensive, this collection is nonetheless indispensable, due to the overall quality of the selected photos, proportion of previously unpublished shots and the inclusion of the majority of Panzer III variants in one volume. **SF**

BATTLE OF NARVIK

80 pages



British Destroyer vs German Destroyer

By: David Greentree, David Campbell
 ISBN: 978-1-4728-2858-3
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 Web: www.ospreypublishing.com

Osprey's 88th 'Duel' volume examines the clashes between British and German destroyers in the narrow confines of Narvik Harbour during early April 1940. It's a fascinating study, and packs in a huge amount of information,

and analysis of the factors involved, from the weather, availability of accurate intelligence, weapon performance and tactics. The introduction is excellent, and sets the scene for the rest of the book, which offers a chronology of events leading to the two battles, before a comparison of the differing design philosophies behind British and German destroyers. This segues into the technical specifications which, in addition to supplying the necessary facts and figures, also offers analysis on ship powerplants, armament and protection. While the later examination of the battles is gripping, perhaps the most interesting section offers insight into the personnel, notably British Captain Bernard Warburton-Lee, whose aggressive and bold actions led directly to the battles at Narvik and were in keeping with Royal Navy traditions. The narrative is supported throughout by period black and white photographs and a series of maps, colour profiles and reproductions of paintings, the latter capturing the atmosphere and dangers magnificently. **SF**

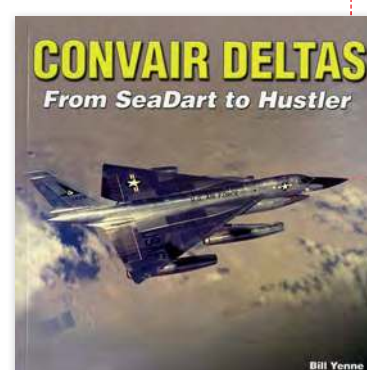
TRIANGLE-WINGED THUNDER

216 pages

Convair Deltas

By: Bill Yenne
 ISBN: 978-1-5800723-1-1
 Price: £23.99
 Format: 230 x 229mm
 Web: www.crecy.co.uk

US aircraft manufacturer Convair shared one characteristic with France's Dassault...the 60° delta wing was the basis of most of its designs. This book celebrates this iconic planform through the lens of the San Diego-based company, from its earliest XP-92 test-bed to arguably its ultimate expression in the B-58 Hustler (although firm's F-106 would remain in service long after the bomber was retired). Introductory chapters on delta wings, and how Convair came to be formed, culminate in the firm's first operational jet-powered delta fighter, the F-102, and the type's development, service history and combat missions are examined in depth. Two unsuccessful projects (XFY-1 Pogo and F2Y-1 Sea Dart) are explained briefly, before the F-106 is introduced, and treated in the same manner as it's Delta



Dagger predecessor. A quarter of the pages are then set aside for the B-58 Hustler, Convair's ingenious, yet overly complex supersonic nuclear bomber, charting its inception, evolution, often difficult operational service, and legacy (with a brief glimpse at proposed developments), which includes General Dynamics' cranked-delta F-16XL. With its plethora of company and archive photos, plus well written narrative, this could appeal equally to aviation enthusiasts and modellers, although the latter will appreciate the many close-ups and 'what-if' projects. **SF**

MITCHELL'S LEGEND

240 pages



The Supermarine Spitfire Part 1

By: Richard A Franks
 ISBN: 978-0-995-7773-5-4
 Price: 19.95 Format: A4
 Web: www.valiant-wings.co.uk

In this first Valiant Wings volume on the Spitfire, the author caters for Merlin-powered variants, including the Seafire. A brief preface sets the stage, after which the four main development stages are examined; early Mk.I-Vs, Mk.VI through to the Mk.IX and

Mk.XVI, photo-reconnaissance versions, and finally the naval Seafire. These chapters are packed with high-quality black and white photos, plus multiple line drawings and well-written and informative captions. An overview of Spitfire colours and markings completes the 'full-size' section, with a splendid array of profiles. After a useful kit listing (with reviews of most items), readers are treated to builds of 1/72, 1/48 and 1/32 Spitfires, offering much advice and guidance on techniques. 'Building a Collection' investigates the changes between variants, although arguably, this section would have benefited from kit recommendations for each sub-type to aid modellers. A comprehensive walk-round, plus close-up photos and pilot/engineer manual extracts then covers every nook and cranny of the Spitfire, providing a wealth of information, and this ode on Mitchell's legendary design finishes with decal and accessory listings, plus 1/48 scale plans (on a double-sided multi-page gatefold). **SF**

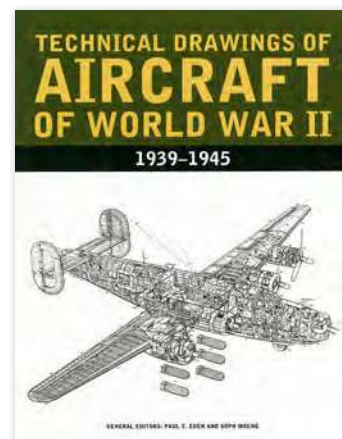
UNDER THE SKIN

256 pages

Technical Drawings of Aircraft of World War II

By: Paul E Eden, Soph Moeng
 ISBN: 978-1-905704-32-3
 Price: £19.99 Format: 238 x 304mm
 Web: www.amberbooks.co.uk

Much of this book will be familiar to aviation fans, part-works collectors and owners of Aerospace Publishing journals, but as far as can be determined, this is possibly the first time such a compilation has been released in a single volume. While most of the subjects are from the 1939-45 period, there is the occasional anomaly, such as Meteor NF.14, but many of the major types are covered. Disappointingly, there are several notable absences, including the Hampden, B-26 Marauder, all Henschels, and the J2M Raiden. Most of the aircraft 'skeleton' drawings are by renowned artist Mike Badrock, and these are supplemented by splendid full-colour artwork of certain aircraft types by various contributors, with extended caption annotations. Subjects are listed alphabetically by manufacturer, and divided into



three categories; Bombers and Dive-bombers, Fighters and Ground-attack Aircraft, and Transport, Reconnaissance and Maritime Patrol Aircraft. The illustrations/artwork, which undoubtedly have appeal for the scratch-builder or super-detailer, are supported by a mix of period colour and black and white photos, offering useful information on colours and markings. Whether one has interest in the hobby, aviation in general, or the historical significance of this type of drawing, this collection is recommended highly. **SF**

SWEPT-WING TESTBED

80 pages



Bell X-2

By: Peter E Davies

ISBN: 978-1-4728-1958-1

Price: £12.99 Format: 185 x 248mm

Web: www.ospreypublishing.com

Bell's X-2 was to high-speed swept-wing research what the X-1 was to the sound barrier and this Osprey X-Planes is devoted to the former's design, development and its 20 test-flights. It's arguably one of the more difficult histories to document, as the project suffered several tragedies – both X-2s were

destroyed, and two test pilots and a launch aircraft crewman killed. The author balances these aspects with the undoubted successes, including being the first aircraft to fly above 100,000ft (30,480m) and exceed Mach 3 (2,302 mph/3,704kph). In a slight departure from the usual format, the first three chapters effectively cover the type's background and development, with the US exploiting data from captured German documents, personnel and equipment. The following chapters then address the X-2's initial flights (with and without the engine activated), during which triumphs were mixed with tragedies, before the author offers a thought-provoking assessment of the project. Archive photographs, many previously unpublished, provide further context to the engaging narrative, and all aspects of the flights are covered, including the many landing incidents. The X-2's colours, markings and structure are revealed via digital artwork and profiles, and these are the 'icing on the cake' for this fascinating study into early high-speed flight. **5F**

FLOATPLANE OBSCURITY

180 pages

Dornier Do 22

By: Djordje Nikolic

ISBN: 978-83-65437-61-7

Price: £29.95

Format: 210 x 297mm

Web: casematepublishers.co.uk

Dornier's Do 22 wasn't a successful design, with just 29 airframes built, but it still served with Finnish, Greek and Yugoslav forces. This wonderful monograph came about due to the author's interest in the type, and his enthusiasm for the project (which is infectious) is evident throughout. From the introduction, through to the account of the Do 22's predecessors and development of this unusual floatplane, there is a meticulous eye for detail, assisted by a careful selection of public and personal archive photographs (this extends throughout the narrative). Sections on Construction Features and Operation/Maintenance offer the modeler unprecedented insight into the aircraft's structure, powerplants and equipment, boding well for any Planet Models or vac-form build project. Attention then



shifts to the Dornier's service in the Yugoslav, Greek and Finnish armed forces, including actions during World War Two. The photos in this section are among the best in this volume, backed by copious entries from maintenance manuals. One chapter is devoted to colours and markings, including extracts from Dornier's factory painting instructions; these are supplemented by 20 pages of digital artwork. The 1/72 scale plans are an impressive final touch, but nothing compared to the two double-sided A2 sheets of 1/32 drawings...scratch-build project anyone? **5F**

'MEATBOX' DETAILS

96 pages



Gloster Meteor

By: Martin Derry and Neil Robinson

ISBN: 978 152670 2661

Price: £16.99

Format: A4, softback

Web: www.pen-and-sword.co.uk

Can it already be the 13th instalment in the Flight Craft range? Time flies it seems, but this new volume on Britain's first operational jet fighter is, arguably, one of the best. It follows the usual format, with period photos, insightful text, colour artwork and

a modelling products section. The difference is that the actual quality appears to be better – not by a huge margin – but the game has been raised. Modellers have much to savour in the photos (black and white, and colour), as many appear to be rare or previously unpublished, which is always good if one seeks a different perspective or something new. Diligent exploration of archives and private collections has paid off handsomely here. The book also shows just what a colourful subject the Meteor could be, via myriad liveries that include those of training and test airframes. 'Modelling the Meteor' presents descriptions of all the important kits (Airfix's new-tool 1/48 Meteor, Tamiya's, Special Hobby's and others), while built model images give context and show how different kits look when completed. The artwork is inspiring, especially when considering the two-seat variants/night fighters. All-in-all, this is a fine reference for any Meteor fan, particularly those new to the type. **CC**

