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September 2014
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Reviewed: Airfix's RAF Lightning F.2A

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HOW TO BUILD YOUR FIRST DIORAMA

Rogério "Rato" Marczak's
1/72 scale P-40B Tomahawk
diorama – p.24

PLUS

Add realistic battle damage p.40

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Simulate wood grain with paint p.36



OUR EXPERTS BUILD AND REVIEW 10 ALL-NEW KITS

Dragon's M103A1: How
does it go together? – p.58



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FROM THE CREATORS OF





A Nice Bit on the Side

1/48 Military Miniature Series German Motorcycle & Sidecar (Item 32578)

The German motorcycle and sidecar makes a welcome appearance in 1/48 scale. The versatile machine was used throughout WWII in a host of locations stretching from the Eastern Front to North Africa, and received an equally wide variety of assignments. A compact 50mm in length, this kit accurately recreates the bike including its pipe frame and flat twin engine, offering satisfying yet hassle-free assembly. Try putting it together in a diorama with other German vehicle models from Tamiya's ever-expanding 1/48 Military Miniature Series.

★Model accurately depicts the motorcycle and sidecar in compact 1/48 scale. ★Includes choice of standard air cleaner and larger North African theater version parts. ★Comes with a wealth of parts depicting small firearms and other accessories. ★2 included figures depict passenger and driver. Passenger can be assembled wielding an MG34 or MP40. ★2 sets of markings recreate Eastern front and North African theater machines.



Combine with Tamiya's wide range of German tank, vehicle and aircraft models

★Contains parts to recreate one motorcycle and sidecar.
★Images show assembled and painted model kits. ★Products may vary from images shown.

1/48 Military Miniature Series - Plenty of light vehicle diorama options!



German Kübelwagen Type 82 Africa-Corps (Item 32503)



German Schwimmwagen Type 166 (Item 32506)



Kettenkraftrad w/Infantry Cart & Goliath Demolition Vehicle (Item 32502)



Citroën Traction 11CV Staff Car (Item 32517)

GERMAN MOTORCYCLE & SIDECAR

1/48
MM
Military Miniature Series



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On the Cover

Even a top modeler like Rato Marczak likes to take a break from time to time. So, he started HobbyBoss' little 1/72 scale P-40 as a leisurely weekend project. Then he got carried away.

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Editor's Page

By Matthew Usher

The school of model building

WELCOME TO the September issue! Even now, any mention of September makes me think “back to school.” While I was never happy to see summer end, part of me always liked gearing up for a new school year – new pens and pencils, new notebooks, new books. Most of all, I looked forward to having a new lineup of classes.

The catch, of course, was that those new classes were always more difficult than the ones that proceeded them. It was pretty clear that Algebra II wouldn't be a straightforward sequel. While I could count on the usual cast of characters returning, there was never any question that “II” was going to be at least twice as challenging as last year's “I.” It was an additive process, to be sure, but looking back, it was always very

satisfying to meet those new challenges and move ahead.

(Admittedly, this was not the case with all of my classes. Despite three years of French, my grasp of the language never

IT WAS PRETTY CLEAR THAT ALGEBRA II WOULDN'T BE A STRAIGHTFORWARD SEQUEL

evolved beyond the “caveman” level. Thankfully, it doesn't come up very often.)

Here's my challenge to you: In true back-to-school fashion, pick a modeling technique you're good at, and make an effort to take it to the next level. If you're good at modeling cockpits, commit yourself to raising your game until you're *great* at modeling cockpits. I did this a few years ago to improve my gloss finishes. It was challeng-

ing, but I couldn't be happier with the results. So pick a course and sign up. The catalog is wide-open: weathering, airbrushing, adding detail. The choice is up to you, and I suspect you're already thinking of a technique you'd like to work on. Give it a shot – I'm sure you'll find it satisfying.

As always, if you have suggestions about what you'd like to see in *FineScale Modeler*, please drop me a note. Until next time, enjoy the issue!

MATTHEW USHER

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Scale Talk

Your voice in *FSM*



Building a better *Benfold*, v2.0

When I built the USS *Benfold* model for a change-of-command ceremony back in 2011 (*FineScale Modeler* December 2013), little did I know that I would build another one. The executive officer at that time, Cmdr. Richard LeBron (center above), became captain after the outgoing skipper left command. He let it slip to the other officers that he would like his own model when the time came for him to leave.

That time came in March 2014. So, in late 2013, I was again called upon by the wardroom officers to build a USS *Benfold*. It was to be another 1/350 scale model, so I thought it would be a simple process to duplicate what I did only two years prior. How wrong I was!

I reviewed current photos of the actual ship and realized that many systems have been changed or upgraded by the U.S. Navy. It is not the same ship at all. Thankfully for our men and women in uniform, the U.S. military gives them the absolute best and newest technology. But that makes it difficult for us model builders.

Once again, I used the Trumpeter USS *Cole* as my starting point, but the Dragon USS *The Sullivans* kit is no longer in production. I had to rework many of the Trumpeter parts and scratchbuild others to get the *Benfold's* current configuration. On the first model, I used radar domes from both kits. Without Dragon's model, I had to make several from scratch.

I finished the model on time, and the presentation to the new outgoing captain went without a hitch. Although this was a paid project, it was still fun. That is what modeling should be all about.

— Joe Bossert
Dunkirk, Md.

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Scale Talk

Some love for Bill Plunk

Every one of Bill Plunk's armor articles gets my full attention. His methods for painting and weathering running gear (as well as the entire AFV!) are Numero Uno in my book. I'm still attempting to get close to mastering his technique. I may never pull off the same results as Mr. Plunk, but some advice on the mixing of powders would be helpful to us armor enthusiasts!

- John Rausch

West Sacramento, Calif.

Essential to one man's recovery

I just read Matthew Usher's Editor's Page in the January 2013 issue. The subject resonated with me because I suffered a traumatic brain injury in October 2012. I was unable to pursue any of my hobbies, let alone work.

After many months of intense therapy, I was able to spend short amounts of time at my workbench. As I could still not read or work, spending time working with diagrammatic instructions was a huge help.



My neurologists even give it credit in my recovery.

Modeling can not only be fun, it can also go a long way to helping a person heal and promote their mental and physical health.

Thanks for promoting a very positive, but seldom

thought of, aspect of the hobby we all love.

- Brett Messimer

Lemoyne, Pa.

Going back to your roots

Editor Matthew Usher's remarks about "going back to your roots" (April 2014 Editor's Page) resonated with me. I looked at a few early models I have on my shelves, including a Blue Angels F-18A snap-together kit my daughter and I built, and they made me smile with pride. My daughter, 14, feels the same way.

An aspiring visual artist, she says, "Dad, I have to thank you for my talent and your scale modeling talents. The time we spent together rubbed off and continues to inspire me." How awesome is that to hear from your teenager?

I look back at those old kits and think how far I've come in this hobby. I remember building back in the mid-1980s with an issue of *FSM* laid out on my table next to a model while trying to wrap my head around basic skills from Paul Boyer, Pat Hawkey, and Sheperd Paine.

Fast-forward 20 years: I'm an award-winning modeler, and crafting 1/72 scale resin accessories for model kits has become my full-time business. Going back to your roots can help you see what scale modeling has given back. I love this hobby.

- Greg D. Williams

Waterloo, Ontario, Canada

Pure excellence

I've been a subscriber from Day One. I even had an article in Bob Hayden's pilot issue. Got the DVD — the whole nine yards.

But I don't recall ever seeing such a run of pure, unadulterated excellence as I've seen in the past few issues. Superb blend of scales and modeling types, how-to, and showcase features. *FSM*'s always excellent, but recently you've outdone yourselves.

- Ned Barnett

Las Vegas, Nev.

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Video issue previews

FSM Editor Matthew Usher highlights what's inside the current and past issues.

FSM Basics

Watch the new series of how-to videos hosted by Associate Editor Aaron

Skinner as he explains the basics of construction, paint, glue, and more.

New Product Rundown

Associate Editors Tim Kidwell and Aaron Skinner pick the hottest scale-model hobby releases, open up the boxes, and show you why they rock.

FineScale.com/OnlineExtras

Desktop wallpapers

Download a desktop wallpaper of the G.W.H. 1/48 scale McDonnell-Douglas F-15B/D Eagle built and reviewed by Chris Oglesby for the May 2014 issue. Also, don't miss the BPK 1/72 scale Boeing 737-200 built and reviewed by Phil Pignataro. It's huge!

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Kinetic adds more MRAPs to its modern armor catalog

The wars in Afghanistan and Iraq made MRAP (mine resistant ambush protected) almost a household term, and modelers have been clamoring for kits. Several MRAPs have appeared in 1/35 scale, including this pair from Kinetic.

The RG-31 is built by South Africa's Land Systems OMC. This is Kinetic's second version of the RG-31, the Mk.3 in Canadian service with a remote weapon system on the roof (kit No. K61010). Molded in tan plastic, the parts show decent surface detail with raised and recessed features.

There's no engine, but the suspension and drivetrain are all there. The interior includes driver and crew seats, controls, communication equipment, fire extinguishers, and more. The rear door can be posed open. The rooftop antennas and remote weapon station look terrific. The

latter includes an M2 .50-caliber machine gun, sighting optics, and smoke-grenade launchers.

Unbranded rubber tires have sidewall detail and accurate tread. A small photoetched-metal fret supplies light guards and suspension components.

Decals designed by Bison and printed by Cartograf give options for three Canadian RG-31s operating with ISAF in Afghanistan.

Generically labeled "4 x 4 MRAP," the second kit (No. K61011) is clearly Navistar Defense's MaxxPro. Around 9,000 of the vehicles have been built.

The gray plastic parts feature the same kind of molding as the RG-31, with well-defined raised and recessed features.

The chassis, suspension, and running gear look good, but there's no engine except what's visible from the sides.

Inside, there's a well-appointed driver

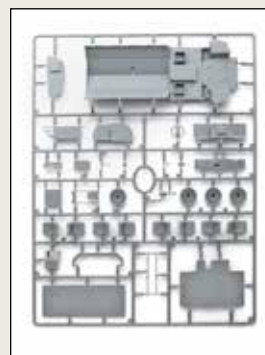
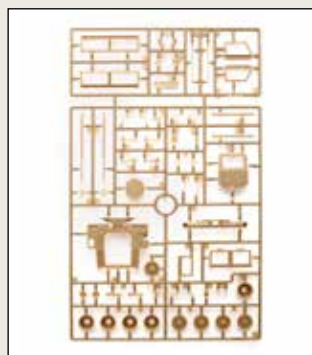
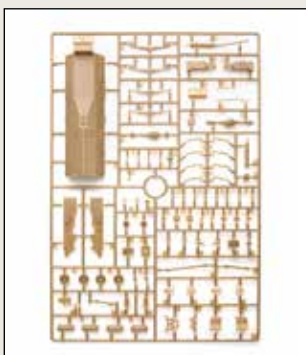
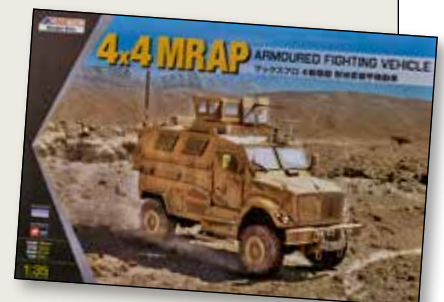
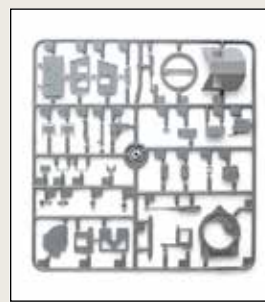
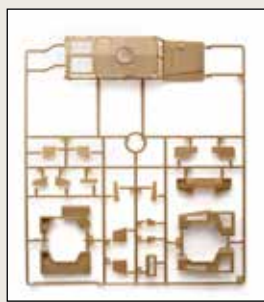
compartment with seats, controls, and communication equipment. The crew compartment has seats, shelves, storage lockers, and radios. Both front doors and the large rear hatch can be posed open.

The turret is fully armored and includes a roof, ballistic glass, and wing mirrors. Optional weapons include an M19 grenade launcher and an M2 machine gun.

Thin, photoetched brass supplies air-conditioning vents, interior details, and the distinctive bars over the windows. Four nicely molded vinyl tires round out the package.

A tiny Cartograf-printed decal sheet provides markings for two rather plain U.S. vehicles.

These terrific-looking kits should make modern armor fans happy. Merit International distributes both in the U.S. See your local dealer for prices.



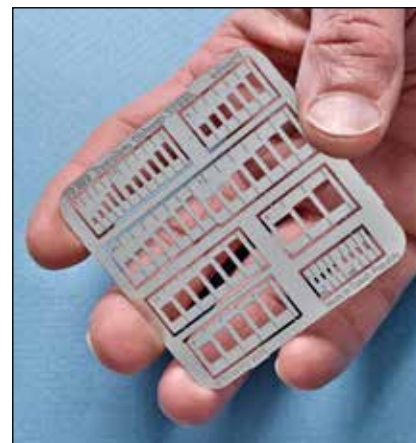
Guides for scribing panels and hatches

The hardest part of scribing surface detail is hatches and access panels. Odd shapes, often curved, can be difficult. Well, good news: Eduard now offers templates.

Photoetched in steel, the templates are available in circles and ovals (No. 00027), oblongs and squares with rounded corners (No. 00028), and oblongs with square corners (No. 00029). And there are more shapes and sizes on the way.

Each strip features engraved measurements, so selecting the right one for the job should be easy.

These sets are available from www.eduard.com for \$9.95 each.



Lighting set adds life to Battlestar Pegasus

Some subjects beg to be lighted. That's especially true of big science-fiction ships.

It's possible to do it on your own, but Madman Lighting offers sets for specific kits to eliminate some of the guesswork.

Madman's latest release is designed for Moebius Models' 1/4105 scale *Pegasus* from the new "Battlestar *Galactica*" TV series.

It includes a circuit board, fiber-optic cable, wire, heat-shrink tubing, power connectors, and white, blue, red, and green LEDs. All of this provides illumination for the engines, landing bays, approach lights, and cabins. No

soldering is required because the set uses wire-wrap connections.