THE 'BRICK' UNPEELED

188 pages

Blackburn/BAE Buccaneer Owners' Workshop Manual

By: Keith Wilson

ISBN: 978 1 78521 116 4

Price: £25

Format: 277 x 217mm

Web: www.haynes.com

This most famous and beloved Cold War jet gets the full Haynes treatment, but it does reinforce the sad lack of a current, state-of-the-art styrene kit of the type. Detail-hounds will love this hardback for its many close-ups and airframe photos, but the period shots are even better, as some impart real atmosphere and give appreciation of the different Buccaneer schemes, including those applied by the aircraft's only export customer, South Africa. The early naval imagery is especially interesting, with studies of Fleet Air Arm 'Bricks' on carrier decks and in the air; page 13's photo taken from a rear cockpit shows just how astonishingly low the Buccaneer flew over the sea. Operations in the First Gulf War are also explored (and



all that superb nose art is shown), while 'survivors' in museums are also depicted...including those in taxiing condition at Elvington and Bruntingthorpe. The aircraft at the latter venue, preserved and operated by The Buccaneer Aviation Group, is the subject of the fascinating maintenance section. It's high time the Owners' Workshop Manual series tackled this legendary ground-attack type, and noted aviation author Keith Wilson has done it well. **CC**

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TORPEDO FIGHTER

1/48



Fw 190A-5/U14

By: Dragon

Item no: 5569 Price: £39.99

Web: www.hobbyco.net

Dragon is well known for 'tweaking' products for new releases, and this combines parts from at least two separate kits (both re-boxed Trimaster) to which a newly tooled three-piece extended tailwheel has been added. As per the original boxings, there are photo-etched (PE) parts for the cockpit instrument panels and side consoles, plus the

rear decking. This means there's a splendid cockpit, plus well-appointed wheel wells, detailed undercarriage and a convincing LT F5b torpedo and associated rack. While the parts show signs of ageing, with more flash than would be expected from a Dragon offering, it's easy to see how these Fw 190s were regarded as state-of-the-art in the late 1980s, with fine recessed panel lines, and clever use of PE to augment the styrene features. A single scheme, for a prototype machine, is supplied: • WNr 150871, TD+SI/781, 1943

VIVID AEROBATICS

1/72



Yak-130

By: Zvezda

Item no: 7316 Price: £19.99

Web: www.hobbyco.net

Zvezda has been quick to re-package its excellent 1/72 Yak-130 *Mitten* trainer in the livery of the newest Russian Air Force display team, Krilya Tavrida (Wings of Tavrida). Compared to the earlier release, this lacks the dedicated weapons runners, with four of the five remaining frames moulded in a rather garish red colour, which is perhaps surprising given the aircraft's white

undersides. This means there is a complex assembly sequence to capture the type's sinuous curves (see AMW Oct 18, p42), but the detail is superb. Options included raised/lowered undercarriage and open closed canopy and airbrake; two delightful four-piece pilot figures are supplied for the cockpit and are possibly the first modern Russian aircrew figures in a kit. As a bonus, there are spare AA-11 Archers and drop tanks. Just the single Wings of Tavrida scheme is supplied, for airframe #02 (currently the only aircraft of which there are photos).

DEVELOPING TRAINER

1/48



L-39 Albatros Evolution

By: Eduard

Item no: 11121 Price: €48.75

Web: www.eduard.com

Eduard's title has a double meaning, covering the changes from baseline L-39C to -ZO variants and the improvements offered to Special Hobby's styrene and resin parts, in the form of a pre-painted photo-etched (PE) metal fret and pre-cut self-adhesive canopy and wheel mask. This is one of the latter firm's earlier offerings, so don't expect locating pins, but surface detail is in the form of delicate engraved panel lines

and fasteners. Unsurprisingly, most of Eduard's PE is devoted to the spacious cockpit, where it augments and refines the kit's features, notably the instrument panels, side consoles and ejection seats. Despite all the changes, minimal surgery is required, although careful measuring will be needed when positioning the underwing pylons. The two colourful liveries are:

- L-39C, RA1039K, Aero Jet Club, Myachkovo Aerodrome, Moscow, May 2005
- L-39ZO, 831135, Lt Laszlo Goron, 59th Szentgyörgyi Dezső, Kecskemet, Hungary, 2005

EXPERIMENTAL CLAUDE

1/72



Ka-14

By: FineMolds

Item no: FP-33

Price: £15.87

Web: www.finemolds.co.jp

Mitsubishi's Ka-14 is perhaps better known by its service designation of A5M, and FineMolds' kit offers the chance to build the prototype airframe. It comprises just three styrene runners, plus a separate windshield, but the moulding quality is excellent, with engraved panel lines and convincing rivet detail on the exterior. However, the standout

item must be the intricate cockpit, which is built as a separate sub-assembly, including interior framing and machine guns, before being sandwiched between the fuselage halves. Similarly, the attention to detail on the engine is impressive in this scale, with exhaust and fuel piping replicated faithfully, even though little will be seen behind the vented cowling. The single scheme depicts the overall natural metal prototype after it received nacelle and fuselage modifications, with its distinctive red horizontal and vertical stabilisers.

WHEELS OR FLOAT COMBO

1/72



SOC-3 Seagull 'Battleship Observation Squadron'

By: Hasegawa

Item no: 02252 Price: £39.99

Web: www.amerang.co.uk

Despite the type's importance as a reconnaissance/gunfire spotter, Hasegawa's 1969 kit is the only mainstream SOC-3. This release offers two kits (one of each sub-type), and provides markings for pre-war units, with nine styrene runners in total (the floatplane has five, the landplane four), plus separate single-piece canopies. As

might be expected, interior detail is basic, with just 'L-shaped' seats and a rudimentary rear console, but otherwise the overall shape and dimensions appear correct. The markings guide labels one option as an SON-1, but this was an SOC-3 built by the Naval Aircraft Factory; a display stand is included for this version. There is a single decal choice for each kit, featuring machines from two US Navy battleships:

- SOC-3, 1103/4-0-4, VO-4, USS *Colorado*, possibly 1939
- SON-1, 1183/5-0-8, VO-5, USS *New York*

AIRBORNE PIRATE

1/72



F4U-1B Corsair

By: Revell Item no: 03917

Price: £6.99 Web: www.revell.de/en

Revell's 1/72 Corsair is one of the firm's unsung gems, offering modellers great value, plus plenty of detail...its only drawback is it's a hybrid F4U-1/1A/-4. This latest boxing is labelled incorrectly as (according to references) KD344 was an FG-1D/Corsair IV, and not an F4U-1B/Corsair I. That said, it does supply the correct 'clipped' wing tips for a Fleet Air

Arm machine, but modellers will need to correct the cockpit rear bulkhead, which is configured for an F4U-1. Options include open/closed engine flaps, canopy and raised/lowered undercarriage, but there are no underwing bombs/rockets. Modellers should also check references regarding the roundels and fin flash, which appear incorrect for that period of the war. The single scheme depicts an overall Gloss Sea Blue airframe: • KD344/U6K, 1846 NAS, HMS *Colossus*, July 1945

RETURN OF THE 'SCOOTER'

1/48



A-4E/F/G Skyhawk

By: Italeri

Item no: 2671 Price: £29.99

Web: www.hobbyco.net

Esci's long-discontinued 1/48 Skyhawk makes a welcome return in Italeri's re-boxing, which retains the original parts and adds a colourful decal sheet. There are three styrene runners, plus a two-piece canopy, although for this to be displayed open, modellers will need scratch-building skills. While not as refined as Hasegawa's A-4s, the parts breakdown promises a simpler build, and there's a good selection of ordnance for the

centreline and underwing pylons, making it ideal for a beginner. The cockpit is basic, and would benefit from aftermarket improvement, while the exterior detail is a strange mix of raised (wings) and engraved (fuselage) panel lines. The four markings are:

- A-4F, 155009/515/NP, VA-55 'Warhorses', USS *Hancock*, Vietnam, 1972
- A-4F, 152098/01/UE, VC-5 'Checkertails', NAS Cubi Point, Philippines, 1972
- A-4E, 148609/00/EJ, VC-2 'Blue Falcons', NAS Oceana, 1970
- A-4G, 154908/887, 805 Sqn, Royal Australian Navy, 1973

HIGH-ALTITUDE EXPERIMENT

1/72



Blohm & Voss Bv 155V-1

By: Special Hobby

Item no: SH72340 Price: €16.30

Web: www.cmkkits.com

The Bv 155 was one of the more unusual German designs to emerge, yet despite just a prototype being built, it's popular among limited-run kits. Special Hobby's newly tooled offering supplies well-moulded parts on four styrene runners, with a separate single-piece canopy and two crisply cast resin undercarriage bay bulkheads. While it bears

characteristics of short-run products (no locating pins and rough exterior), the detail is executed neatly; there are fine engraved panel lines, convincing radiator grilles and cockpit instrument panels. The wings are engineered cleverly, with the lower 'half' split into a long centre section with outer pieces, while the upper components are single items...which should ensure a robust structure. Two-piece Swastikas are supplied for the prototype scheme: • Bv 155V-1, Finkerwalde, December 1944

MULTI-ROLE TWIN

1/48



Heinkel He 111H-6

By: ICM Item no: 48262 Price: £41.99

Web: www.icm.com.ua

There is a price differential between this and the original H-3, but that's because the latter's components are included on eight styrene runners, along with an additional six new frames. These provide new glazing, underfuselage racks, propellers, bombs, wheels and LT F5b torpedoes (the latter are from ICM's Ju 88 kits). In addition to a bumper selection of spares, there's a fully detailed

interior, a choice of bomb or torpedo armament, two lovely Jumo 211F engines, plus alternative gondola, nose and dorsal gun glazing. This is easily the best He 111 in the scale, and raises the bar in terms of what modellers can expect from a new release. Four airframes are offered:

- 1H+HL, 3./KG 26, Norway, summer 1941
- 1H+BB, Stab I/KG 26, Bardufoss, Norway, July 1942
- A1+NS, 8./KG 53, Poland, June 1941
- 1G+ER, 7./KG 27, Russia, November 1941

BIPLANE WITH A HUMP

1/48



Sopwith Camel

By: MisterCraft

Item no: D-231 Price: £7.99

Web: www.amerang.co.uk

MisterCraft's Camel has real vintage potential, being a re-boxed mid-1960s Merit kit, with all that entails in terms of detail, parts count (29) and accuracy. However, for those wanting to build their first biplane, it's ideal; the decals may appear soft in places, but there's nine nationalities to choose from. While the raised surface detail is heavy in places, it should

respond well to careful dry-brushing. The options are:

- B7190, 10 Squadron, Royal Naval Air Service, France, Mar 1918
- (captured), Jasta 23b, Epinoy, France, Apr/May 1918
- F5234, Polish AF, 1920
- Sx 7, 11 Esc., Belgian AF, 1922
- Air Regt 6, Voluntary White Army (Russia), 1918
- N6616, Latvian Air Regt, 1919-20
- 1967, Hellenic AF, 1919
- 'Black bat', 34th RAO, Red Army Air Force, Russia, 1922
- No.7/White 9, Liepaja, Latvia, June 1919

TWO-SEAT HUN

1/72



F-100F Super Sabre

By: Italeri

Item no: 1398 Price: £16.99

Web: www.hobbyco.net

Italeri's F-100F might not be the most modern offering, but for value and ease of assembly, it's worth consideration. There are just two styrene runners and a one-piece canopy, but the cockpit is well appointed, while the undercarriage and airbrake bays benefit from crisply moulded features. A generous helping of fuel tanks, napalm canisters and

rocket pods is supplied, along with alternative refuelling probes (straight/cranked), plus standard/F-102-style exhausts (the latter are for US Air National Guard airframes). The five liveries are:

- 63980, 335th TFS, 4th TFW, Seymour Johnson, 1959
- 63867, 458th TFS, 506th TFW, Ramstein, Germany, 1958-59
- 63893, 79th TFS, 20th TFW, Wheelus, Libya, 1960
- 92562, 113° 'Korsan' Filo, Turkish Air Force, 1980
- 64009/3-1X, EC 1/3 'Navarre', Reims, France, 1960

DIMINUTIVE V/STOL

1/144



AV-8B Harrier II

By: Platz

Item no: FC-9 Price: £21.99

Web: www.tigerhobbies.co.uk

Platz has repackaged F-Toys' lovely Harrier II into a two-kit set, with options for three versions, a US Marine Corps AV-8B(NA) and AV-8B Plus, and British GR.9. It comprises three styrene runners per model, with separate single piece canopies, and fine engraved panel lines. Optional nose cones (three), vertical stabilisers (two) and chaff/flare dispensers (two) are supplied, but the

latter are just for AV-8B+ airframes. The cockpit is well-detailed, with a pleasing ejection seat, but modellers wanting a British 'jump jet' must scratch-build outrigger pylons and a ventral chaff/flare dispenser. Weapons options are restricted to drop tanks and AIM-9 Sidewinders, with fuselage strakes supplied. Three schemes are included:

- AV-8B(NA), 163882/06/CF, VMA-211 'Wake Island Avengers', 1990
- GR.9, ZG406/35, Naval Strike Wing, RAF Cottesmore, 2010
- AV-8B+, 164570/01/CG, VMA-231 'Ace of Spades', 2006

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SHOP TRACTOR T10

1/35



M3A1 Lee CDL

By: Takom

Item no: 2115 Price: £47.99

Web: www.pocketbond.co.uk

This unusual armoured-searchlight variant was based on the British Canal Defence Light-equipped M3 Grant, but M3 Lee versions were designated 'Shop Tractor T10'. The kit incorporates the M3A1's cast hull with an all-new searchlight turret on Runner U (replacing the gun); several frames are noticeably denuded of parts, but the well-rendered

suspension and high-quality link-and-length tracks remain. All parts are well moulded, and there is much to savour, from the hull rivets (lower), cast texture (upper) and phot-etched brass engine grilles. There are four overall Olive Drab schemes:

- D-11, 736th Tk Bn 'Project Cassock', Camp Bouse, Arizona, 1943
- C-35, 738th Tk Bn, European Theatre of Operations, 1945
- B-23, 740th Tk Bn, Rosebush Camp, southwest Wales, March 1944
- A-14, 739th Tank Bn, European Theatre of Operations, 1945

NIPPON LOAD CARRIER

1/72



917t Japanese Truck (Yokohama Cab)

By: IBG Models Item no: 72060

Price: £10.50 Web: www.ibg-com.pl

This newly tooled offering from IBG provides the Japanese version of Germany's Ford G917 truck, with a straight, as opposed to curved, windscreen. Despite the small scale, this is a busy offering, with five styrene runners and a photo-etched brass fret, plus a three-piece driver figure. The features rival those in larger-scale kits, with

a detailed engine, suspension and cab interior. There are even two Type 38 rifles for the cab's rear wall, and chassis-mounted water/oil bottles. Such is IBG's attention to detail. Options include open/closed doors and raised/lowered cargo bed panels. A single Imperial Japanese Army Green scheme is offered, with six markings options for units deployed to China from 1940-45, plus two full and one empty registration plate (individual numerals are supplied for the latter).

JABO NEMESIS

1/35



Soviet 1.5T Truck with M-4 Maxim AA Machine Gun

By: MiniArt

Item no: 35186 Price: £39.99

Web: www.creativemodels.co.uk

MiniArt has combined its 1.5T Soviet truck with the quad Maxim mount from its GAZ-AA release (35177), and two multi-part figures, posed as if starting the engine with the crank handle. It comprises 43 styrene runners and a small photo-etched brass fret. The contents are amazing; the door interiors have convincing fabric representation,

and the Maxims include spare magazines and ammunition feeds. Ten schemes are supplied; several have no unit identification, and two represent captured vehicles:

- 44-55, Red Army, summer 1941
- BT ZZ-71, Red Army, Western Front, summer 1941
- Д4335, Red Army, Southern Front, summer 1941
- BC 40-07, Red Army, Western Front, summer 1941
- (Captured), 54 Gebirgs-Nachrichten-Abteilung, 1 Gebirgs Div, Eastern Front, 1942
- A-2-00-98, Red Army, 1942-44

EARLY WAR BLITZKRIEG

1/35



Panzer IV Ausf.E

By: Zvezda Item no: 3641

Price: £29.99 Web: www.hobbyco.net

Having impressed modellers with its 1/35 Ausf.H, Zvezda has backdated the parts for an Ausf.E. It shares four styrene runners plus the lower hull with the earlier release, with five replacement frames for the upper hull, mudguards, link-and-length tracks (with integrally moulded sag), turret and exhausts. The moulding is superb, with crisp weld seams and

rivet detail and there are sufficient interior fittings for the turret to allow the hatches to be posed open. There are sufficient spare links for hull-mounted sections, but this isn't mentioned in the instructions, and brackets/bars must be scratch-built. All three schemes depict Panzer Grey machines, but no unit information is supplied for two of them, which have white turret numbers B11 and 813...the final vehicle is:

- White 622, 13 Pz.Div, 1941

ARDENNES HUNTER

1/35



Kingtiger Later Production

By: Dragon Item no: 6900

Price: £69.99 Web: www.hobbyco.net

Dragon has repackaged its Kingtiger with minor equipment changes including new drive sprockets, individual-link tracks, hull-mounted MG 42 and turret close-in defence machine. It comprises 26 styrene runners, plus separate hull halves and upper turret, plus lengths of braided wire and a busy photo-etched (PE)

brass fret, offering engine grilles, tool/equipment clasps/latches and rear hatch interior. There's no interior detail as such, other than a basic main gun breech and hull machine gun, but the exterior is well executed, notably the hull/turret weld seams and multi-piece barrel, with hollow muzzle and brake assembly. Turret numbers, and a handy unit organisation guide are offered for any Ardennes-deployed tank assigned to 1. Kompanie, schwere Panzer Abteilung 506 during 1944.

COMMAND HALF-TRACK

1/35



Sd.Kfz. 251/6 Ausf. A

By: ICM

Item no: 35102 Price: £24.99

Web: www.icm.com.ua

ICM has been quick to follow its excellent Sd.Kfz. 251/1 Ausf. A (see April 2018, p.82) with the /6 command variant. There are seven styrene runners, will all the extra parts provided on a new Runner H, plus vinyl tyres and 'band-style' vinyl tracks, although the latter are splendid renditions, featuring lightning holes in each track plate and the characteristically prominent rubber road pads.