Comprehensive instructions on a CD-ROM explain the wiring and necessary kit modifications, step by step.

It looks like a nice addition to a great model. I plan to use it when I build the *Pegasus* for the "Sci Fi Hard Science Group Build" on the *FSM* Forum.

Find information about this and other Madman Lighting sets at <http://home.comcast.net/~johndavidcook/index.html>, where you can order the *Pegasus* lighting set for \$60.

Markings aplenty for Vietnam Phantoms

If early Phantoms are your thing, Furball Aero-Design has a deal for you: The decal manufacturer just released four sheets designed for Academy's 1/48 scale F-4B and F-4C kits. There are so many choices that you may want to stock up on kits.

Gunfighter Phantoms Part One (No. 48-029) and Part Two (No. 48-030) each feature 11 F-4s attached to the 35th and 366th tactical fighter wings at Da Nang airbase. Not as colorful as their Navy or Marine counterparts, many of these USAF birds sport restrained nose art and names. All wear tactical camouflage, and several are MiG killers.

On USMC Rhinos (No. 48-012), there are 18 Vietnam era F-4Bs and Js. Many are based at Da Nang and Chu

Lai air bases. The sheet includes walkways in gray and black, as well as some stencils.

For complete stenciling, check out Furball's F-4B/N Stencils & Data (No. 48-013). This comprehensive set includes access-door, instructional, service, and caution markings for the airframe. There are even markings for wing pylons.

Beautifully printed by Cartograf, all four sets feature terrific registration and minimal carrier film.

The accompanying documentation is outstanding, with color diagrams, paint callouts, and stores-loading info.

The Phantom sheets are available from www.furballaero-design.com for \$19.99 each.



New Products

Compiled by Monica Freitag

AIRCRAFT

1/24 SCALE KITS



P-47D Republic Thunderbolt "Bubbletop" from Kinetic, No. K3207. Contact your local dealer for price information. Look for a detailed review in an upcoming issue of *FSM*.

1/32 SCALE KITS



"Blue Max" Pfalz from Encore Models, No. 32004, \$69.99.

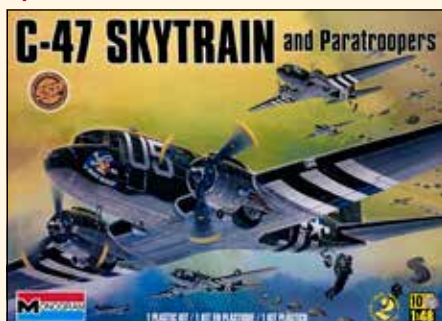


Roland C.IIa Late No. 32041, \$99; **Roland C.II** both from Wingnut Wings, No. 32026, \$99.

1/32 DETAIL SETS

T-2 Buckeye landing gear (for Special Hobby) No. 32085, \$18.95; **T-2 Buckeye landing gear (for Special Hobby)** No. 32085, \$18.95; **Spitfire Mk.II landing gear (for Revell)** No. 32086, \$14.95 all from Scale Aircraft Conversions. **Remove before flight fabric** from Eduard, No. 32807, \$12.95.

1/48 SCALE KITS



C-47 Skytrain and paratroopers from Monogram, No. 85-5637, \$38.95.



Ventura Mk.II RAF from Revell, No. 85-5533, \$37.95.



Focke-Wulf Fw 190D-11 from HobbyBoss, No. 81718, \$28.99.

U-2/Po-2 WWII Soviet multi-purpose aircraft from ICM, No. 48251, \$26.99.



X-47B UCAV (unmanned combat air system) US Navy modern aircraft from Freedom Model Kits, No. FD 18001, \$79.95.



Bell X-1B from Glencoe Models, No. 05120, \$14.98.



Grumman Duck JF-2 from Glencoe Models, No. 05125, \$14.98. Clear plastic canopy.



Bleriot Monoplane 1910 No. HL503/12, \$12.99; **Martin-Handasyde 1911** No. HL504/12, \$12.99; **Deperdussin 1911** No. HL506/12, \$12.99; **Avro Biplane 1911** No. HL505/12, \$12.99, all from Lindberg.



Dornier Do 215B-4 from ICM, No. 48241, \$59.99. WWII German reconnaissance plane. Look for a detailed review in an upcoming issue of *FSM*.

1/48 DETAIL SETS

F-14 Tomcat landing gear (for Academy) No. 48258, \$18.95; **CH-46, HH-46 landing gear (for Academy)** No. 48259, \$11.95; **Su-2 landing gear (for Zvezda)** No. 48260, \$14.95; **CH-34 US Army landing gear (for Gallery Models)** No. 48261, \$14.95; **Mitsubishi A6M Zero landing gear (for Tamiya)** No. 48262, \$12.95. All from Scale Aircraft Conversions.

Mk.82 bomb with airbrake late from Eduard, No. 648137, \$14.95. Brassin Line **Remove before flight fabric** from Eduard, No. 49068, \$12.95.

1/48 DECAL SETS



Soluturki Turkish Demonstration Team from Babibi Model, No. DDT-2013-D1001, \$22.99. For Tamiya F-16 C/J and Italeri F-16C.

1/72 SCALE KITS



Sukhoi Su-27SM "Flanker-B" Mod. I Russian air superiority fighter from Zvezda, No. 7295, \$29.99. Look for a detailed review in an upcoming issue of *FSM*.



F-35A Lightning II US Air Force tactical fighter from Hasegawa, No. 01572, \$37.99. Smoke tinted canopy. Look for a detailed review in an upcoming issue of *FSM*.



Fairchild F.71 Pacific Alaska Airways from Khee-Kha Art Products, No. 001-PAA, \$40;

Star Air Service (Bellanca CH-400)

Skyrocket from Khee-Kha Art Products, No. 002-Star, \$40. Vac-formed kits with cast PU resin cast floats and detail parts.



F6F-3 Hellcat with carrier deck from Cyber-hobby.com, No. 5117, \$34.95.

1/72 DETAIL SETS

SB2C Helldiver landing gear (for Cyber-hobby and Academy) No. 72086, \$11.95; **English Electric Lightning landing gear (for Airfix)** No. 72087, \$12.95; **Spitfire Mk. IXe, PR XIX landing gear (for Airfix)** No. 72088, \$11.95. All from Scale Aircraft Conversions.

Harbour Air Turbo Otter conversion set from Khee-Kha Art Products, No. ARC72-047R, 25. DHC-3T Vazar conversion for the Hobbycraft/AZ Models DHC-3 Otter kit.

Manufacturer/Distributor Directory

Aero Research Co.
www.AeroResearchCDs.com

Babibi Model
994-50-2504742
www.babibimodel.com

Dragon Models USA Inc.
626-968-0322
www.dragonmodelsusa.com

- AMK
- Aoshima
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- Concord
- Cyber-hobby
- Dragon
- Fine Models
- Firefly Books
- Fujimi
- G.W.H.
- Master Box
- Nuts & Bolts Books
- Platz
- Riich
- Showcase Models Australia
- Zvezda

Eduard and Associates
420-47-611-8259
www.eduard.com

Furball Aero-Design
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www.furballaero-design.com

Friulmodel
www.friulmodel.com

Glencoe Models
508-410-7436
www.glencoe-models.com

Great Planes Model Distributors
217-398-6300
www.greatplanes.com

- Hasegawa

Iron Works Models (True Earth)
www.true-earth.com

Khee-Kha Art Products
www.mtaonline.net/~zdk/

Merit International
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www.merit-intl.com

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New Products

1/96 SCALE KITS



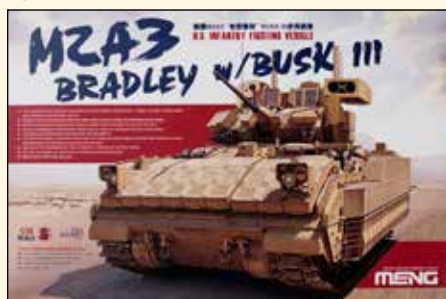
Savoia-Marchetti S.55 from Glencoe Models, No. 05503, \$14.98. Contact your local dealer for availability.

1/144 DETAIL SETS

KC-135 landing gear (for Minicraft) from Scale Aircraft Conversions, No. 14417, \$13.95.

ARMOR

1/35 SCALE KITS



M2A3 Bradley with Busk III from Meng, No. SS004, \$99.95. Look for a detailed review in an upcoming issue of FSM.



Bussing NAG L4500A German military 4x4 truck No. AF35270, \$73; **Valentine Mk.III with rotatrailer** No. AF35201, \$90 both from AFV Club.



AEC Matador early type from AFV Club, No. AF35361. Contact your local dealer for price information.



Soviet S-51 self-propelled gun from Trumpeter, No. 05583, \$64.95.



Universal carrier MK.II from Riich Models, No. 35027, \$54.95. Look for a detailed review in an upcoming issue of FSM.

Schwere Wehrmachtschlepper sWS general cargo version from Bronco Models, No. CB35172, \$69.95.

Jagdpanzer 38 mid-production from Cyber-hobby.com, No. 9148, \$29.95. Super Value pack, bonus German Elite Infantry Ardennes 1944-1945.

SdKfz 167 StuG IV last production from Dragon, No. 6647, \$59.95. 1939-1945 series. Smart Kit.



British 6-pound anti-tank gun (airborne) with 1/4-ton truck and crew from Bronco Models, No. CB35170, \$54.95.

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Buffalo 6 x 6 MPCV with slat armour from Bronco Models, No. CB35101, \$89.95.

SdKfz 10 Ausf A with 5cm PaK 38 from Dragon, No. 6732, \$52.95. 1939-1945 series, Smart Kit.



Pz.Kpfw III Ausf L late production with Winterketten from Dragon, No. 6387, \$58.95. 1939-1945 series, Smart Kit.

3.7cm Flak 43 auf SdKfz 7/2 from Dragon, No. 6553, \$67.95. 1939-1945 series, Smart Kit.



Soviet T-37 amphibious light tank early from HobbyBoss, No. 83818, \$43.99.

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IDF Sho't Kal Gimel 1982 from AFV Club, No. AF35267, \$89.95.

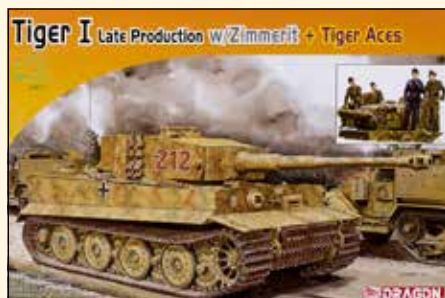
1/35 DETAIL SETS

Ariete Italian tank No. ATL-152, \$36.68. 195 links; **Renault FT-17** No. ATL-73, \$36.68. 70 links, wire to obtain track pivots; **256 Tunguska** No. ATL-153, \$36.68. 225 links, wire to obtain track pivots. All from Friulmodellismo.

1/72 SCALE KITS



Mk.I "Male" British Tank - modification for the Gaza Strip - from Master Box Ltd., No. MB72003, \$22.95. Commemorating the 100th Anniversary of World War One (1914-1918)



Tiger I late production with Zimmerit plus Tiger Aces from Dragon, No. 7440, \$24.95.



Mk.I "Female" British tank - special modification for the Gaza strip from Master Box Ltd., No. MB72004, \$22.95. Commemorating the 100th Anniversary of World War One (1914-1918)



Churchill Mk.III Dieppe 1942 from Dragon, No. 7510, \$22.95. Armor Pro.



Panzerfähre Fährendeck mit Gepanzerter Landwasserschlepper Prototype Nr. II from Dragon, No. 7509, \$24.95. Armor Pro.

SHIPS

1/48 SCALE KITS



U.S. Navy Elco 80' motor patrol torpedo boat late type from Merit International, No. 64801, \$93.

1/350 SCALE KITS



HMS Roberts monitor from Trumpeter, No. 05335, \$78.99.

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Chinese Navy Type 052D missile destroyer Changsha (173) from Bronco Models, No. NB5040, \$44.95.

Chinese Navy Type 052D missile destroyer Kunming (172) from Bronco Models, No. NB5039, \$44.95.

1/700 SCALE KITS



USS Bonhomme Richard LHD-6 from HobbyBoss, No. 83407, \$64.99.



USS San Antonio LPD-17 with MV-22 from cyber-hobby.com, No. 7096, \$39.95. Modern Sea Power Series.

MILITARY FIGURES

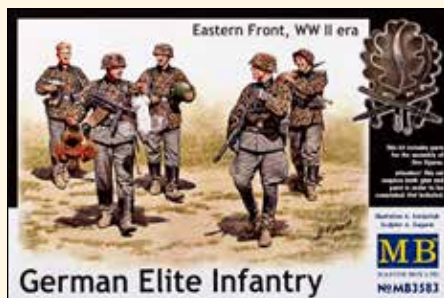
1/32 SCALE KITS

Napoleon's Red Lancer from Master Box Ltd., No. MB3209, \$16.95.

1/35 SCALE KITS



Jungle patrol, Vietnam War series from Master Box Ltd., No. MB3595, \$17.95.



German Elite Infantry, Eastern front from Master Box Ltd., No. MB3583, \$17.95.
Soviet and German military men, summer 1941 - Accident from Master Box Ltd., No. MB3590, \$15.95.

"Chow Time" German anti-tank crew with 3.7cm Pak36/37 Eastern Front from Dragon, No. 6697, \$26.95. 1939 - 1945 series.

28MM SCALE KITS

Greek peltasts, javelin men and slingers, from Victrix Ltd., No. VXA006, \$50.

Greek unarmoured hoplites and archers, from Victrix Ltd., No. VXA005, \$50.

SCIENCE-FICTION

1/32 SCALE KITS



"Battlestar Galactica" Cylon Raider from Moebius Models, No. 941, \$59.99. From the 1978 TV series.

1/4105 SCALE KITS



Battlestar Galactica from Moebius Models, No. 942, \$69.99. From the 1978 TV series.

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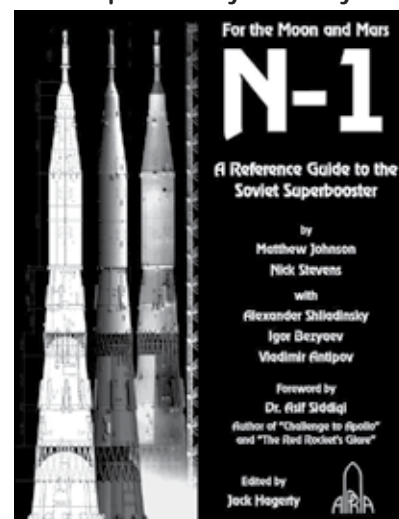
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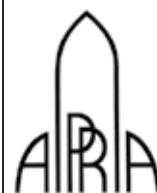
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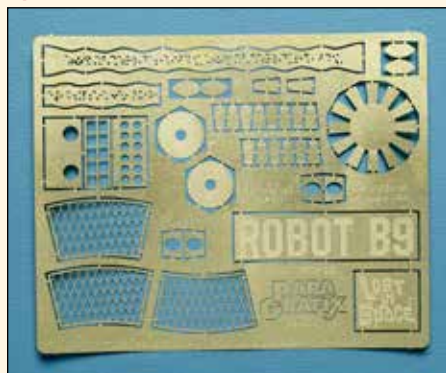
New Products

1/144 SCALE KITS



Mars Liner from Glencoe Models, No. 06914, \$14.98.

1/6 DETAIL SETS



Robot B9 photoetch set from ParaGrafix, No. PGX185, \$24.95. For Moebius Models.

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1/144 SCALE KITS



NASA space shuttle with Boeing 747 carrier from Dragon, No. 14705, \$83.95. Display stand included.

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PAINTS



German armour paint set from Vallejo, No. 70-155, \$19.95. War Games Paint Series. 6 bottles, 17ml.

Infantry basic paint set from Vallejo, No. 70-156, \$25.95. War Games Paint Series. 8 bottles, 17ml.

German field gray from Vallejo, No. 70-181, \$25.95. Colors for painting WWII German uniforms, with step-by-step instructions by Jaume Ortiz.

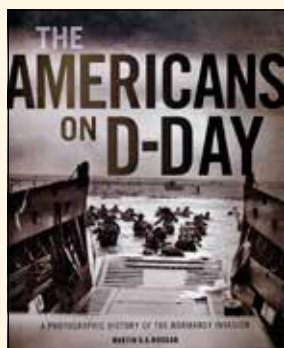
German Camouflage 1943/1944 colors from Vallejo, \$XX. AFV Camouflage Colors.

US Vietnam Olive Drab from Vallejo, No. 78-412, \$15.95. AFV Painting System.

NATO Armour Colors from Vallejo, No. 78-413, \$15.95. AFV Camouflage Colors.

Transparent filters/wash from Iron Works Models (True Earth), \$6.80. New dropper bottles. For brush or airbrush.

BOOKSHELF



The Americans on D-Day, \$45, by Craig L. Symonds, hard cover, 240 pages, 360 black-and-white photos, ISBN: 978-1-99986-118. From Zenith Press.

Medium Mark A Whippet, \$17.95, by David Fletcher, soft cover, 48 pages, few color photos, black-and-white photos, ISBN: 978-1-78200-398-4. From Osprey Publishing.

US Heavy Cruisers 1941-1945 Pre-war Classes, \$17.95, by Mark Stille, soft cover, 48 pages, all black-and-white photos, ISBN: 978-1-78200-629-9. From Osprey Publishing.

Spitfire V vs C.202 Folgore Malta 1942, \$18.95, by Donald Nijboer, soft cover, 80 pages, all black-and-white photos, ISBN: 978-1-78200-356-4. From Osprey Publishing.

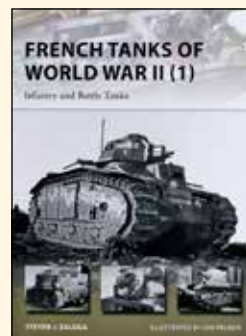
Jagdpanther vs SU-100 Eastern Front 1945, \$18.95, by David R. Higgins, soft cover, 80 pages, few color photos, mostly

black-and-white photos, ISBN: 978-1-78200-295-6. From Osprey Publishing.

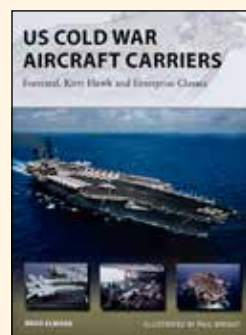
Fall Gelb 1940 (1) - Panzer breakthrough in the West, \$21.95, by David R. Higgins, soft cover, 96 pages, few color photos, mostly black-and-white photos, ISBN: 978-1-78200-644-2. From Osprey Publishing.

Morane-Saulnier MS.406 Aces, \$22.95, by Kari Stenman and Christian-Jacques Ehrengardt, soft cover, 96 pages, few color renderings color photos, mostly black-and-white photos, ISBN: 978-1-78200-341-0. From Osprey Publishing.

Nieuport 11/16 Bebe vs Fokker Eindecker Western Front 1916, \$18.95, by Jon Guttman, soft cover, 80 pages, all black-and-white photos black and white photos, ISBN: 978-1-78200-353-3. From Osprey Publishing.



French Tanks of World War II (1) - Infantry and battle tanks, \$17.95, by Steven J. Zaloga, soft cover, 80 pages, all black-and-white photos black and white photos, ISBN: 978-1-78200-389-2. From Osprey Publishing.



US Cold War Aircraft Carriers Forrestal, Kitty Hawk and Enterprise Classes, \$17.95, by Brad Elward, soft cover, 48 pages, few color photos, mostly black-and-white photos, ISBN: 978-1-78200-380-9. From Osprey Publishing.

ELECTRONIC MEDIA

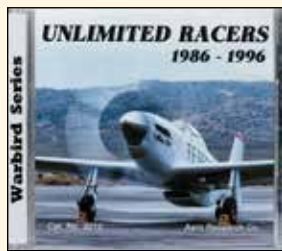


N1K2-J Kia Model 11 - Walk Around #6 from Peregrine Publishing, No. #6, \$10.

F-86A Sabre - Walk Around #28 from Peregrine Publishing, No. #28, \$10.



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The art of down-and-

Layers of paint, washes, and pigments put a Russian tank in the field • BY AARON SKINNER

Greg Hanchuk's 1/35 scale Xact Scale T-80U looks every bit the part of a Russian main battle tank in the middle of a military exercise. That's the result of a step-by-step process that layers paint and weathering.

For the major painting, Greg used Tamiya acrylics thinned with 91 percent isopropyl alcohol to the consistency of milk. "Sometimes I have to go back and add more alcohol, or sometimes more paint," he says. "It just depends on how it is shooting." Using a compressor with a moisture trap and regulator, he sprays at 15-20 psi. "Sometimes more, sometimes less," he adds. "It's not rocket science. Practice with your airbrush and get a feel for it."

Greg got his first airbrush at 10, a Paasche H single-action he and his older brother scraped money together to buy. He's been a Paasche user ever since, including a VL double-action and his current Talon, which suits his needs. "It can spray a very fine line but can also be used for larger areas. Plus, it's easy to clean," he says.

Greg primed the model with flat black, citing four reasons: First, it covered the different materials well. Second, it revealed flaws and imperfections needing correction. Third, the black got deep into nooks and crannies, so any spot missed later became a dark shadow. Fourth, Tamiya's paint provided great "tooth" for subsequent colors.

An overall layer of deep green (XF-26) followed, but Greg allowed a hint of black to show along weld seams and panel lines. He added a little buff (XF-57) to the green to lighten panel centers and add subtle variation to the camouflage.

For the sand color, Greg mixed equal parts deck tan (XF-55) and desert yellow (XF-59). He outlined each area by spraying a fine line to get sharp demarcation, then filled it with color. Post-shading with sand lightened by buff followed.

AK Interactive's enamel filter for NATO tanks (AK-076) blended the colors before paint and pencil chipping. "Remember, here, less is more," Greg says. "As this is a modern tank, and not one that has seen months of heavy combat, chipping should be kept to a minimum."

Next came the old-school standards: washes and dry-brushing. He flowed AK Interactive's wash for NATO camo (AK-075) around detail with a fine brush, cleaning up mistakes after a few minutes with a brush dipped in thinner.

For highlights, he very lightly dry-brushed shades of the camouflage colors mixed using artist's oils, then let the model dry for several days.

He added streaking to the tank using AK Interactive fluids, including streaking grime (AK012), winter streaking grime (AK-014), dust effects (AK-015), dark streaking grime (AK-024), rain marks of NATO tanks (AK-074), and OIF & OEF streaking effects (AK-123). The different colors make the effect more dynamic. Lightly airbrushed Tamiya buff and dark earth added layers of dust.

Mud: Greg applied layers of AK Interactive mud washes and colors to the tank. Some of it dries flat, some satin, and some glossy; alternating them produces convincing mud. Working in layers, starting with the lower hull and moving up, he added the lighter colors first before moving on to darker, wetter shades. Flicking mud from an old paintbrush made sure the upper areas received just the right amount. A little plaster added body to the thickest sections; AK's Wet Effects Fluid added sheen to the freshest deposits.

Streaking: After applying AK Interactive streaking fluids straight from the bottle, Greg blended them with a flat brush damp, not wet, with thinner, dragging them down the surface to leave a nice transparent streak. The effect can be reinforced with repeated applications.

Base: Pink insulating foam served as the foundation for Celluclay and plaster ground-work. As with all of his displays, Greg anchored the T-80 to the base with a thin bolt. "It's a little overkill, but I know for sure my model will not become a flying tank," he says.



-dirty weathering

Similar to filters but more selectively applied, oil-paint rendering (a technique popularized by Michael Rinaldi) uses precisely targeted artist's oils blended with thinner to subtly alter the color of the model. Working section by section, Greg used greens, browns, tans, ochers, white, and blue on the T-80. It's easy to control the density and depict all kinds of effects, including fading, dust, dirt, and grime.

Mixing four progressively darker dirt shades — light, medium, first dark, and second dark — from Mig Productions, AK Interactive, and Vallejo pigments, Greg applied these layers more heavily on the lower hull and lighter higher up, mimicking the way dirt is deposited on a vehicle.

After repeating the steps necessary to get the effect he wanted, Greg applied mud to the tank and fixed it to the base. **FSM**

Chipping: Using a fine brush, Greg dabbed different Vallejo greens over the sand areas to model chips. Dark brown chips were applied the same way over the green. For variety, he used an ebony pencil around hatches and other high-use areas.

Puddles: After matching the mud on the base and tank, Greg tinted EnviroTex Lite with powdered pigments and poured it into depressions. Once it's poured, you can breathe on it and the heat helps pop air bubbles in the resin. Cover it as it cures to prevent dust settling, Greg says. A little AK Interactive Wet Effects and Pledge FloorCare Multi-surface Finish blended the puddle edges and added splashes.

Vegetation: After planting tufts of Silflor MiniNatur buffalo grass and tall prairie tufts, Greg applied Elmer's Glue-All thinned with water, liberally sprinkled static grass over it to add volume, and flipped the base over to knock off the excess. "This is done before the tank is attached to the base," Greg says. He airbrushed the grass with several shades of green, yellow, and tan for late fall or early spring look.



Meet Greg Hanchuk

**GREG,
36, OF
PARMA,
OHIO,**



teaches junior high history, coaches football, and has introduced his 8- and 6-year-old sons to modeling. He was their age when he started modeling. "I don't remember exactly what my very first model was, but my two older brothers built models and I wanted to build them, too," he says. Hooked early, he has been building ever since — even bringing modeling stuff to his college dorm.

A member of AMPS, Greg's focus is modern Russian armor.

You can almost hear the squelch of the tracks in the mud when you look at Greg's 1/35 scale scene of a T-80U on a Russian training ground in 2004.



Simple improvements for a **better P-40**



Looking for a quick project for the weekend, Rato chose HobbyBoss' 1/72 scale P-40B/C Tomahawk. But an image he discovered in a book soon derailed his plans for an easy build and sent him on a quest to model a Tiger lying on its belly.

Learn a half-dozen skills to make your models extraordinary

BY ROGÉRIO "RATO" MARCZAK

Recently, while visiting a local hobby shop looking for an easy kit for a weekend build, I came across HobbyBoss' 1/72 scale P-40B/C Tomahawk. Familiar with the AML, Academy, and Trumpeter offerings of the same plane, I decided that HobbyBoss' kit, though basic, was close enough in quality to the other available options.

Shortly after I purchased the P-40, an old photo caught my eye: It showed American Volunteer Group (AVG) 1st Squadron flight leader John Dean's Tiger No. 6 after a belly landing during a training accident in 1942. And while the scene itself is dramatic, I also noticed an uncommon rearview mirror, early-style shark eye, a shark mouth with a small tongue, and a curious shoulder harness — early P-40B Tomahawks had only lap belts.

Thinking a model based on the photo would make an interesting display, I was off to my workbench. Bye, bye weekend build!

Start with the basics

The kit cockpit provided was unacceptable. Instead of scratchbuilding a new one, I decided to use a CMK resin replacement for Academy's P-40N from my spares. Armed with a motor tool and a grinding bit, I carved a big cave inside the fuselage to accommodate the resin cockpit. I also widened the recess in the single-piece wing to accept the cockpit floor, **1**.

I deepened the panel lines on the nose and upper wings, and completed the lines where they disappeared. A beading tool helped define the hatch fasteners for the gun bays. At the same time, I deepened the aileron hinge-lines and separated the aileron

ends from the wings by cutting along the line with a razor saw, **2**.

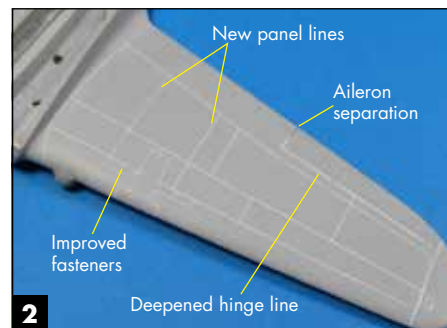
The rudder's hinge line was incorrect. Working carefully, I cut the rudder from the fin along the molded hinge line and corrected the attachment points with strip styrene. I scribed the missing trim tab and then sanded the rudder to reduce the over-pronounced rib detail and thin its trailing edge, **3**.