It may have taken more than 40 years, but ICM has probably wrestled the mantle of 'easy-to-assemble and value-for-money Hanomag' from Tamiya with this kit, while offering superior detail, fit and mould quality. Best of all, there's a delightful Maybach engine and comprehensive radio rack supplied, along with crew equipment, rifles, spare machine gun barrel cases and jerrycans. Two schemes are included for overall Panzer Grey machines:

- WH-179467, Lt-Gen H Guderian, Poland, September 1939
- WH-609084, France, 1940

HEAVY ARTILLERY

1/35



British 7.2in Howitzer

By: Thunder Model

Item no: 35211 Price: £41.99

Web: www.pocketbond.co.uk

Thunder is the first to produce a 1/35 styrene kit of the British BL 7.2in Howitzer. Supplied on four crisply moulded styrene runners, plus two small photo-etched brass frets and lengths of copper wire, it depicts a short-barrelled Mark I-IV version. The detail is excellent throughout, notably the rivets on the carriage arms and recuperator mechanism, but several prominent ejector pin marks need removing

from the barrel. However, what makes this stand out above most other artillery kits is the range of accessories included, including a rammer, shovel, cartridge boxes, shell cases and four-charge propellant packs, effectively making this a vignette in a box...all it needs is figures. Note, there is a mistake in the instructions, but a correction is available at www.thundermodel.com. Two markings options are supplied:

- 51st Heavy Regt, Royal Artillery, France, September 1944
- 52nd Bedfordshire Heavy Regt, northwest Europe, 1945

HIGH SCHOOL TANK

1/35

Mark IV Male

By: Platz

Item no: GP-40 Price: £55.92

Web: www.platz-hobby.com

Here's another anime/manga-related release from Platz, combining Takom's wonderful 1/35 Mark IV Male kit with the Girls und Panzer storyline. It may lack the original's turned aluminium 6-pdr barrels, but otherwise the basic nine runners, photo-etched (PE) brass and length of chain are unchanged. This means there are fully detailed gun mounts, clip-fit individual-link tracks, and an accurate hull and sponsons, so even if the anime theme isn't desired, it's still a superb Mark IV. There are several additions though, to provide the Shark Team's Mark I-type communications antenna (complete with Jolly Roger flag), and these comprise a length of brass rod, an additional PE fret, lengths of thread, plus six cast brass



rods/brackets.

The sole decal option is for the Shark Team's overall Dunkelgelb tank as it appeared in the Das Finale episode; as with Platz's other releases, the box can be formed into a base.

OFF-ROAD TRUCK

1/20



'92 Toyota 4x4 Pickup

By: AMT

Item no: AMT1082 Price: £46.99

Web: www.amerang.co.uk

There's much modelling nostalgia with AMT's Toyota Pickup, as it's a re-boxed Lindberg kit, and still includes the life-raft parts from its 1995 *Baywatch*-inspired iteration. Despite its age, the parts are all moulded cleanly, with minimal flash, although several heavy seams must be addressed before assembly can start. It comprises nine runners

(seven white, one clear and one chromed), a two-piece body shell and four soft vinyl tyres. There's a splendid engine, transmission and vehicle underside, along with a well-appointed left-hand drive-cab. An optional exterior roll-bar is supplied for the cargo bed, and the bonnet and tailgate can be open/closed. Just a single scheme is offered, for a metallic-finished vehicle with Hawaii registration plates, but a brief search online revealed many different liveries can be applied...the only limit is the imagination.

RALLY ROYALTY

1/24



Lancia Delta HF Integrale

By: Italeri

Item no: 3658 Price: £29.99

Web: www.hobbyco.net

Italeri's has re-boxed Protar's Delta HF Integrale, which captured the rugged appearance of the late-1980s 'king of the rally' accurately. Compared to modern releases, this is rather basic, with just three styrene runners (including one for glazing) and four vinyl tyres, all unchanged from the original offering, and is a 'kerbside' model. However, this

is more than compensated by the pleasing interior, which features a full roll cage, plus convincing bucket seats (with integrally moulded five-point harness), and option for an open/closed driver's door. The big change, arguably worth the purchase on its own, is the decal sheet, which includes sponsor logos and exhibits perfect register and strong colour density. There are two vehicles from 1990's Monte Carlo Rally, #1 (Miki Biasion and Tiziano Siviero) and race-winning #7 (Didier Auriol and Bernard Occelli).

STARS AND STRIPES

1/24



DAF XF 105 Space America

By: Italeri

Item no: 3933 Price: £54.99

Web: www.hobbyco.net

The vibrant metallic blue runners in Italeri's 'Space America' DAF XF 105 will certainly draw attention, joining grey, black, metallic and transparent frames and seven hollow vinyl tyres in this eye-catching package. The parts' quality belies their age (some are may be approaching three decades), as there's hardly

any flash and minimal blemishes. In typical Italeri fashion, there's a comprehensively detailed suspension and transmission, plus the interior is a delight (although just a left-hand drive vehicle can be built). Two liveries are supplied, with a choice of blue, black or red cabs for the first, and overall white for the second. The decals are the real highlight, with sharp colour delineation and strong opacity, and registration plates from 17 different nationalities, and either scheme will be a show stopper.

ELECTRIC RUNABOUT

1/12



Niu E-Scooter N1S

By: Trumpeter

Item no: 07305 Price: £25.99

Web: www.pocketbond.co.uk

Trumpeter's first-ever motorcycle is a popular Chinese eco-friendly rechargeable scooter. Intriguingly it's to the same scale as most Superbike and Moto-GP offerings, which makes for an unusual sight, and appears aimed at the beginner's market, as it comes pre-painted and -decals. There are seven styrene runners,

plus two hollow vinyl tyres, metal axles and springs for the functioning suspension; two self-adhesive chromed stickers (for the mirrors) complete the package. Based on the large locating pins and positioning of runner gates, this can be assembled without either paint or glue, and the detail and mould quality are excellent. This example features a pearlescent white finish, but it's also available in black (07306), blue (07307) and red (07308), and the N1S looks to be loads of fun.

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LUFTSTREITKRÄFTE FLYER

Pilot WWI Albatros

By: PlusModel

Item no: AL4077

Price: €8.90

Web: www.plusmodel.cz

PlusModel has released yet another high-quality World War One aviator figure, in the shape of a Deutsche Luftstreitkräfte Albatros pilot. This splendid single-piece casting features a convincing fur-lined leather overcoat, and underneath is wearing the standard peaked cap, double-breasted air force tunic with high collar, breeches and below-knee high leather boots. The head is notable for its refinement, and while there was flash on AMW's sample, this was easy to remove with a sharp knife.



1/48

CHEMICAL COMBAT

German Infantry in Gas Masks (1918)

By: ICM

Item no: 35695 Price: £8.50

Web: www.icm.com.ua

ICM springs yet another twist on the basic figures set, with four German World War One gas mask-wearing soldiers, all depicted in non-standard poses. Each well-moulded figure comprises a separate head, torso, limbs/hands and helmet, with personal equipment/stowage. Two are either stepping up or about to climb a ladder; a third (machine-gun-wielding) trooper is crouched, and the final infantryman is running, with slung rifle and

stick grenades in each hand. This grouping resembles an assault team and one carries a Mauser pistol, indicating either an NCO or officer. The inclusion of duplicate weapons/equipment runners and combined identification/assembly drawing means this is effectively a double-offering.



1/35

READY FOR THE MARCH

1/35



Polish Infantryman

By: ToRo Model

Item no: 35F103

Price: €10

Web: www.toro-model.pl

ToRo Model's neat nine-piece Polish soldier depicts an infantryman in standard battledress seemingly at attention, with his KB wz.98a rifle at the shoulder arms position, and carrying a full field pack (backpack, rolled blanket, mess kit ammunition pouches), plus bayonet, folded shovel, bread bag and gas mask carrier). The arms, head, helmet, backpack ensemble, bayonet and rifle are supplied as separate items, and while the cast detail is to the highest standard, notably on the face and tunic, the standout item is the separate (and delicate) rifle sling, which isn't often replicated in this scale.

LIFT TO THE FRONT LINE

1/35

Soviet Soldiers Riders

By: MiniArt

Item no: 35281 Price: £10.99

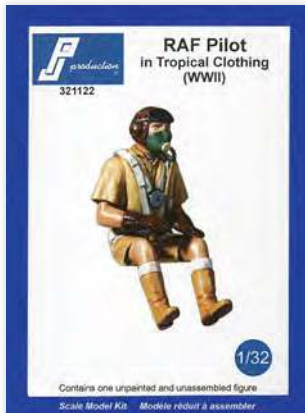
Web: www.creativemodels.co.uk

MiniArt's Soviet Riders offers four dedicated weapons/equipment runners in addition to two for the four Red Army tank riders and vehicle commander. There's potential for any World War Two Soviet armoured scene, thanks to the thoughtful inclusion of extras, allowing considerable variety in the way the seated troopers are outfitted. Each figure comprises a minimum of ten beautifully moulded parts, with separate heads, arms, legs and hats/helmets. What makes this stand out from other sets are the carefully considered poses, with one kneeling, and the others either perching or reclining on the vehicle.



DESERT AIRMAN

1/32



RAF Pilot in Tropical Clothing (WWII)

By: PJ Production

Item no: 321122

Price: €11.50

Web: www.pj-production.be

This five-piece resin ensemble would be ideal for either a South East Asia Command or North African fighter, and depicts an RAF pilot in short-sleeved shirt and trousers, wearing a flying helmet, oxygen mask and lightweight boots. The main body/legs are well cast, with well-defined harness and tunic, and the head and arms are similarly refined. Note, there is a small length of curved resin supplied, to represent the oxygen pipe for the facemask.

GRIBEAUVALS AND CREWS

28mm

French Napoleonic Foot Artillery 1804 to 1812

By: Victrix

Item no: VX0017 Price: £24.95

Web: www.victrixlimited.com

While wargaming may not be to everyone's tastes, it's hard to argue against the quality provided in Victrix's Napoleonic-era gun crew figures and associated artillery pieces. The six styrene runners provide sufficient parts for three cannon teams (four gunners plus an officer), with a choice of 8-pdr or 12-pdr Gribeauval guns...note a full 12-pdr crew could involve up to 15 personnel. However, it's the amount of choice available that impresses most, with multiple options for arms, plus a selection of bare and shako, bearskin- and bicorn-hatted heads for Line Foot and Imperial Guard formations. The figures can be posed wheeling the gun, ramming shot/wadding, or lighting the touch hole.