I separated the elevators from the horizontal stabilizers and gave them a going over similar to the rudder, reshaping the hinges and toning down the ribs, **4**.

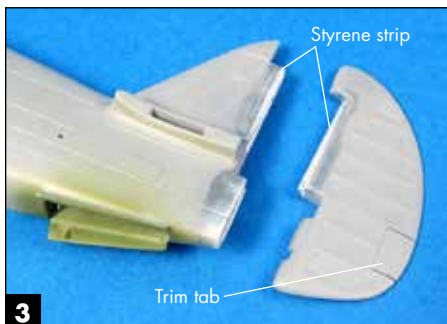
I hollowed the openings for the exhaust stacks, but left the mold lines on the parts because they nicely replicated the weld lines on the real deal. The openings for the nose guns and air intake were opened up with a microdrill, **5**.



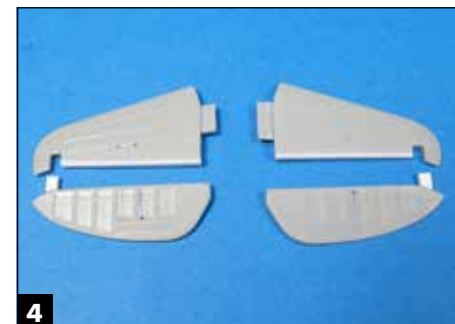
1 Rato opened up the cockpit housing in the kit fuselage and wing to make room for an aftermarket resin cockpit detail set.



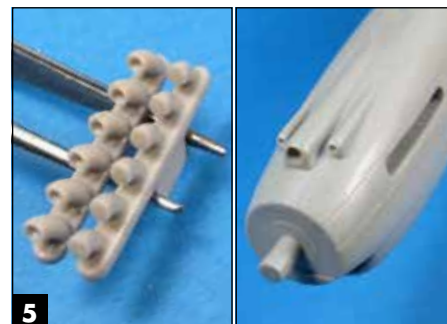
2 A beading tool helped refine panel fasteners. Rato also deepened the lines along the front of the ailerons and scribed missing panel lines.



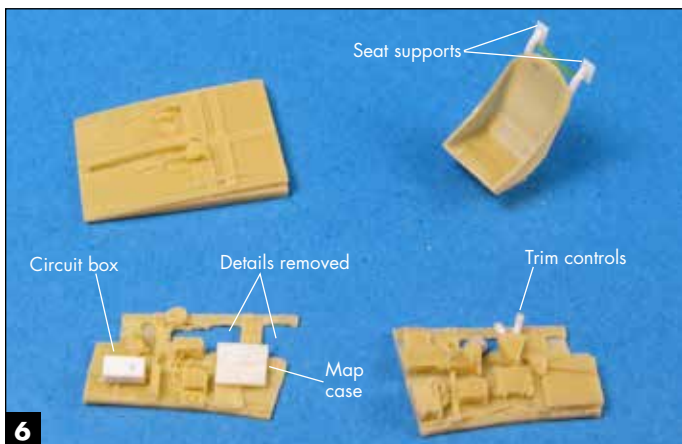
3 The rudder required some work to get the correct shape and thickness. Rato added the trim tab with a scribe and razor saw.



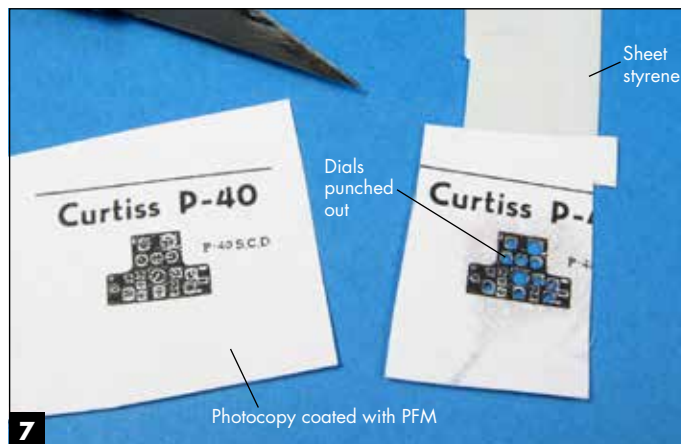
4 After separating the elevators from the stabilizers, Rato added some hinge detail and thinned the elevators with sandpaper.



5 A microdrill opened the ends of the exhausts, nose-gun ports, and air intake.



6 The kit's dearth of cockpit detail made Rato's choice of CMK's P-40N resin cockpit set clear. He modified the CMK pieces by deleting or adding items to retrofit the P-40N's front office to a P-40B.



7 Rato made his own instrument panel with scale photocopies and plastic sheet.

Interior work

My first job was to backdate the resin cockpit to a P-40B. I removed details from the side walls and added trim controls, a map case, and a circuit box. I rounded the top of the pilot's seat and scratchbuilt its support arms from plastic rod. I could have modified the radio, too, but decided it was good enough, **6**.

The cockpit set's instrument panel looked nothing like a P-40B's, so I endeavored to make my own.

First, I made two photocopies of a 1/32 scale drawing of a P-40B instrument panel and reduced them to 1/72 scale. I gener-

ously coated one copy with Pledge FloorCare Multi-Surface finish (PFM) and let it dry. I glued the other copy to sheet styrene and punched out the dials with a punch-and-die set, **7**.

I retouched the instrument panel with flat black and glued the PFM-coated copy to the panel's back so the gauges showed through the holes. I used spare decals for the gauges that were too small for my punches and covered them with a bit of Tamiya smoke (X-19) to represent glass. I added back plates to the .50-caliber machine guns on top of the instrument panel and made the rudder pedals with

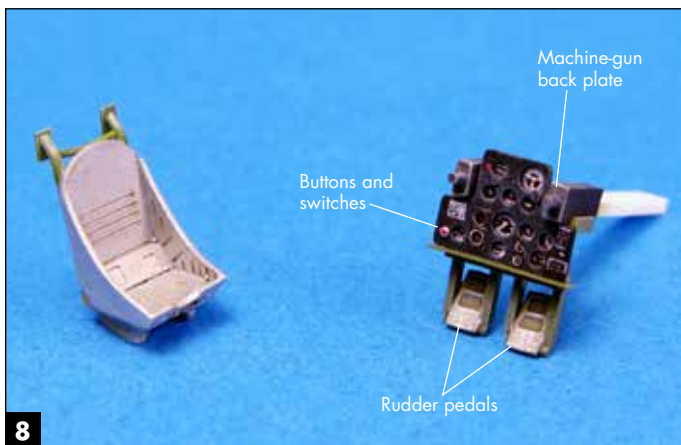
plastic and spare photoetched-metal parts from an old Eduard set, **8**.

The cockpit side walls and floor received a coat of Testors Model Master interior green followed by Model Master Metalizer sealer. A wash of burnt umber artist's oils added depth, and a light dry-brushing of lightened interior green picked out the highlights.

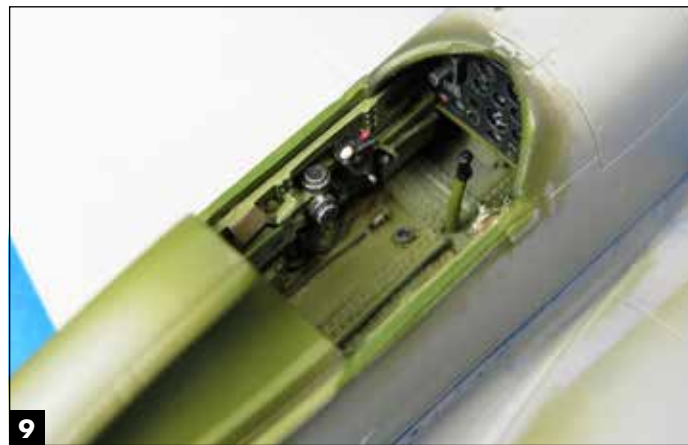
I glued the cockpit components (except the seat) into the fuselage, **9**.

Upping the exterior detail

With the cockpit in place, I attached the wings. Mr. Surfacer took care of seams



8 Rato dry-brushed the instrument panel with gray. Small dots of red and silver paint made buttons and switches. The seat was painted silver, coated with PFM, then given a burnt sienna oil wash.



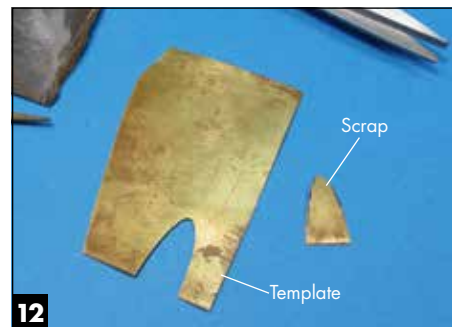
9 Something told Rato not to glue the seat into position when he installed the rest of the cockpit. So he trusted his instincts and left it out for the time being.



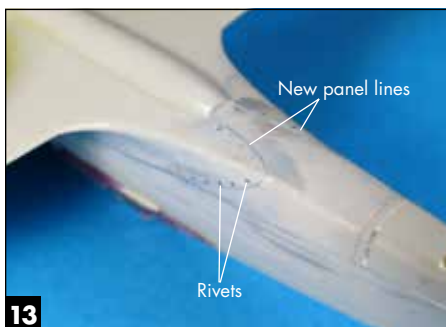
10 After breaking off one of the tail-wheel doors, Rato thought it would be a good idea to replace both of them with scratchbuilt ones. He started by correcting the shape of the tail-wheel well.



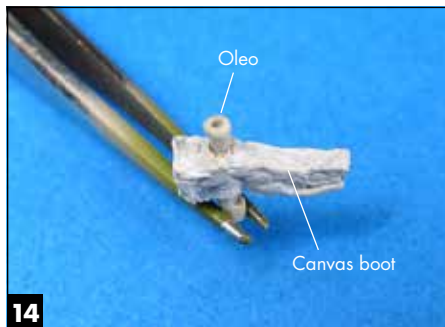
11 The fairing on the wing root's trailing edge was practically nonexistent on the kit parts. Rato set about correcting this by making a scribing template.



12 He cut the template from thin brass sheet and refined the shape with sandpaper and modeling files.



13 Rato carefully bent the template around the fuselage contours, scribed the new fairing panel lines, and added rivets.



14 Unsatisfied with the kit's tail wheel, Rato made a boot for the rear gear out of tissue paper wetted with thinned white glue.



15 A slice of sprue and a segment of brass wire are the beginnings of a new tail wheel.

along the wing roots, but I had to heavily sand the join across the plane's belly.

In the process, I snapped off one of the tail-wheel doors. I removed the remaining door and scratchbuilt new ones. Small styrene fillets at the corners of the wheel-bay opening corrected its shape, **10**.

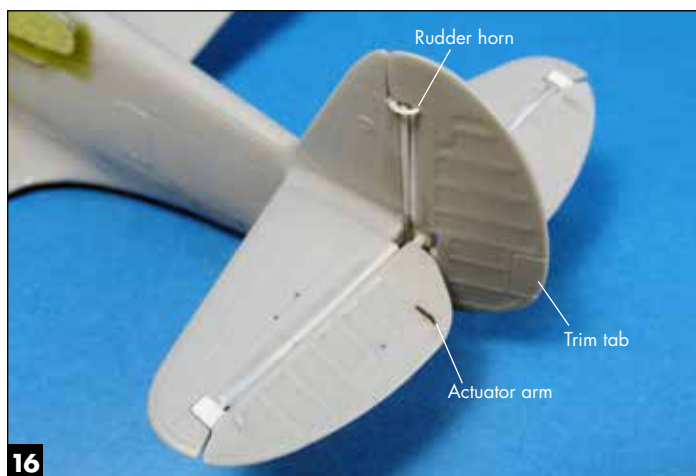
I made a template to help me replicate the fairings where the wings' trailing edges meet the fuselage, tracing the fairing's shape on a piece of masking tape placed over the area, **11**. Transferring the tape to a thin brass sheet, I cut and refined the shape with files and sandpaper, **12**.

Holding the template in place, I scribed the new fairing lines on both the port and starboard sides, sanded them lightly to knock down any rough edges, then applied a bead of liquid cement to smooth them out, **13**.

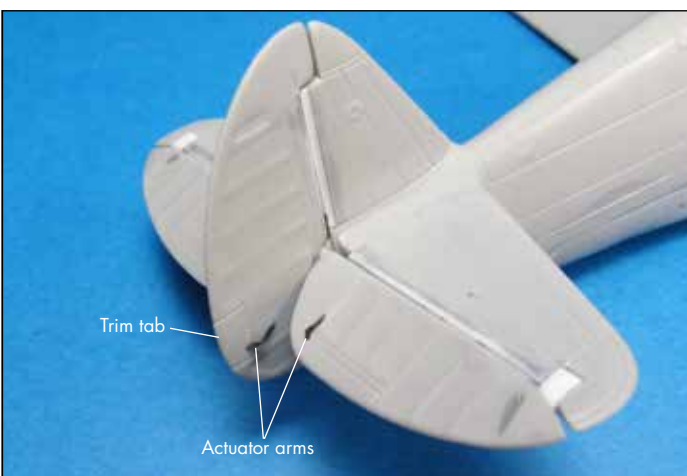
I didn't like how the tail wheel looked. To improve it, I removed the molded-on wheel and single-arm fork from the strut and drilled out the oleo. I temporarily inserted it into the wheel well and filled the area around it with facial tissue dampened with diluted white glue to form a canvas boot, **14**.

For the tail wheel, I sliced a disc about the thickness of the wheel from a piece of sprue. After drilling a hole in its center, I mounted the wheel on my motor tool and shaped it with files and sandpaper. I worked a length of .75mm brass wire into the new wheel fork and attached it to the wheel, **15**.

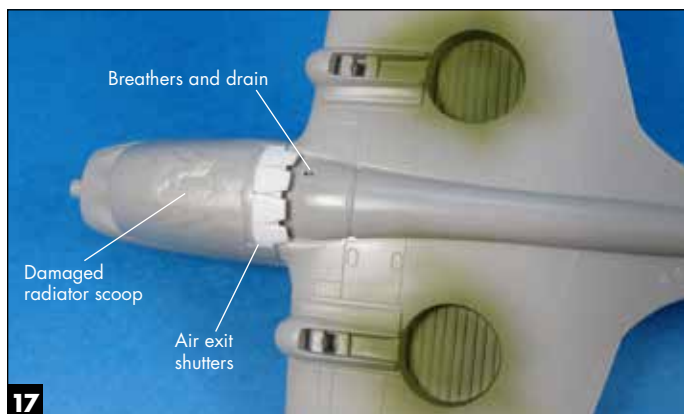
I made a connector for the elevators from styrene rod and attached them to the stabilizer with a slight droop. I added a rudder horn punched from sheet styrene, and made actuator arms for the trim tabs from stretched sprue, **16**.



16

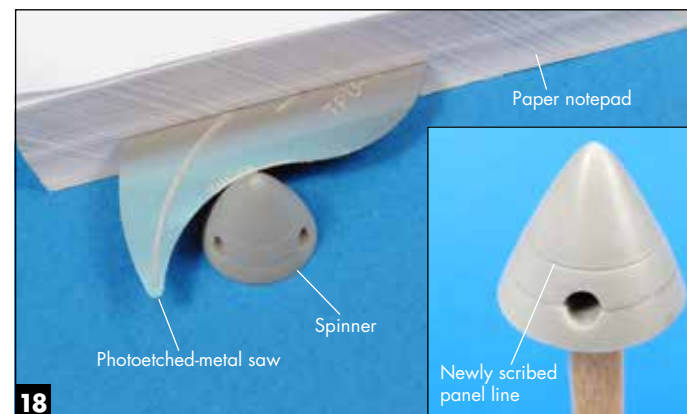


The tail comes together: All the work starts to pay off as Rato adds the homemade odds and ends to his P-40's empennage.



17

Rato made air exit shutters from sheet styrene, damaged the chin scoop, and opened up a couple of holes for the engine breather and drain.



18

It looks strange, but a notepad can be a handy tool in a pinch for scribing lines at a constant height.



19

Rato began painting the model with automotive primer, then pre-shaded panel lines with black lacquer.



20

After researching colors for U.S. export aircraft, Rato decided on a light gray to represent DuPont 71-021 used on the P-40's belly.

Underneath, I made air-exit shutters from sheet styrene, posing them partially open. A grinding bit banged up the radiator scoop, **17**.

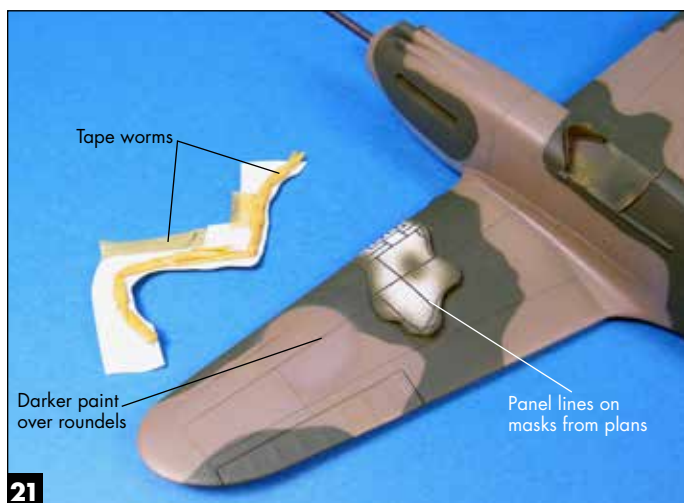
To refine the panel lines on the spinner, I sandwiched a photoetched-metal saw between the pages of a paper notepad. I checked the saw's height against the spinner and adjusted it a few pages to get it

right. Then, with the spinner back flat on the table and one hand pressing firmly on the pad and saw, I gently turned the spinner against the blade to score a new line, **18**.

Adding some color

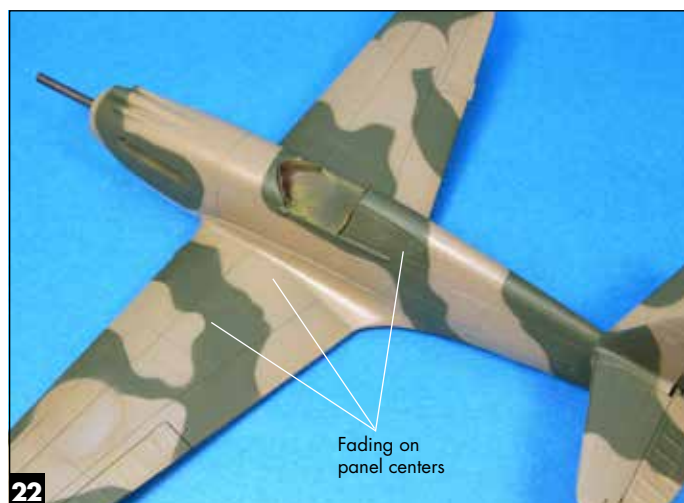
After adding the main landing-gear doors, I cleaned the model and masked in preparation for paint. I primed with acrylic auto-

motive primer and pre-shaded with black automotive lacquer, **19**. This was not the best choice, as I found out later on. The lacquer softened the acrylic primer and cracked it on the upper wings, causing me to have to recoat with primer and repeat the pre-shading. Remember: Enamels over lacquers, acrylics over everything, and lacquers only over other lacquers!



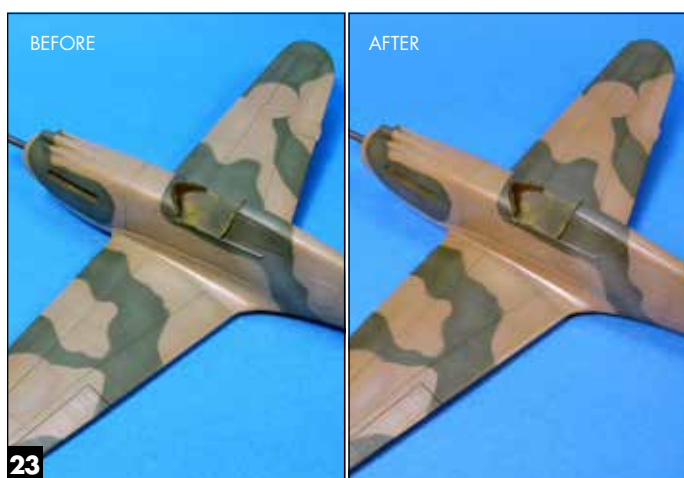
21

Rato drew the camouflage pattern on scale drawings of a P-40, cut them out with a hobby knife, and then applied them to the model.



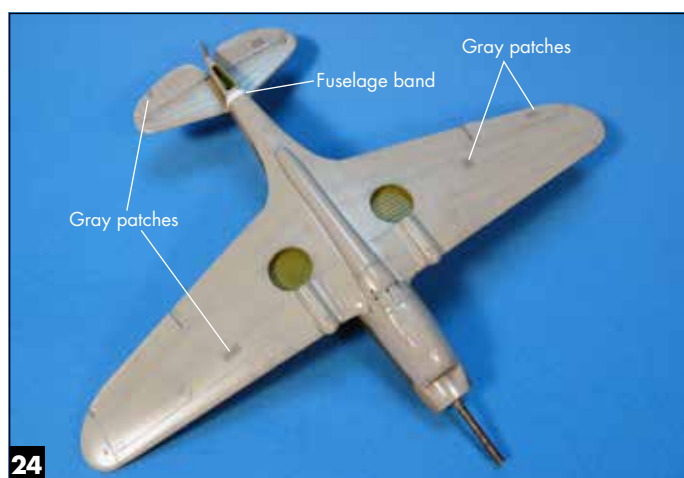
22

A mix of Rato's base coat, buff, and white went over the top of the plane in a thin mist. What Rato didn't expect was a color shift.



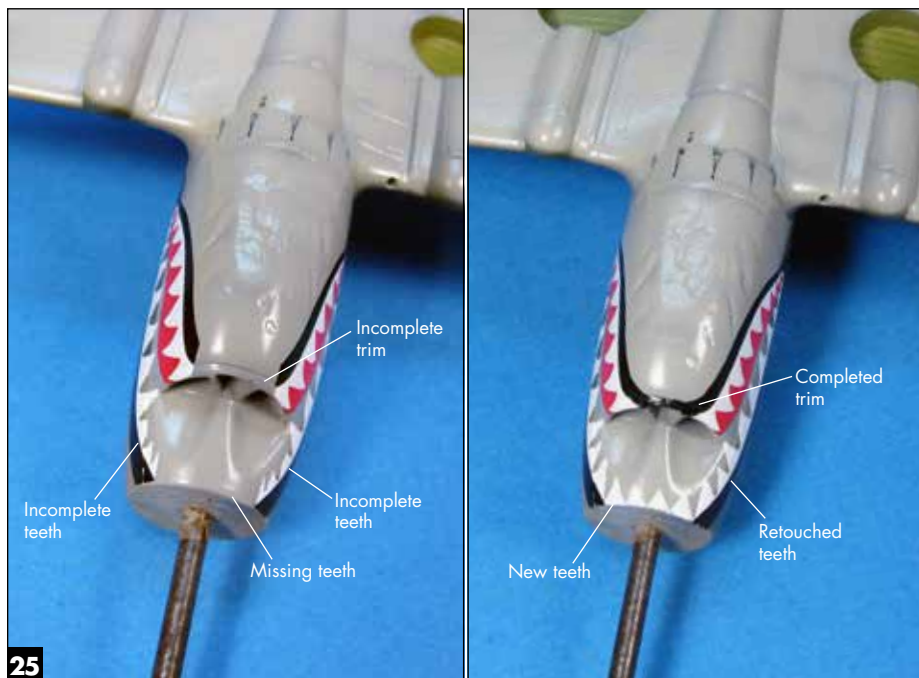
23

To correct the color shift, a filter of Tamiya clear orange went over the whole, shifting the browns to earthier tones and making the greens bluer.



24

A few patches were added to the plane's belly, along with the fuselage band.



25

The kit-supplied shark mouth left much to be desired. Rato corrected it with a paintbrush and a steady hand.

After researching colors, I decided on light gray automotive lacquer for the underside, **20**.

On top, I airbrushed a mix of Tamiya J.A. green (XF-13), flat green (XF-5) and sky (XF-21) for the brown camouflage base. I photocopied 1/72 scale plans for the P-40B, drew the camouflage markings on them, and cut masks with a hobby knife.

I rolled thin "worms" of Tamiya masking tape, applied them to the masks, then placed the masks onto the model, **21**. The panel lines on the masks helped align them with the surface detail.

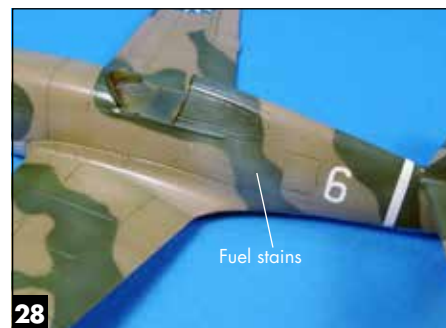
For the green, I mixed Gunze Sangyo Mr. Aqueous Color olive drab (H304), sail (H85), light gull gray (H51), and khaki (H81) in a 5:4:1:1 ratio. It was important to keep the airbrush at a 90-degree angle to the surface I was painting. Using this method produces nice camouflage edges that aren't too hard or soft. I used a slightly darkened version of my base-coat mix to mimic the effect of overpainted Royal Air Force roundels.



26 "I almost went blind writing these," Rato says. He created more than a dozen versions of the tail numbers and chose the best two.



27 But the finished product looks quite convincing and was worth the trouble.



28 Rato added fuel stains with enamels and artist's oils.



29 A pinwash of artist's oils and enamels defined the panels on the plane's upper and lower surfaces. Concentration on the hinge lines and other deep recesses makes for a darker, more pronounced finish. Then Rato hit the upper surfaces with what he calls an "air wash".



30 Heavily thinned Gunze Sangyo soot creates exhaust stains along the nose. Rato keeps it subtle, though, just like in his references.

Fade the paint, but not too much

I mixed my brown base-coat color with Tamiya buff (FS-57) and a little white (XF-2) and thinned it heavily — about 90 percent thinner. I misted this color over the airplane's upper surfaces, then moved in to concentrate on the center of some of the panels, **22**.

The effect is more pronounced on the green than it is the brown, and this is to be expected. However, I didn't expect the colors to shift the way they did. To make the brown a little yellower and the green a little bluer, I applied a filter of Tamiya clear orange (X-26) thinned heavily with Mr. Color Thinner to the camouflage.

I worked in sections, checking my progress as I went, and making sure the color was corrected but the fading wasn't lost in the process, **23**.

Once I was happy with the filter, I flipped the plane over and added a few rectangles in a darker shade of gray to simulate patches, particularly on fabric-covered areas. I also painted the fuselage band of the AVG 1st Pursuit Squadron, **24**.

When the paint had dried completely, I airbrushed PFM over the whole plane to provide a smooth, gloss surface in preparation for decals.

Markings

I used a combination of decals from the kit and an old SuperScale sheet.

HobbyBoss' shark-mouth decal didn't go all the way around the chin scoop. To finish the grin, I used a fine-tipped paintbrush and Acrylicos Vallejo black and white, **25**.

Because I couldn't find suitable serial numbers for the tail, I did the work by hand using a drafting pen loaded with white ink. I wrote the serial number on a clear decal sheet more than a dozen times and picked the best two, sealed them, and applied them to the tail, **26**.

I almost went blind in the process, but the results were passable, **27**. A coat of clear gloss sealed the decals.

Panel lines and weathering

I pinwashed the panel lines on the upper surfaces with an earthy brown mix of artist's oils, while the separations around the control surfaces and the engine, cowl panels, landing gear, and guns received a grimy, almost black treatment.

For fuel stains, I applied diluted dark brown enamel for a "shadow" to define the boundary, then smudged dark yellow and burnt sienna artist's oils to make the streaks, **28**.

My final step in the weathering process was something I call an "air wash." I made a very thin mix of equal parts black and brown paint and airbrushed it along selected panels with my finest-tipped airbrush. I didn't follow any particular panel line, but concentrated on areas like gun

ports and ammo panels. I also touched up the fuel streaks with this process, **29**.