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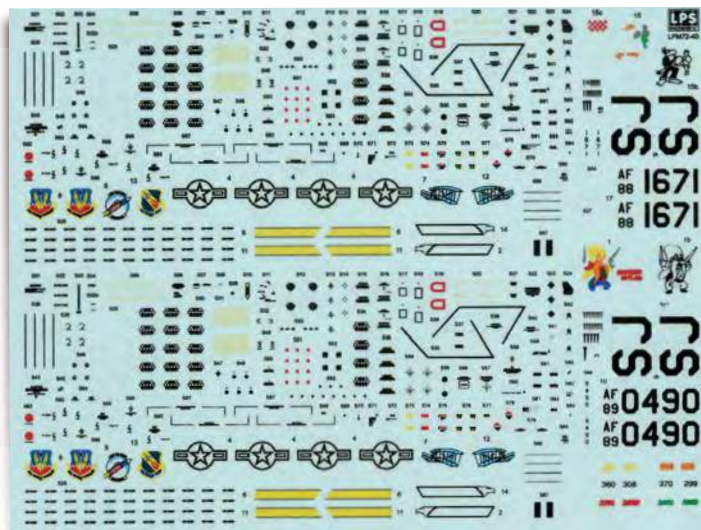
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WARRING MUDHENS

1/72



F-15E Strike Eagle Iraqi Freedom Part 4

By: LPS Hobby

Item no: LPM72-40

Price: £13.99

Web: ipsi1973@yahoo.com.br

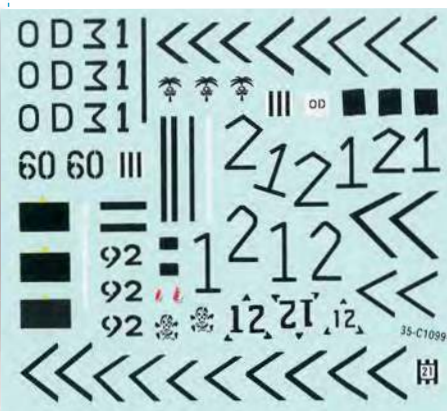
Here's a welcome boost for Hasegawa's F-15Es (although they should also fit Academy and Great Wall Hobby kits) in the form of current, and accurate markings for airframes flown during Operation Iraqi Freedom in 2003. Both are from a Seymour Johnson-based squadron, and the sheet provides full markings, insignia and stencils (including for the SNIPER/LANTIRN

navigation and target designation pods), plus bomb tallies and nose artwork. Colour and register appears spot-on (the cartoon figures are two-piece items, with black outlines), and gloss carrier film should reduce the risk of silvering, but several of the black walkway and warning markings appeared slightly heavy on AMW's sample, although once on the Medium Gunship Gray airframe, this may not be as apparent. The two options are:

- 89-0490/SJ, 336th FS, 4th FW, Al Udeid, Qatar, March-April 2003
- 88-1671/SJ, 336th FS, 4th FW, Al Udeid, Qatar, March-April 2003

INVASION FORCE 2003

1/35



Op Telic Part 4 Challenger 2

By: Star Decals

Item no: 35-C-1099 Price: US\$8

Web: www.star-decals.net

Star's fourth collection of Op Telic vehicles concentrates on the British Army's Challenger II main battle tanks, covering machines from immediate aftermath of the invasion through to support operations in 2004. These are ideal for 1/35 offerings from Trumpeter/Tamiya, although modellers may need to check



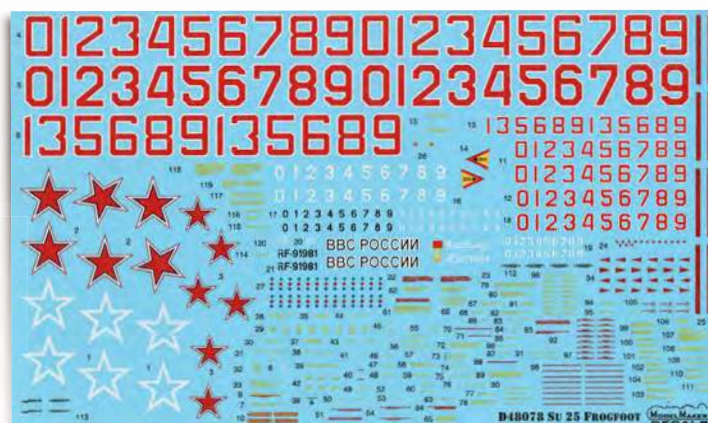
references for individual vehicle's equipment fit and modify the kits accordingly. Of note, tonal variations in the camouflage are identified, although no paint matches are specified. Colour density is excellent, but

the matt carrier film will require a gloss surface to prevent silvering. The vehicles are:

- Black 12, Queen's Royal Hussars, Basra, Iraq, 2003
- Black 92, Queen's Royal Lancers, 2004
- Black 60, Queen's Royal Hussars
- Black D 31, Queen's Royal Hussars, Al Amarah, Iraq, August 2004
- Black 21, Queen's Royal Lancers, August 2004

SOVIET TANK-BUSTERS

1/48



Russian Su-25 Frogfoot

By: Model Maker Decals

Item no: D48078 Price: €10

Web: www.modelmaker.com.pl

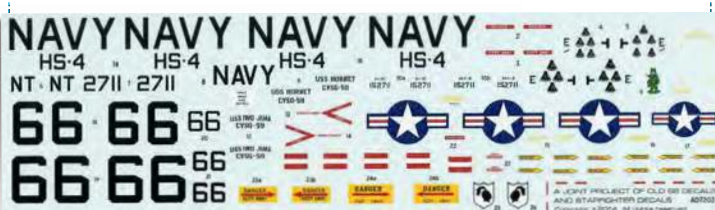
Modellers seeking alternative/modern schemes for their 1/48 Frogfoot models need look no further than Model Maker's delightful collection, which offers a mix of Russia and Syria-based airframes, plus a two-seater that participated in the annual Victory Day celebrations in 2015. Three distinct camouflage types are included; the 'standard' four-tone upper disruptive tan/green/dark green/brown pattern, and more modern 'shark' (upper

dark grey, with pale grey undersides) and overall dark grey. Decal quality is excellent, with sharp colour boundaries and staring opacity; this set is also available in 1/72 scale (D72078). The five Russian Air Force schemes are:

- Su-25SM, Red 24, Latakia, Syria, November 2015
- Su-25SM, Red 21, Russia, March 2016
- Su-25SM, Red 06, Ramenskoye, Russia, August 2012
- Su-25SM, Red 25, Latakia, Syria, November 2015
- Su-25UB, Red 79, 70th Victory Day Celebrations, Kubinka, Russia, May 2015

APOLLO RECOVERY

1/72



Old 66

By: Starfighter Decals

Item no: AD7202

Price: US\$12

Web: www.starfighterdecals.com

Arguably the US Navy's most famous Sea King, 152711/66/NP is the subject of a collaboration between Starfighter Decals and Old 66 Decals, portraying the helicopter as it appeared at the recovery of Apollo 13, on April 17, 1970. Much research has gone into this sheet, to create a definitive scale reproduction of how this Sea King was

configured, painted and marked, with differences noted between the port and starboard liveries. However, as there are few photos of Old 66's port side, extra decals are supplied to cater for either a standard Apollo 12 scheme or re-worked Apollo 13 livery, so modellers can build it as either mission. Conversion notes are supplied for Fujimi, Revell and Cyber-Hobby kits to portray this historic machine accurately. This set is also available in 1/48 scale (AD4802), for the Hasegawa/Revell Sea King kits.

AT SEA PROVISIONING

1/350

D35001 Early USN/NATO UNREP Markings



Early USN/NATO UNREP Markings

By: SSN Modelbau

Item no: D35001

Price: €5

Web: www.ssn-modellbau.de

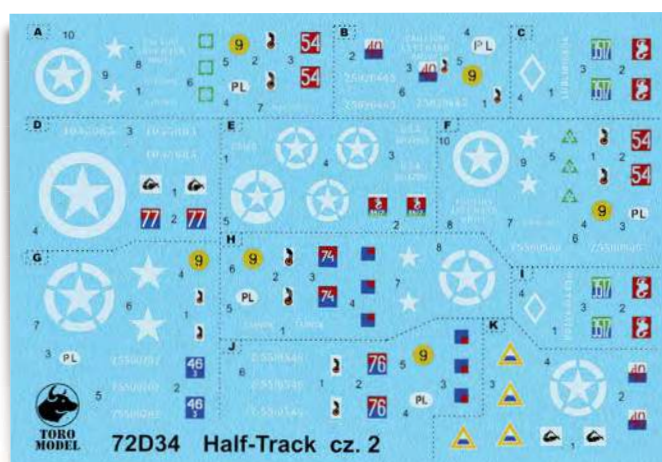
With more modern ship kits available in 1/350, its disappointing

that more model companies don't provide items such as underway replenishment at sea station markings, as these are a key component of how a vessel remains at sea for prolonged periods. SSN Modellbau has solved this by providing nine examples

each of ammunition, fuel/diesel oil, AVGAS, water, Jet Fuel/AVCAT and Stores, Personnel station markings, and offers examples of how the Essex-class carrier USS *Hancock* was configured in 1975 and 1970, highlighting how styles (and occasionally positions) changed.

COPIOUS CARRIERS

1/72



M3/M5/M5A1/M9/M9A1 Half-Track in Polish Service Pt.2

By: ToRo Model

Item no: 72D34

Price: €4

Web: www.toro-model.com.pl

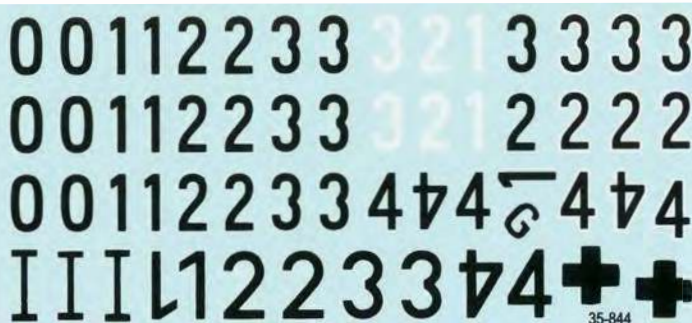
ToRo Models' Polish half-track collection provides 11 options, and includes all necessary registrations, unit insignia, vehicle names, and warning stencils for each. In terms of colour, they are all overall Olive Drab, and profiles are available on the firm's website should additional information be required.

- M5A1, 10th Dragoons Regt, 1st Armd Div, France, June 1944

- M9A1, Signal HQ, 1st Armd Div, Germany, 1946
- M3 75mm GMC, 12th Podolian Uhlan Regt, Italy, October 1945
- M9A1, 2nd Anti-Tank Arty Regt, 2nd Armd Div, Italy, 1945
- M3 75mm GMC, Carpathian Lancers Regt, Italy, 1945
- M5A1, 10th Dragoons Regt, 1st Armd Div, France, 1944
- M9A1, 10th Eng Coy, 1st Armd Div, Holland, 1944
- M9A1, 1st Arty Regt (mot.), 1st Armd Div, France, 1944
- M3 75mm GMC, 12th Podolian Uhlan Regt, Italy, October 1945
- M9A1, 2nd Arty Regt (mot.), 1st Armd Div, Germany, 1946
- M5, 2nd Liaison Bn, 2nd Armd Div, Italy, 1945

CAMOUFLAGED KINGS

1/35



Tigers of s.Pz.Abt.509 part 2

By: Star Decals

Item no: 35-844

Price: US\$6.50

Web: www.star-decals.net

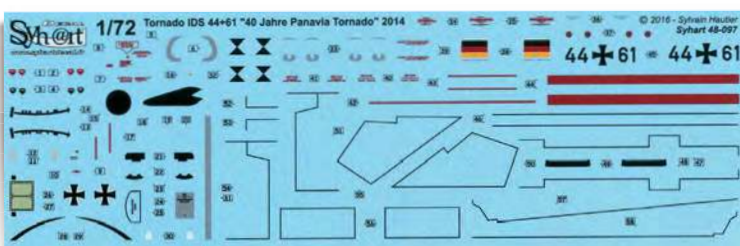
Star Decals' second collection of s.Pz.Abt.509 vehicles concentrates on the unit's later Sd.Kfz.182 Tiger Ausf.Bs, including command versions. All options feature later-war three-tone camouflage and the commander's cupola anti-aircraft gun mount, with varying degrees of whitewash and turret-mounted spare track links. It is worth checking references, both to confirm the presence of MG 42s on the commander's mount, and the

track guard configuration... many tanks suffered damage to these thin metal covers and missing plates were common. Just white and black turret numbers and solid Balkenkreuze are supplied. The eight schemes (including alternative markings options) are:

- Tiger II, White 321, 1944-45
- Tiger II, Black 300, 1944-45
- Tiger II, Black 123, 1944-45
- Tiger II, Black 213, 1944-45
- Tiger II, Black 234, Hungary, 1945
- Tiger II, Black 231, Hungary, 1945
- Tiger II, Black 324, Hungary, 1945
- Befehls Tiger II, Black I, 1944-45

PROTOTYPE NOSTALGIA

1/72



Tornado IDS '40 Jahre Tornado'

By: Syhart

Item no: 72-097 Price: €8

Web: www.syhartdecal.fr

The German Air Force is renowned for its anniversary schemes, and few have been as spectacular as that worn by 44+61 to celebrate 40 years of the Tornado at Manching Air Base in 2014. For this event, the aircraft was decorated in the same red/white scheme as the initial prototypes, with black radome and wingtips, grey wing-sweep arcs and natural metal lower vertical

fin. Comprehensive notes and measurements aid placement of masking for the red areas, although the two underfuselage stripes are supplied in decal form. Colour matches are listed for Humbrol, Revell, Tamiya, Mr. Hobby and Model Master paints, and there are notes on the aircraft's configuration while it wore the scheme. The decals are top-quality items, with minimal carrier film on the wing walkway lines, while the colours are sharp, and the opacity is sufficient to prevent bleed-through of underlying tones.

SIX FROM FIFTEEN

1/48



100 Years of XV Squadron RAF

By: Xtradecal

Item no: X72305

Price: £7.99

Web: www.hannants.co.uk

It's with sadness we write this month's Xtradecal reviews, after

MITCHELL MENAGERIE

1/72

North American B-25B, C & D

By: Iliad Design

Item no: 72019

Price: US \$12

Web: www.iliad-design.com

Airfix's new-tool Mitchell is the perfect canvas for the new



decals from Iliad, but they'd work just as well on kits from Hasegawa, Italeri and the like. Each option has its own national insignia, and the interesting nose art (and varying camouflage types), makes this a must-have set for B-25 fans.

Of the five aircraft, just two are in overall natural metal:

- B-25B, 02312, 3rd Antisubmarine Sqn, Westover Field, MA, 1942
- B-25C, 112883/1095/15-03, training aircraft, Columbia, SC, 1942
- B-25D, 130008/7T 'Screamin' Meemie', 487th BS, 340th BG, Sicily, late 1943
- B-25C, 12449 'Fat Cat', Dobodura, New Guinea, mid-1943
- B-25D, 5 OUT, Boundary Bay, British Columbia, early 1945

the passing of David Hannant (see News), but his own-brand decal range lives on as a legacy employed by modellers worldwide. This sheet is of the themed variety, offering six options for aircraft flown by the RAF's XV Squadron. The variety makes for interesting modelling, but it's almost entirely bomber led due to this unit's history. The choices are:

- Bristol Scout C, 5313, France, 1916
- Bristol Blenheim Mk.IV, L8852/LS/Q, Wyton, April 1940
- Short Stirling Mk.I, N6086/LS-F 'MacRobert's Reply', Wyton, 1942
- Avro Lancaster B.III (Special), PD131/LS-V, Bovington, 1946
- Panavia Tornado GR.1, ZA446/F 'MacRobert's reply', Laarbruch, Germany, 1990
- Panavia Tornado GR.4, ZA602/F, Lossiemouth, April 2015

BUCKEYE AND THE KIDD

1/48



4th Fighter Group P-51

By: Kits World

Item no: KW148182

Price: £10.20

Web: www.kitsworld.co.uk

Kits World's offering supplies markings for two of the Eighth Air Force's most famous aces, both of whom flew with the 4th Fighter Group. The first is 'Buckeye' Don Gentile, whose nickname came from the fact that he was from Ohio (the Buckeye State). Ralph 'Kidd'

Hofer is the other airman, renowned for his maverick nature and lack of radio discipline! Just one set of national insignia is offered here, but the unit and personal devices are printed well and with impressive colour/sharpness. The P-51Bs in detail are:

- 36913/VF-T 'Shangri La', Capt Don Gentile, 336th FS, March 1944
- 2106924/QP-L 'Salem Representative', Ralph Hofer, 334th FS, May 1944

LEGEND REVISITED

1/48

Hawker Hunter F.6 Pt2

By: Xtradecal

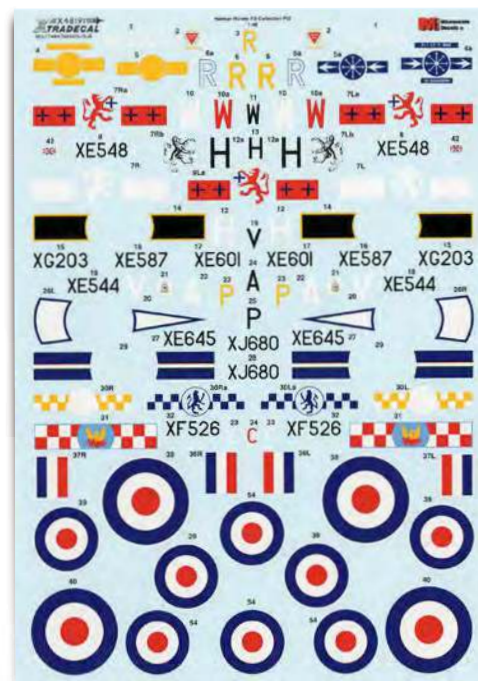
Item no: X48191

Price: £7.99

Web: www.hannants.co.uk

Here's Xtradecal's second helping of Hunter F.6 markings, in anticipation of Airfix's forthcoming all-new 1/48 Hunter. This batch offers a blend of standard fighter camouflage and test schemes, and helpfully, many of the squadron markings are multi-part items to help ensure perfect register. While one sheet is shown here, there are two others, mostly comprising black serials. The nine options comprise:

- F.6/FGA.9 hybrid, XE601, A&AEE, Boscombe Down, 1994
- XE544/V, 66 Sqn, Acklington, 1960
- XJ680/A, 20 Sqn, Gutersloh, Germany, June 1959
- XE645/P, 54 Sqn, Stradishall, August 1959
- XE550/R, Flt Lt Hine, 93 Sqn, Jever, Germany, June 1960
- XE548/W, 263 Sqn, Wattisham, June 1958
- XG203/H, 111 Sqn, Wattisham, 1958
- F.6A, XE587, A&AEE, late 1960s
- XF526/C, 56 Sqn, Waterbeach, 1959





**NEW
TOOLING!**



BRISTOL BLENHEIM Mk.IF

A09186 1:48

The first of the Bristol Blenheim series of light bombers first flew in 1935 after Lord Rothermere had challenged the British aircraft industry to build a high-speed transport plane. Bristol already had a suitable machine on the drawing board and the Type 142 was named 'Britain First'. The Air Ministry ordered the bomber version of the type straight from the drawing board. Capable of speeds comparable to the biplane fighters of the day, the Blenheim seemed a modern machine but by the outbreak of WWII fighter development had rendered the Blenheim vulnerable, the Mk.I bomber was defended by just a single machine gun in the turret and a fixed machine gun in the wing. The Blenheim was a versatile machine, serving across the globe and as the Blenheim Mk.IF, it was even pressed into service as a heavy fighter with an underbelly arrangement of 4 machine guns.



BRISTOL BLENHEIM MK.IF

No. 23 Squadron, Royal Air Force Wittering, Cambridgeshire, England, February 1940. Scheme currently applied to G-BPIV flying with the Aircraft Restoration Company, Duxford.



BRISTOL BLENHEIM MK.IF

No. 54 Operational Training Unit, Royal Air Force Church Fenton, North Yorkshire, England, December 1940.