After a flat coat, I airbrushed thinned Gunze Sangyo Aqueous Hobby Color soot (No. H343) on the nose to represent exhaust stains, **30**.

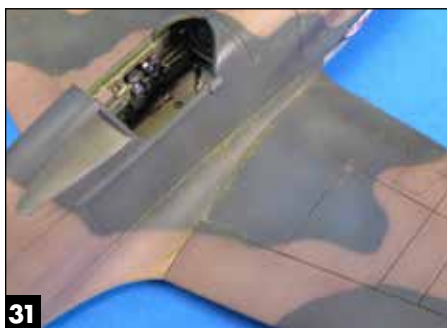
To create paint chips, my weapons were a homemade mechanical pencil modified to hold 1.3mm silver lead, a standard .5mm mechanical pencil with yellow lead, and bright silver, dark silver, and medium gray Prismacolor pencils. The yellow lead created scratches on panels such as the wing-root fairings and cowl to give the plane an overall worn appearance, **31**.

The 1.3mm silver lead produces light "clouds" of exposed metal on areas that would naturally be more worn, like the wing roots. Then I alternated between the Prismacolor pencils to produce tiny chips along fairings, removable panes, and fasteners, along with some minor chipping on the tail surfaces and cockpit rails, **32**. The belly received similar attention, but mostly from the dark silver pencil. It didn't need much variation because much of the display.

The final details

Starting with the exhaust stacks, I airbrushed Testors Model Master Metalizer burnt iron and misted the ends with Model Master rust, **33**, then glued them in place.

The tail-wheel boot received a brown base coat followed by clear gloss. Next



31 Yellow lead in a mechanical pencil begins the paint-chipping process.



32 With the various other silver and dark silver pencils in his arsenal, Rato proceeded to reveal metal in places that would have seen the most wear.



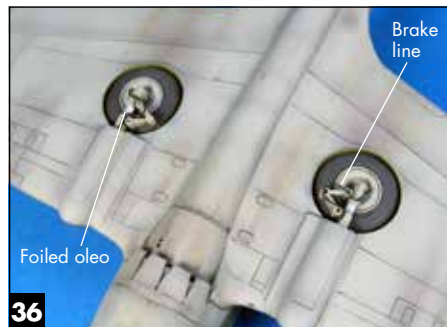
33 The exhaust stacks received Metalizer burnt iron and Model Master rust before being attached to the airplane.



34 Rato assembled the tail wheel, painted it with various acrylic, enamel, and oil colors, and finally installed it, along with scratchbuilt doors.



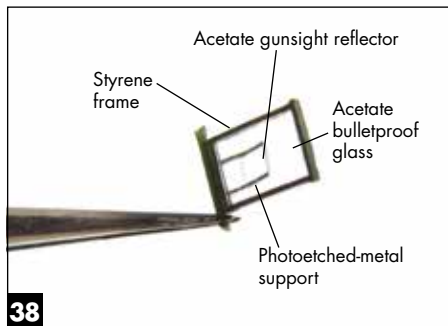
35 After sanding the back sides of the main wheels to fit them properly in their wells, Rato painted them to match his color references.



36 Copper wire simulates brake lines and a little Bare Metal Foil lends some shine to the retracted oleos.



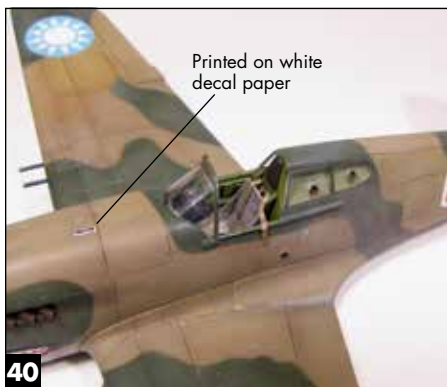
37 Rato bent the banged-up prop blades against a burning incense stick. After painting with Alclad aluminum and semigloss black, he banged them up a bit with sandpaper.



38 The armored glass behind the windshield and the gun-sight reflector are scratchbuilt.



39 The armored glass and reflector assembly glues into the windshield. Rato added a rearview mirror to the windshield frame.



40 Remember when Rato didn't glue the seat into the cockpit? He discovered that the flat-topped seat was correct after all. He made a new one and added a Prestone sticker in front.

came a wash of burnt sienna artist's oil, a spritz of clear flat, and then a dry-brushing with off-white oil paint. I mounted the new wheel assembly on the oleo and glued everything inside the well, **34**.

I constructed the tail-wheel doors from .2mm styrene sheet, shaping them around a paintbrush handle. Drawings from a couple of P-40 manuals helped me replicate internal details. Once the doors were glued in place, I made retraction arms from stretched sprue.

To make the main wheels fit in their wells, I sanded their backs flat, **35**. After gluing the wheels inside the wells, I slipped the struts into place and attached them with a dab of glue. Copper wire simulates

brake lines, and Bare-Metal Foil represents the oleo's shiny metal, **36**.

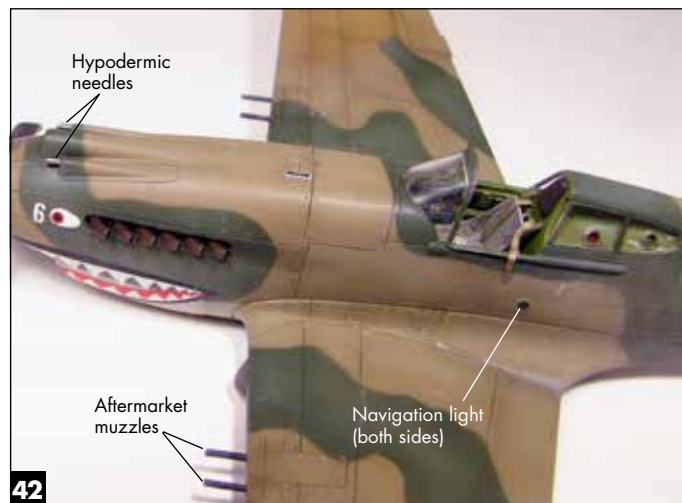
I damaged two of the prop blades by heating them against a lit incense stick and bending them to their post-crash shape. After automotive primer, followed by a coat of Alclad II aluminum sealed with Testors Metalizer sealer, I applied a coat of semi-gloss black and painted the prop tips yellow. Once the props were dry, I came back with fine sandpaper and exposed the aluminum along the leading edges and bent areas to show bared metal, **37**.

To replicate the armored glass and gun-sight reflector behind the windscreen, I started with a rectangular frame from styrene strip and attached a piece of acetate to



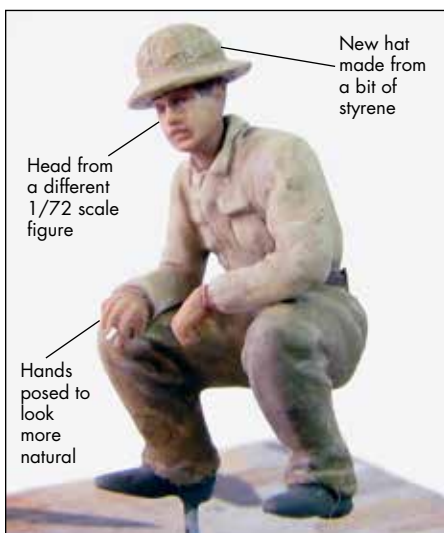
41

Rato did not flat-coat the propeller blades. According to his references, the prop logos were decals and would have been shiny.

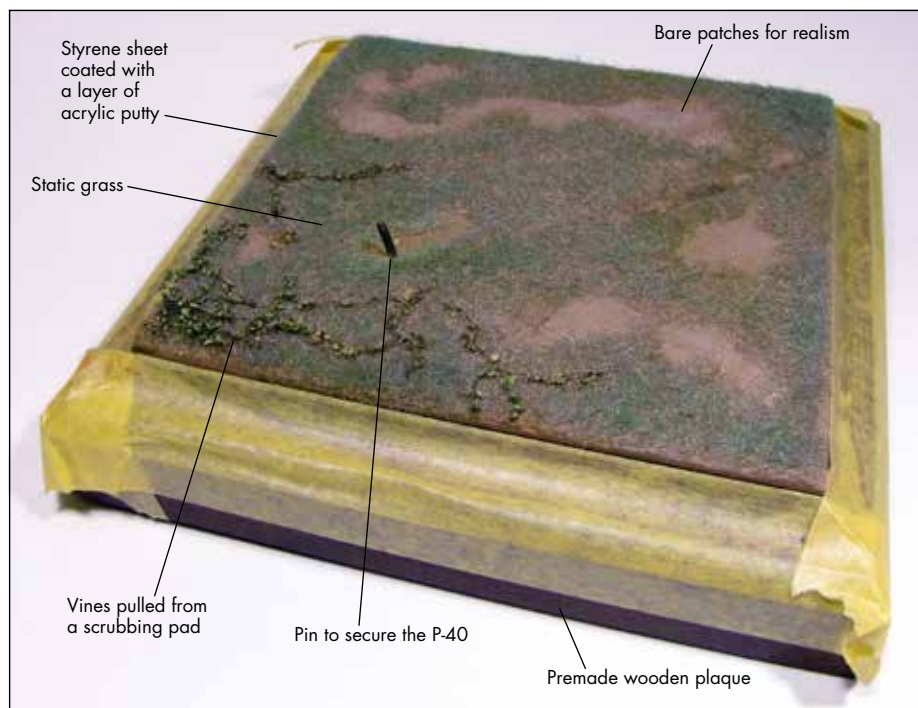


42

Hypodermic needles serve as the nose guns, while a quartet of scrounged barrel barrels from an Aires detail set round out the wing armament.



With his P-40B finished, Rato wanted to park it on its belly. He used a premade wooden plaque as the base and covered it with putty and static grass. The crewman is a combination of a couple of figures, modified and painted to represent a serviceman in the Pacific.



it. I found a pair of photoetched-metal braces in my spares to serve as reflector arms and glued another piece of acetate between them, **38**.

Once it had been assembled, I mounted the armored glass and reflector inside the windscreen. I also added a rearview mirror on top of the windscreen, **39**.

I found evidence that the seat back should be flat, not rounded. So, I salvaged a seat from my spares, painted it as I had the other, and glued it in place. Again, my spares provided me with photoetched-metal seat belts; I left a shoulder harness hanging out of the cockpit as I had seen in the photo, **40**.

The propeller blades went into the spinner, and the spinner was glued to a toothpick that I had previously glued into the

plane's nose for a prop shaft, **41**.

The nose-gun muzzles are hypodermic needles; the wing guns are parts that I scrounged from an Aires detail set to get the correct British style with oval perforations, **42**.

The base and figure

Applying a wet substance, such as plaster, to a wooden base can sometimes cause it to warp. To avoid this, I laid the groundwork for my P-40 on a square sheet of 1mm styrene and then glued it to the wooden base once it was finished.

First, I spread out a thick coat of acrylic putty tinted with various Tamiya browns and tans on the styrene sheet and sprinkled fine sand over it. Once everything dried, I added static grass, purposely leaving

patches of bare earth. To get rid of the unnatural shine common to static grass, I misted a thin coat of Tamiya dark earth (AS-22) over the whole. I went back and dry-brushed a variety of green paints on the grass to restore some color.

Strings pulled from a scrubbing pad serve as ground vegetation. I coated them with white glue and decorated the "vines" with scale leaves from Noch.

The figure started as a crewman from Preiser. I swapped its head with one from another figure and made the Burmese hat from a bit of plastic. I modified the hands for a more natural pose. The cigarette is a short length of stretched sprue. I painted the figure with Vallejo acrylics, depicting one of many khaki uniforms I've seen in wartime photos. **FSM**

Show Gallery



▲ **SCOTT DIMMICK**
NORTH EAST, MARYLAND

Inspired by coverage of the Syrian Civil War, Scott backdated Trumpeter's 1/35 scale T-72B M1990 to a T-72AV with a Miniarm resin turret and ERA blocks, parts from a Tamiya T-72, Voyager photoetched metal, and scratchbuilt details. He painted the model with LifeColor acrylics, then placed it on a Hans Systems base decorated with scratchbuilt curbing and barriers from Meng.

AMPS 2014

The best military models were on display in Fredericksburg, Va., in early April at the Armor Modeling and Preservation Society's annual international show. Hundreds attended the three-day event, including *FSM* Associate Editor Aaron Skinner, who shot these photos.

Next year's event is April 30-May 2 at the World War II Victory Museum in Auburn, Ind. For more information, visit www.amps-armor.org.



▲ **TREVOR EDWARDS**
COLUMBIA, SOUTH CAROLINA

Besides Spade Ace metal tracks, Dragon's 1/35 scale King Tiger received a neat camouflage scheme courtesy of Trevor. He primed with Tamiya hull red, then mixed his own shades for the dunkelgelb, olivgrun, and rotbraun. AK Interactive washes emphasized the kit's molded Zimmerit, while powdered pigments and paint chipping gave the late-war behemoth a well-worn appearance.

 www.FineScale.com

We photographed far too many models to fit in this gallery! Subscribers can see many more at www.FineScale.com/OnlineExtras.

► **JON MURPHY**
BUDD LAKE, NEW JERSEY

Sticking to the contest theme "Tanks on Film," Jon built Tasca's 1/35 scale M4A3E8 as the title vehicle from the upcoming Brad Pitt movie "Fury." After adding Tiger Models periscopes, brush guards, tools, and transmission cover, a turned-metal barrel from Aber, and scratchbuilding a mantlet-cover bracket, Jon painted the model with Vallejo Model Air acrylics over AK Interactive gray primer. Mig Productions and AK products provided the weathering; the figures come from Alpine; and the groundwork is Apoxie Sculpt.



◄ **CHRIS TOOPS**
LANCASTER, PENNSYLVANIA

Dragon's 1/35 scale PzKpfw III hauls extra stowage, thanks to Chris' scratchbuilt rack on the engine deck. The Eastern Front warrior received winter camouflage with Testors Model Master enamels and hairspray, as well as weathering with gouache watercolors.

► **BILL SCHMIDT**
ANSONIA, CONNECTICUT

In Bill's scene, the crew of a Stryker engineer squad vehicle reloads before another mission. He added guides and chains to the mine blade of AFV Club's 1/35 scale M1132, then loaded the vehicle with resin stowage from Legend Productions. The Stryker is painted with Tamiya acrylics and post-shaded over dark primer; weathering was done with dot filters, washes, and pastels.