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SUE'S MAKEOVER

1/72



Super Étendard Interior Set

By: Armycast

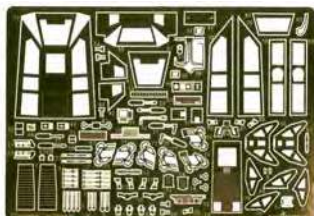
Item no: AC72030 Price: €9.90

Web: www.armycast.cz

Designed for Academy's 1/72 Super Étendard, this 12-piece resin package is a comprehensive upgrade, replacing the cockpit in its entirety and providing open sections for the spine, nose avionics bay and refuelling probe. The detail is exquisite, notably the rear cockpit bulkhead and dorsal compartment, and the panels are far thinner than equivalent styrene items. Once removed from their casting blocks, assembly appears straightforward and this will make a massive difference to the finished model.

ROGUE SQUADRON TREAT

1/48



Snowspeeder

By: Greenstrawberry

Item no: 05018 Price: US\$33.76

Web: www.greenstrawberry.cz

Having upgraded the Empire's AT-AT (see August 2018, p.94) it's only fair for the Rebellion's T-47 Snowspeeder to also benefit, and Bandai's lovely 1/48 is lavished with extras. The cockpit has new seat covers, harnesses, instrument panels and rudder pedals, but the real changes are on the exterior, with improved airbrake interiors and a complete new canopy (with acetate sheet glazing); the latter offers a scale thickness representation and can be posed open/closed.

UNDER PRESSURE

1/35



Gas Bottles

By: PlusModel

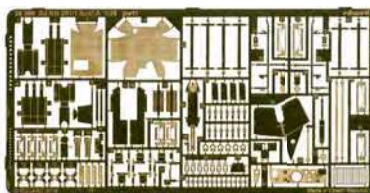
Item no: 518 Price: €17.90

Web: www.plusmodel.cz

Not content with providing four examples each of four sizes of gas bottles in its resin and photo-etched (PE) brass set, PlusModel goes one better, and provides a neat PE storage cupboard too. Every bottle has a separate resin regulator/valve, plus metal top and base rings – the latter will require careful shaping to fit. A busy decal sheet supplies gas bottle labels, and 'No Smoking' signs in French, English and German.

HANOMAG BLING

1/35



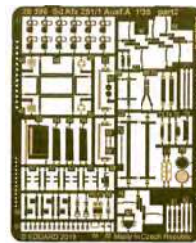
Sd.Kfz.251/1 Ausf.A

By: Eduard

Item no: 36396 Price: €29.95

Web: www.eduard.com

ICM's lovely Sd.Kfz.251/1 gets an Eduard makeover with this two-fret photo-etched brass package. There's no single focus for these improvements, with the interior and exterior receiving equal attention. Notable changes include the replacement dashboard with printed acetate dials, numerous clasps and latches, new gas mask canister and spare MG 34 barrel mounting brackets and a revised rear convoy light.



DEUTSCHE 'BAZOOKAS'

1/35



Panzerschreck RPzB.54 & Ofenrohr RPzB.43 Set

By: MiniArt

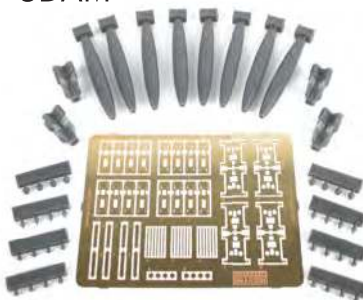
Item no: 35263 Price: £12.35

Web: www.creativemodels.co.uk

MiniArt's Panzerschreck/Ofenrohr tank-buster pack supplies crisply moulded parts for six launchers, stowage racks and ammunition boxes, plus 48 x 88mm anti-tank rounds, on 18 styrene runners and a single PE fret. Firing handles, weapon straps and harnesses for the five-round racks are all included on the latter, along with grab handles for the Panzerschreck blast shield and fore/aft sights. A neat touch is the provision of decals for each of the anti-tank rounds and ammunition boxes.

ROUGH-COATED JDAM

1/48



GBU-32 Thermally Protected

By: Eduard

Item no: 648396 Price: €14.95

Web: www.eduard.com

Eduard has supplied a bumper selection of eight ablative material-coated GBU-32 JDAMs at a very reasonable price. These are ideal for modern US Navy and US Marine Corps F/A-18, AV-8B/+ or F-35B/C. Each bomb comprises five resin bodies (with a choice of nose tips) and seven photo-etched brass parts, while the decal sheet offers full stencils and a choice of Mk.83 (two yellow nose bands) and BLU-110A/B (three yellow nose bands) munitions. Best of all, there are sufficient weapons for several models, depending on the number carried.

EASY INSTRUMENTS

1/48



Henschel Hs 123

By: Yahu Models

Item no: YMS4861

Price: £4.30

Web: www.yahumodels.siemianowice.com

It's hard not to be impressed by Yahu's pre-painted/assembled instrument panels, and this example is the perfect upgrade for Gas Patch's newly tooled Hs 123s, although it will also fit Italeri's offering. Once the kit's moulded features have been removed, it's a simple matter of attaching this to the bare panel, and the console has been painted in a shade intended to match Model Master's 2071 RLM 02.

HORSE-DRAWN SLEDGE

1/35



HS-3 Schlitten 500kg

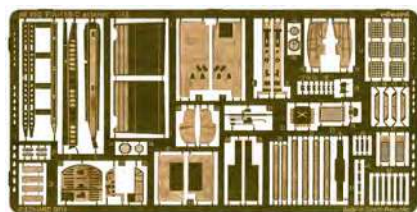
By: Hauler Item no: HLM35004

Price: €39.66 Web: www.hauler.cz

Hauler's resin and PE HS-2 Schlitten (sledge) is ideal for any winter scene involving German troops, and even on its own will make for an eye-catching vignette. There are 23 well-cast pieces for the sledge, and these will require minor neatening, as will both two-part horses, but otherwise preparation should be minimal. Delicate items, such as the chains, bridle hoops and other metal fittings, are supplied as PE components, but modellers will need to scratch-build the reins and harness.

BETTER
LOOKING HORNET

1/48



F/A-18B/D Exterior

By: Eduard

Item no: 48960

Price: €22.95

Web: www.eduard.com

Eduard's photo-etched brass provides considerable refinement over Kinetic's styrene, although many of the exterior grilles will need the underlying plastic to be carefully removed to enable them to sit flush with the surface. That aside, there's plenty to savour, from the new low-voltage formation lights and arrestor hook tip, to the replacement access ladder, undercarriage bay linings and refuelling probe door.

WINDOWS,
DOORS AND
MORE

1/35



Accessories for Buildings

By: MiniArt

Item no: 35585

Price: £15.99

Web: www.creativemodels.co.uk

MiniArt's building sets are usually self-contained, but modellers seeking extra features, or perhaps just different doors or windows will appreciate this selection, which also includes frames (rectangular and arched) gates, fences, railings, lamp posts, shutters and gutters/drain pipes. There are four different runners, and these are duplicated, so its great value as it will contribute to multiple buildings/dioramas; there are small amounts of flash, but these should be easy to remove.

THOROUGH-
BRED BOOTS

1/32

P-51 Mustang Diamond Tread
Mainwheels

By: BarracudaCast

Item no: BR32380

Price: US\$8.95

Web: www.barracudacals.com

Barracuda has a well-deserved reputation for its high-quality cast resin accessories, and these two-piece 1/32 Mustang mainwheels are the perfect example. Designed for Revell's recent kit, they feature diamond-type tread on the tyre, and the brake housing is cast integrally on the inner surface. Outer 'faces' are separate items, enabling modellers to replicate the hollow nature of these wheels once the flash is removed from between the spokes. These are superb replacements that will improve the appearance of any 1/32 P-51.

HOW DO THEY
DO THAT?

1/48



Parabellum 14

By: GasPatch Models

Item no: 480770 Price: €7

Web: www.gaspachmodels.com

This is another of GasPatch's Elite-series, and comprises two delicate and highly detailed cast resin parts (ammunition drum with belt feed and machine gun body/stock/barrel) and a tiny photo-etched brass fret for two different types of foresight (ring and bar). For those unfamiliar with this firm's products, the casting is exquisite, with delicate features such as trigger, and integrally cast hollow cooling jacket. Parabellum 14s were a common fit on Fokker fighters.

WOODEN
BEARER

1/48



Euro Pallets

By: Hauler

Item no: HLX48368

Price: €8.86

Web: www.hauler.cz

While the label states these are 'Euro Pallets' they are the same as seen at many hardware, bulk delivery and builders' yards. Sufficient well-cast resin components are included for two pallets, each comprising four parts; the longer sections feature a convincing representation of wood grain, while the integrally cast support blocks appear featureless (possibly replicating fibre/chipboard-type items). These would be suitable for most modern civilian- or military-orientated scenes.

AIRBORNE
RADAR GEARS

1/72



EC-121 Warning Star Wheels

By: PlusModel

Item no: AL7027 Price: €7.50

Web: www.plusmodel.cz

Heller's long-lived EC-121 will benefit greatly from this well-judged extra from PlusModel, as it provides a complete set of finely cast resin nose and mainwheels. There are twelve parts, with separate outer hubs for the former and exterior brake units for the latter. Detail is far superior to the kit components, and this is a simple, yet effective upgrade.

A LITTLE
ILLUMINATION

1/35



Assorted Clear Light Bulbs

By: ResiCAST

Item no: 352399

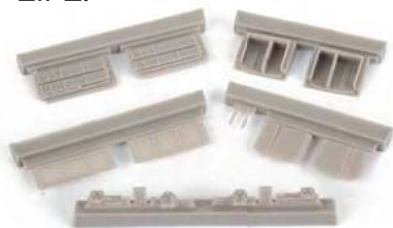
Price: €15.50

Web: www.resicast.com

ResiCAST's neat clear resin bulbs are a boon for any diorama builder, whether added to other products by the firm, such as its Assorted Lamps set, 352400 (see October 2018, p.126), or generally as part of a diorama. There are more than 100 bulbs, of at least ten sizes and styles, and they can be added to a scene straight from the box, or altered with clear shades to form coloured bulbs; modern incandescent items can be created with thinned white paint.

OLD KIT, NEW
LIFE!

1/72



J2M3 Raiden Armament Set

By: CMK

Item no: 7393 Price: €7.80

Web: www.cmkkits.com

This is one of several upgrades by CMK for Hasegawa's 1977 J2M3 Raiden kit, and revitalises it by adding gun bays and ammunition feeds for both wings. There are 16 resin components, providing the box-type inner structure, four 20mm Type 99 cannon gun bodies, adjacent shell trays and replacement wing panels; the latter are commendably thin (to the point of being almost translucent) and intended to be laid beside the open hatches. Whether used in isolation or with CMK's other offerings, these will improve the model's appearance greatly.

FOUR-GUN BAY 1/48



**Hawker Hurricane Mk.I
Armament Set**

By: CMK

Item no: 4357 Price: €12.80

Web: www.cmkkits.com

Airfix's recently re-tooled 1/48 Hurricanes are the recipients of this finely cast 22-piece resin accessory from CMK, which provides an open starboard wing gun bay, four .303in Browning bodies, ammunition boxes, and feed chutes and replacement scale-thickness panels. The only surgery required on the kit is to remove the styrene as indicated in the instructions, and CMK's upgrade provides another focal point for any Airfix Hurricane.

FISHBED POWER 1/72



MiG-21MF Exhaust Nozzle

By: Eduard

Item no: 672181 Price: €11.25

Web: www.eduard.com

Designed for its own newly tooled MiG-21s, Eduard supplies yet another dilemma for modellers, namely whether to accept the kit's admittedly excellent styrene jet pipe or choose this exquisite resin and photo-etched (PE) brass replacement. It offers superior engine vane and nozzle detail, plus PE afterburner rings and a seamless jet pipe, and once removed from the casting blocks, little if any preparation is required for this drop-in exhaust ensemble.

DESERT CAMO HUES



Middle East Air Forces

By: AMMO-MIG

Item no: A.MIG-7217

Price: €9.20

Web: www.migjimenez.com

Despite the title, the shades in this set are just applicable to Iranian and Iraqi camouflaged fighters/ground-attack aircraft. There are four standard screw-topped 17ml plastic bottles (with agitator balls), offering Sand Yellow (A.MIG-030), Clay Brown (A.MIG-079), RLM 81/FS 34079/BS461 (A.MIG-206) and FS 36622 Gray (A.MIG-226) tones. The enclosed paint guide features Iranian F-14 and F-5 profiles and an Iraqi MiG-27.

SPAD CANNON 1/32



A-1 Skyraider 20mm Gun Barrels with Flash Hiders

By: Master Model

Item no: AM-32-094

Price: £7.99

Web: www.master-model.pl

Designed as direct replacements for Trumpeter's A-1 Skyraiders, this simple, yet affective accessory supplies four 20mm cannon barrels with flash hiders and the vertical fin-mounted pitot tube in turned brass and aluminium respectively. Clear guidance is provided as to how the kit parts must be modified, and (for the barrels) how much must be proud of the wing leading edge.

IMPROVED APC 1/48

BTR-60PB

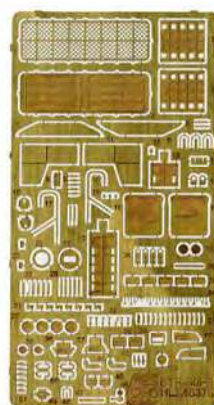
By: Hauler

Item no: HLX48375 Price: €10.99

Web: www.hauler.cz

Hauler's busy photo-etched fret is intended for Mikromir's quarter-scale BTR-60PB and provides a comprehensive upgrade of the model's exterior. There are new engine grilles, exhaust covers, grab handles, vision blocks, equipment clasps, latches, light guards for the bow-mounted units, mounting lugs and numerous additional small items for the hull and turret.

Given the small size of many parts, a folding tool would be ideal, along with a degree of prior experience with this type of accessory/material is recommended.



GATHERING RUBBISH 1/35



Garbage Bags

By: Matho Models

Item no: 35052

Price: €5.95

Web: www.mathomodels.com

It seems there's no aspect of life that's ignored by aftermarket companies, and Matho Models offers five well-cast resin bin bags to add another dimension to any scene. They are depicted with tied openings, and could be posed upright, laid on the ground or being dragged towards a central collection point (or away from a vehicle just returned from patrol).

SQUEAKING LINKS 1/72



Maus Tracks

By: OKB Grigorov

Item no: S72260

Price: €15

Web: www.shop.okbgrigorov.com

OKB Grigorov's now familiar three-section track lengths take on new significance with its products for the experimental Maus, with delicate link and pin detail... these are a significant improvement over any kit items. As with other products from this firm, the sections should be joined, and then warmed, before shaping them around the running gear, and removing any overlap. These spare links can then be added to the hull or turret as desired.

GALLIC SEVEN-SHOOTERS 1/72



LAU-32 Rocket Launcher

By: PJ Production

Item no: 481217

Price: €9.70

Web: www.pjproduction.net

Fans of Mirage III/Vs should appreciate this pair of delightful resin seven-shot LAU-32 rocket pods by PJ Production. Each comprises a separate main body and 'cap', while there are bonus Mirage CES 3 pylons and ADP 2 adapters, complete with sway braces. Assembly is straightforward, and the result will be an unusual, yet eye-catching ordnance load.

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ART PRINTS

Decal sheets for various models including Gloster Meteor, Panavia Tornado, and Bunting Mustangs. All new sheets from Euro Decals. Available from www.fantasyprintshop.co.uk



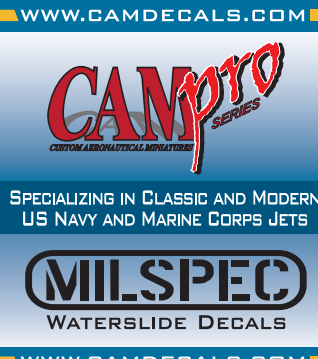
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Occasionally, there's a surprising backstory to a photo, as is the case with this month's archive gem featuring a Bristol Sycamore HR.14.

In April 1959, when this photo was taken, an RAF

helicopter on approach to land near the River Thames would have been an unusual sight. In the background is the Battersea Railway Bridge, and behind looms the bulk of the Lots Road Power Station. At the time, Sycamore HR.14 XG540 was on the books

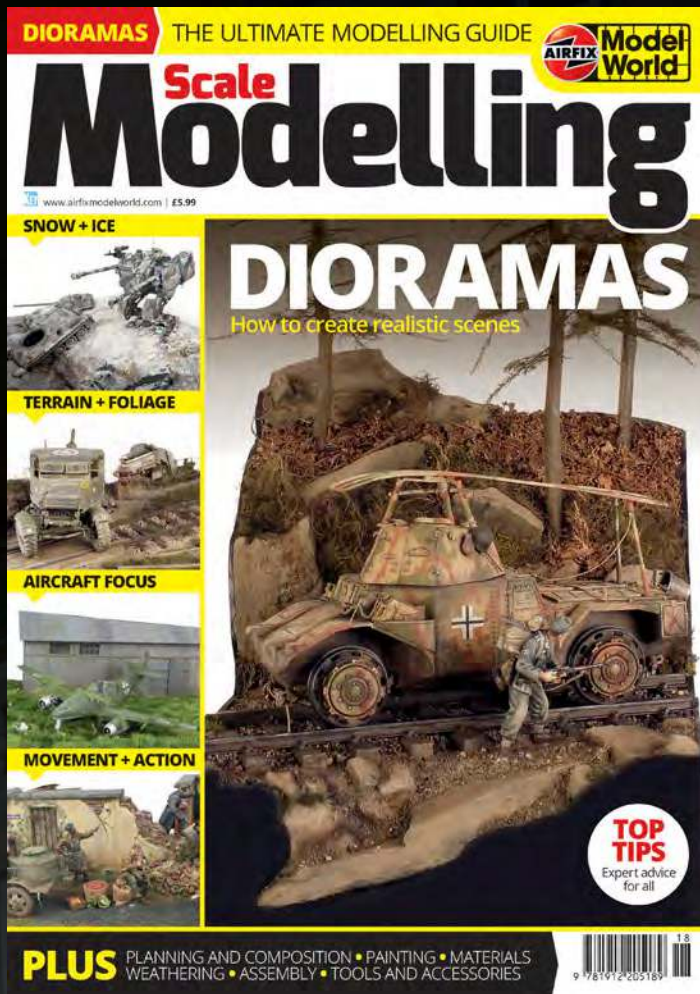
of the Central Flying School, based at RAF South Cerney, and on April 29 conducted the first landing by an RAF helicopter at the newly built Battersea Helipad, on the River Thames... now known as the London Heliport. The helicopter would

serve subsequently in Search and Rescue colours, until being written off following a forced landing at Henton, Oxfordshire on July 23, 1965. A full build of S&M's 1/72 Sycamore will feature in next month's *Airfix Model World*.

AMW



NEXT ISSUE ON SALE NOVEMBER 1, 2018*



The next instalment in Airfix Model World's successful Scale Modelling series, *Dioramas* lifts the lid on scenic modelling and the techniques necessary to produce convincing miniature scenarios. This indispensable guide centres solely on how to compose a scene, produce buildings and paint/weather aftermarket items realistically, create authentic water, snow and ice and other styles of groundwork, and convert figures.

Featuring:

BUILDINGS AND ROADS

A pair of AFV Club's Dodge WC 51s are at the centre of this late war scene.

NORMANDY RECOVERY

A busy Normandy 'rescue' scene in 1/35 scale.

TREES AND HEIGHT

ICM's Panhard armoured car is set among rugged terrain to create a partisan attack scene.

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