Show Gallery

**ROBERT BURIK
PRINCETON, NEW JERSEY**

On April 5, 2003, Staff Sgt. Stevon Booker was killed in action during the so-called "Thunder Run" into Baghdad. Robert superdetailed Dragon's 1/35 scale M1A1 Abrams to represent Sgt. Booker's tank, including damaged and missing road wheels, a bent fender and broken bustle rack. Modified Warriors figures form the crew.



► **BARCLAY CARAS
NORWICH, CONNECTICUT**

"Very primitive," says Barclay of Start's 1/35 scale T-40 Soviet light tank. He replaced all of the molded rivets and scratchbuilt new fenders and engine grilles, then painted the model with AK Interactive's Russian 4B0 green color modulation set. After weathering with washes, enamel filters, and pigments, he set the model in a block of poured resin to display the amphibious tank underway.



◀ **CHUCK ROTHMAN
TORONTO, ONTARIO, CANADA**

Chuck built AFV Club's M42 Duster out of the box except for individual-link tracks from AFV Club. After priming the model with dark brown paint, he mixed Tamiya acrylic desert yellow with black, thinned the paint with Tamiya lacquer thinner, then airbrushed the upper horizontal and most of the vertical surfaces, leaving brown in the shadows. Next, he sprayed straight desert yellow on surfaces that would be in direct sunlight — fenders, hull top, and panel centers — and added a little white to highlight the most exposed areas. Freehand stripes of olive drab completed the camouflage on the Jordanian antiaircraft vehicle.





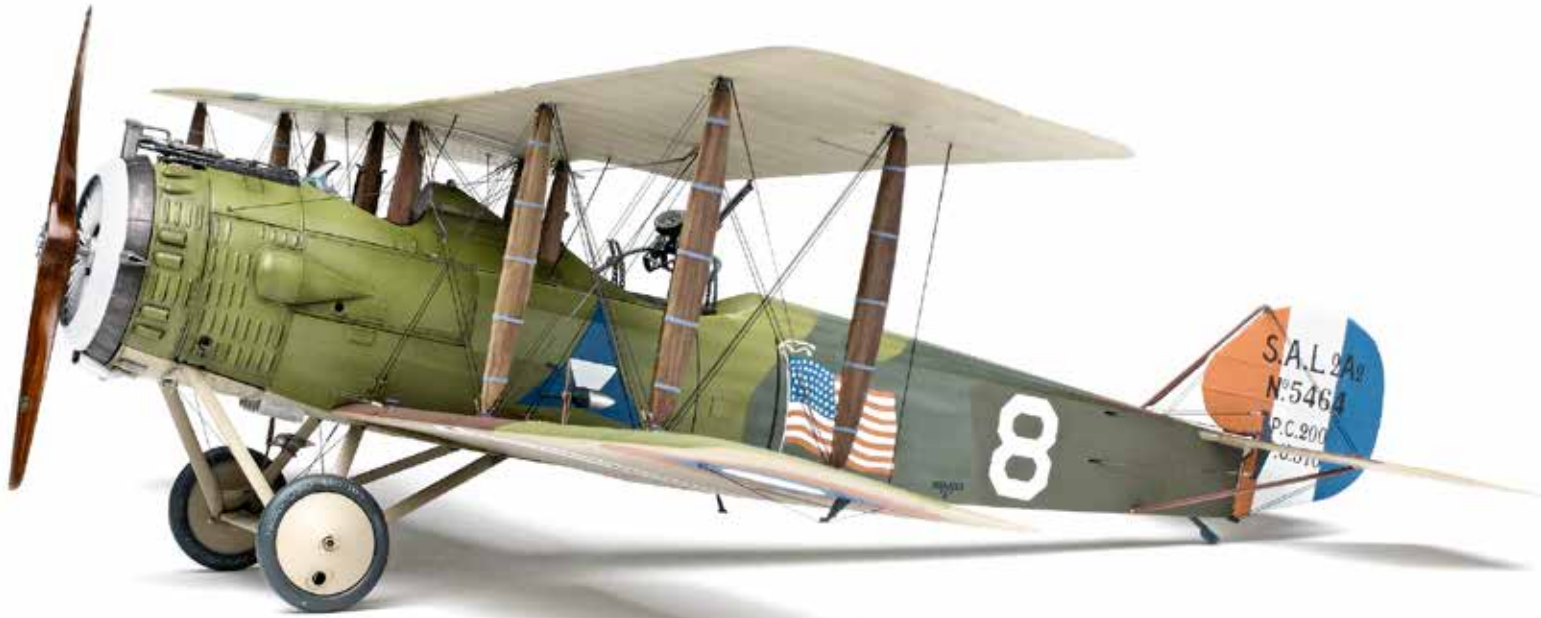
▲ **TONY FRADKIN**
RUTHERFORD, NEW JERSEY

Under the eye of a hopeful vulture, soldiers dig sand from under a Humber Mk.II armored car in North Africa in 1941. Tony added handmade stowage to Bronco's 1/35 scale vehicle, which he painted with Tamiya acrylics. Artist's oil washes define the surface details and filters lend drama to the camouflage. Tony chipped paint on edges with an art pencil. The base is Apoxie Sculpt over balsa textured with strained dirt from Tony's backyard.

► **GEORG EYERMAN**
GARWOOD, NEW JERSEY

The cops have got themselves an RV. Or, in this case, the U.S. Constabulary — a military police force in Germany and Austria from 1946-52 — has gotten an M8 armored car. Georg detailed Tamiya's 1/35 Greyhound with scratchbuilt ammo racks and Eduard photoetched metal, and mounted civilian-pattern tires on the front wheels. He layered Tamiya acrylics over black primer to give the camouflage a modulated appearance, then applied Decalomaniacs! markings. Artist's oil washes and spattered pigments finished the patrol car. **FSM**





Chuck had to make a lot of plastic look like wood when he built Wingnut Wings' 1/32 scale Salmson 2-A2, a French-built reconnaissance plane that served in the United States Army Air Service during World War I.

PAINTING WOOD GRAIN

Easy method takes just minutes

BY CHUCK DAVIS

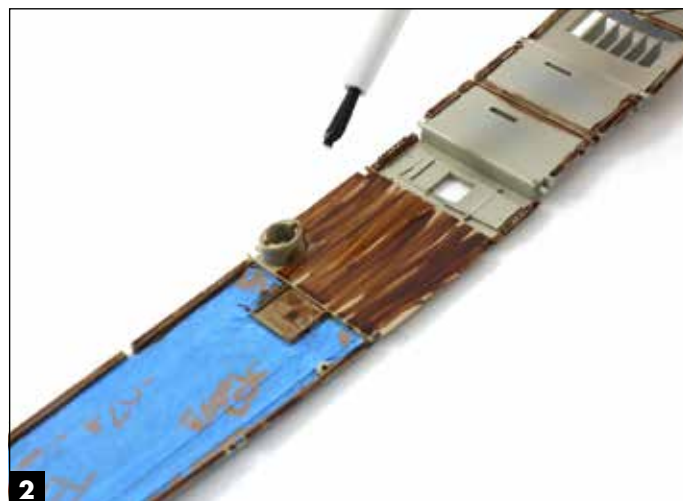
If you build World War I aircraft, sooner or later you are going to have to paint plastic to make it look like unpainted wood. That means adding wood grain. On some aircraft, it may be just the prop. On others, like the Wingnut Wings 1/32 scale Salmson 2-A2 I reviewed in the July 2014 *FSM*, almost all of the interior is bare wood.

I use a quick and easy method to replicate wood grain on plastic. All you need is tan paint — acrylic works best — brown artist's oils, thinner, and some old brushes.



1

First I paint a base coat of light tan acrylic, in this case Tamiya buff (XF-57). It's hand-brushed; any unevenness adds to the wooden effect. I seal this with Model Master clear gloss acrylic to protect it from the oil paints and thinner to come.



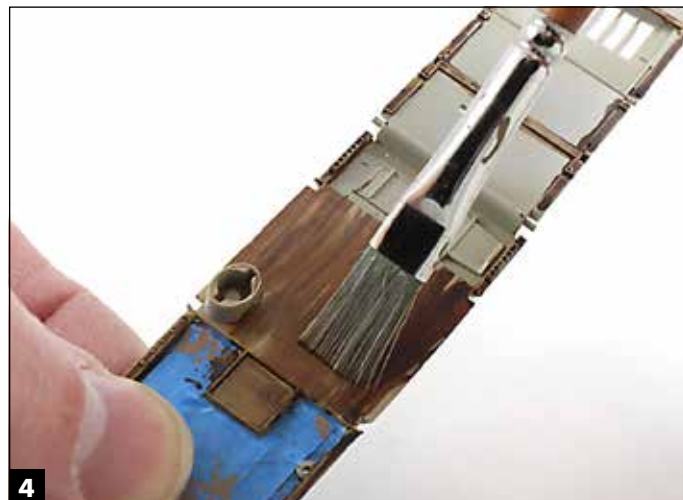
2

Next, I brush Winsor & Newton burnt umber artist's oil paint onto the floor, keeping the strokes roughly in the same direction and pattern as the grain I am replicating. There's nothing like cheap brushes when it's not fine art.



3

Here's a selection of brushes I use to texture wood grain. I find that flat, stiff brushes work best, but experiment for the effect you want.



4

After an hour, I drag a brush across the surface in the direction of the grain, "scrubbing" the oil paint into streaks. Twisting and dabbing creates knots and swirls in the grain. This technique is fun and very forgiving.



5

Here's the finished floor, which took all of about 10 minutes actual working time. Yes, it's that simple. The longer you let the oil dry, the more you have to scrub — but that can be an advantage if you're worried about taking off paint too quickly.



6

A coat of clear orange or clear yellow adds richness to the wood. I left the interior parts untreated, but sprayed the prop with Tamiya clear orange (X-26). The gloss finish also gives the part a varnished look. **FSM**



The dark presence of a *Policia Federal* Boeing 727 fascinated Frank — and when he saw a set of decals for it, he had to build it.

Modeling Mexico's **CON AIR**

On any other day this 727 might seem strange • BY FRANK CUDEN

Boeing 727s come in a couple of designations: The initial production airplane, the Dash 100, had an oval center-engine intake, while the stretched-fuselage 727-200 had a circular one. That's the easiest way to tell them apart looking at them head-on.

Just about all the world's airlines flew both models, and many of the jets still fly today in various uses. One unique role is that of a prisoner transport. Like in the U.S., where federal marshals call their prisoner "airline" *Con Air* (as in the 1997 movie), Mexico's *Policia Federal* flies 727s.

SOURCE

727 hush kits, Contrails, www.contrailsmodels.com

These sinister-looking ex-Mexicana jets caught my attention while perusing www.airliners.net. When I heard DrawDecal would be releasing decals for it, I was hooked; I chose Minicraft's 1/144 scale 727-200 (No. 14531) for the project.



Policia Federal's -200s have the exhaust extensions known as "hush kits," which Frank got in resin from Contrail. (The Minicraft kit parts are white.)



Without a cockpit or complex landing gear to detail, 1/144 scale airliners are a quick build; here, the airframe is just about done. Frank filled gaps with spackling compound or Squadron white putty and covered the work with Alclad II gray primer.



3

Using Testors Model Master enamels, Frank added about 4 drops of gloss black to an almost-full bottle of insignia blue and airbrushed all but the nose, where he was holding the model. Even though the insignia blue darkened when it dried, he added more gloss black before finishing.



4

Frank masked, then sprayed natural metal with Alclad II paints: aluminum for the intake rims, inboard slats, the horizontal tail's leading edges, and exhaust cones; duralumin for the slats and the exhausts' rear edges and center sections; and dull aluminum on the outside wing slats. Also note the aluminum trim tabs on both wing and horizontal tail trailing edges.



5

Decals for the cascade vanes on the exhausts came from the Minicraft kit. At the top of the tail, short sections of silver decal strip serve as fin-travel indicators.



6

Reference photos showed six small, white placards with red print on them just above the wings. Frank cut up white striping decal and added tiny red type from aftermarket decal sheets. He also punched out two red, circular decals for each wing.



7

Old Lite-Brite pegs: After the kids grow up (or when they take their own home), you can stop stepping on these and use them for modeling. Frank notched the wingtips, then stretched red and green pegs like sprue, rounded them with a sanding stick, and polished them with denim to make navigation lights.



8

The same process produced rotating beacons atop and below the fuselage. A coat of acrylic clear shined up the nav lights and the rotating beacons. Frank used Micro Kristal Klear to make lenses over the nav lights. For the landing lights on the wing near the fuselage, he applied a black decal and added two dots of silver decal to represent lenses. "It's not really an airliner," Frank says, "but this 727 does make a unique addition to my display cabinet." **FSM**

1/48 Scale



Waikong was proud to honor a highly-decorated Vietnam War veteran by building a replica of his battle-scarred plane. He just hoped he could complete the model in time!

Modeling aircraft **BATTLE DAMAGE**

Torn, bent panels and scratchbuilt innards tell a hero's tale • BY WAIKONG CHUNG

We all have our reasons for being in this hobby. I suspect many modelers enjoy recalling history, as I do.

So, it was an honor to be asked to build the B-57B Canberra flown during the Vietnam War by U.S. Air Force Col. Larry B. Mason (retired) as it appeared after a mission on which he earned the Air Force Cross and the Distinguished Flying Cross.

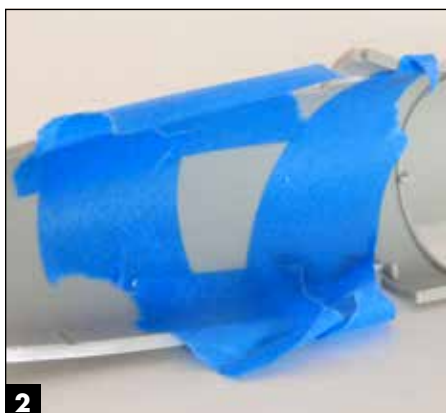
On March 15, 1966, Col. Mason, then a captain in the 8th Tactical Bomber Squadron at Clark Field, Philippines, was attacking a heavily defended position when his aircraft was hit by antiair-

craft fire, setting one engine afire, damaging the other, and blasting ragged holes in the fuselage and right wing. With his navigator, Capt. Jere Joyner, too badly wounded to bail out, Mason coaxed the ravaged aircraft to a safe landing at the U.S. base in Da Nang.

I was able to speak to Col. Mason and received a series of photos of the B-57 after the mission. The major challenges were to replicate the damage and complete Airfix's 1/48 scale B-57B in a few months for the colonel to take it with him for a scheduled speaking engagement. Time was short: I had to get cracking!



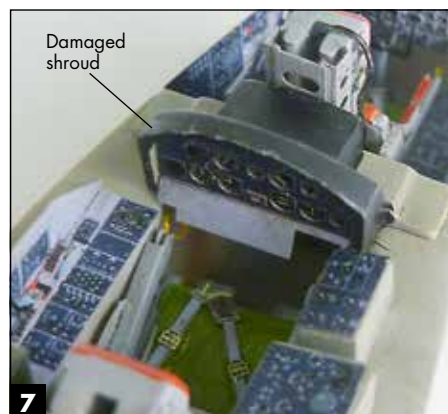
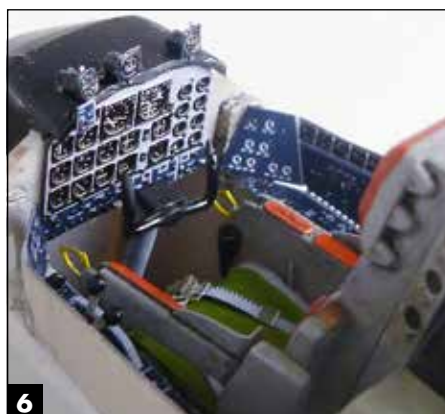
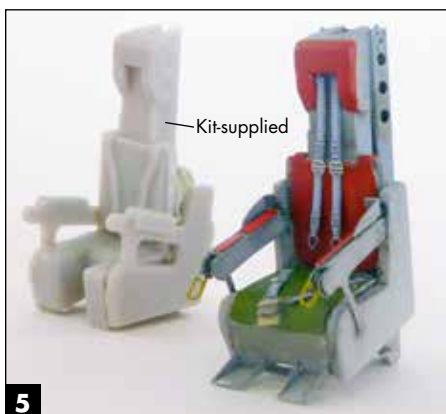
Photos taken immediately after the mission show a gaping hole in the starboard wing, additional damage in the flap area, and the fuselage shot that disrupted electrical power and wounded Capt. Joyner.



Fuselage damage came before building the cockpit. Protecting the surrounding area with tape, Waikong chucked a grinder in his motor tool and thinned the plastic until it was translucent. Then he punched through with a No. 11 blade and carved up the plastic from the outside.

Waikong created bracing and severed cables with plastic scraps and thin wiring. "From the inside, it just looks like a mess," he says.

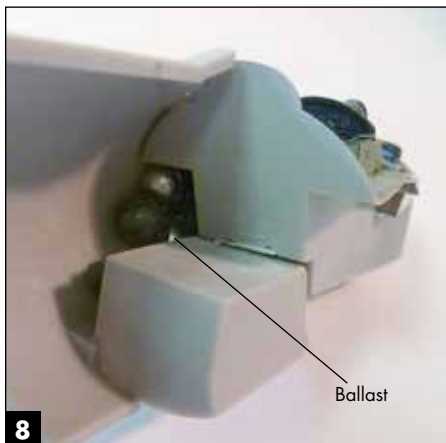
From the outside though, the interior looks busy and blasted.



An Eduard interior set provided photoetched-metal improvements to the kit's ejection seats.

The cockpit was a tight fit, Waikong says. A thick wash of brown artist's oils helped make the place look lived-in.

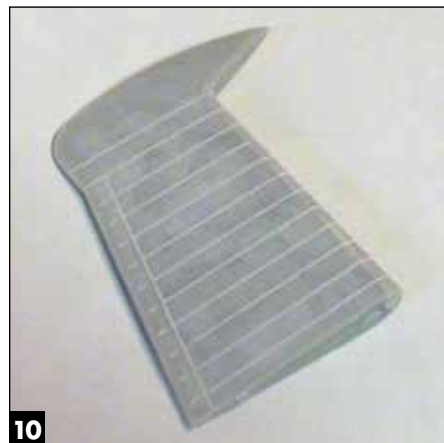
Photoetched metal found its way to the navigator's station, too. A silver pencil and dark washes added wear, and Waikong used pliers to bend and chew up the plastic instrument-panel shroud.



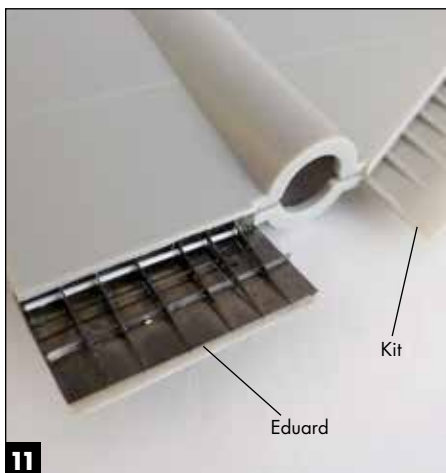
8 Fishing weights stashed around the seats were meant to keep the Canberra on its feet, but, "even with dozens, I had to install a service jack to prop the tail up," Waikong says.



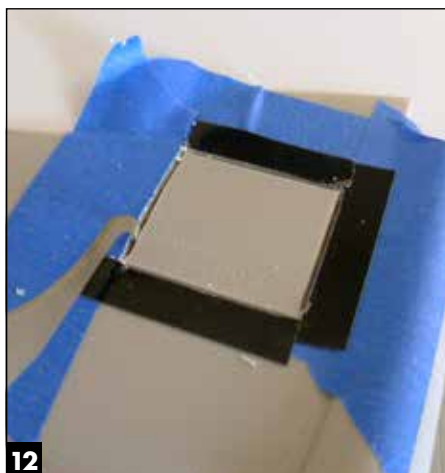
9 Waikong closed the air brake, then filled and smoothed gaps around it, being careful not to obliterate panel lines or the brake's outline.



10 "The rudder has deep grooves that did not exist on the actual plane," Waikong says. Filling and sanding solved the problem.



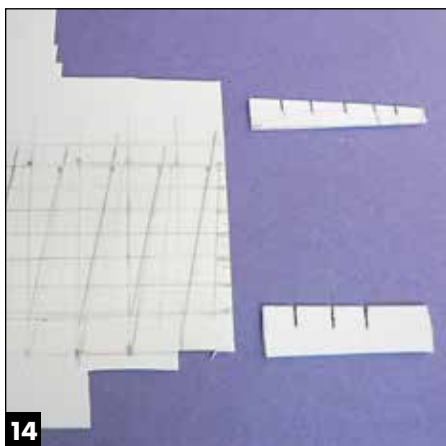
11 Eduard's photoetched-metal flaps (left) would prove easier to damage than the kit's flaps (right).



12 Hole in one (wing) coming up: Dymo labeling tape protects the surroundings while several passes with a scribe cut through the plastic.



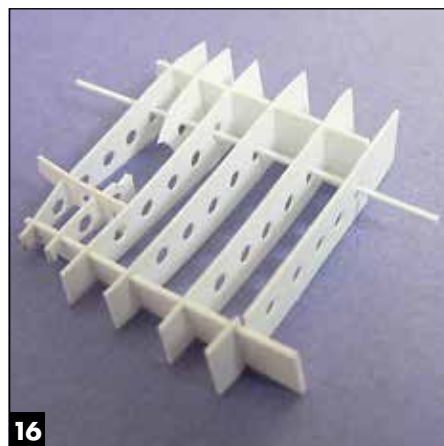
13 Repeating the process holed the underwing skin, too. Waikong thinned the edges with a sanding stick, then used a No. 11 blade to rough them up and make the openings look irregular.



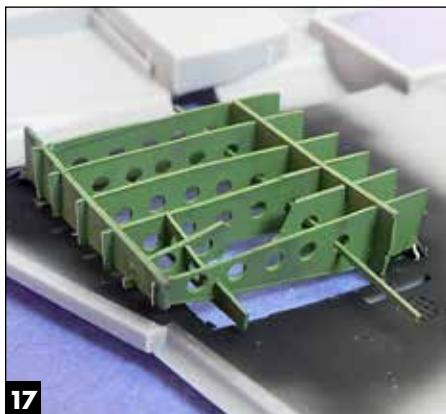
14 Waikong used calipers to measure the opening's width, length, and height, then transferred the dimensions to sheet styrene to make the wing's internal structure. He says, "Dividing the width into fifths gave me the stringers and notches in the proper place for the front and rear horizontal support."



15 A punch-and-die set produces lightening holes in one of the four stringers, which are numbered to maintain the correct order of the different-size parts.



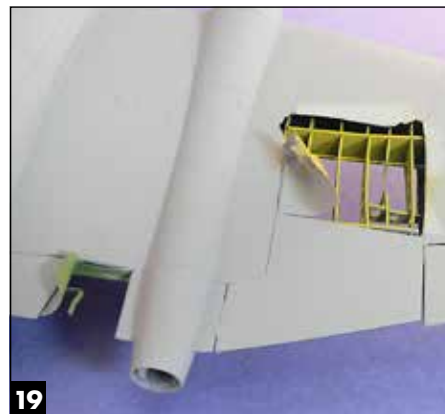
16 Cutting pliers inflicted damage matching the photos; a styrene rod provides additional detail.



17 After painting the interior of the wing Tamiya NATO black, Waikong primed the framing with interior green and fitted it in the wing.



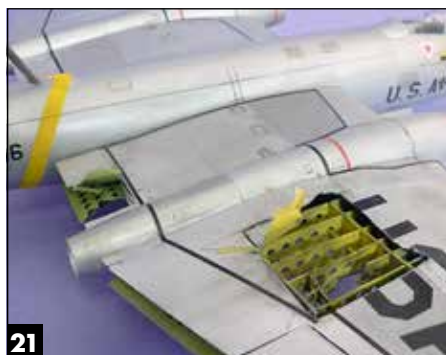
18 Foil from a votive candleholder provided easily malleable material for the wing's twisted panels. Waikong cut it with Xuron scissors made for photoetched metal.



19 The damaged panel was gently rolled, then super glued in place. Interior photoetched-metal flaps were cut and bent the same way. Waikong painted the framing with Testors Acryl zinc chromate.



20 Zotz Decals' sheet No. 48040, "B-57 Canberras in Vietnam," includes the markings Waikong wanted. However, he masked and painted the yellow around the nose and fuselage, "much more exact than trying to use decals around compound curves," he says.



21 After roughing the engine with sandpaper, Waikong applied soot black from a Tamiya weathering powders set, a wash of black artist's oils, and more weathering powders. He added a few more shards of torn photoetched metal according to photos.



After a coast-to-coast trip from New York to Washington state, this Canberra makes one more safe landing: Col. Mason dons his dress blues to pose with the model. **FSM**

Air Force Cross citation

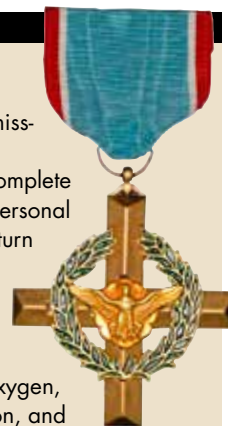
THE PRESIDENT of the United States of America, authorized by Title 10, Section 8742, United States Code, takes pleasure in presenting the Air Force Cross to Captain Larry B. Mason (AFSN: 0-3102518), United States Air Force, for extraordinary heroism in connection with military operations against an opposing armed force as an Aircraft Commander of a B-57 tactical jet bomber of the 8th Tactical Bomber Squadron, Clark Air Base, Philippine Islands, in action on 15 March 1966. On that date, while attacking a heavily defended target, Captain Mason's aircraft was hit repeatedly by 57-mm. and



President Lyndon B. Johnson

37-mm. shells which set fire to the right engine and created extreme vibration in the left engine. One shell exploded in the rear cockpit, wounding the navigator and severing a section of wiring which deprived the crew of most electrical power. Wind, blasting through a large hole in the fuselage, scattered dirt and debris around the cockpit temporarily blinding Captain Mason. As he regained his sight, he realized that a safe bailout could not be affected because of the wounded navigator's condition. With one engine shut down and the other on fire, and with approximately 30

square feet of surface missing from the right wing, Captain Mason, with complete disregard for his own personal safety, attempted the return flight to his home base. Flight conditions were further hampered by inoperative radios, no hydraulic pressure or oxygen, severe airframe vibration, and no indication of gear position or fuel level. Through outstanding airmanship, he piloted his crippled aircraft to a safe landing in friendly territory. By his extraordinary heroism, superb airmanship, and aggressiveness in the face of the enemy, Captain Mason reflected the highest credit upon himself and the United States Air Force.





Luftwaffe head Hermann Göring's reputation for flamboyance extended to his personal transport, an elegantly appointed and brightly painted Ju 52. Ricardo used Revell's 1/48 scale kit to model the distinctive plane.

Building a VIP JUNKERS

Converting Revell's big Ju 52 to Göring's personal plane • BY RICARDO DACOBA

Better known for its contribution to the German war effort, the Ju 52 was the backbone of Deutsche Lufthansa's commercial service through the 1930s. Several of the airline's Junkers trimotors were converted to per-

sonal transports for Nazi party leaders, including Reichsmarschall Hermann Göring.

He had the airplane painted bright red and named in honor of fellow World War I ace Manfred von Richtofen.

To build Revell's 1/48 scale Ju 52 as Göring's transport, I had to replace the airliner interior with much more comfortable accommodations. It also meant masking and painting a complicated scheme over the corrugated skin.



Using photos, I drew the locations of seats, tables, partitions and other interior details. This helped establish dimensions for the parts I needed to scratchbuild.



I built a master of a passenger seat using sheet styrene for the frame and epoxy putty for the cushions. From this I cast six resin copies.



3

Scratchbuilt couches and Göring's throne-like chair joined the cabin furnishings.



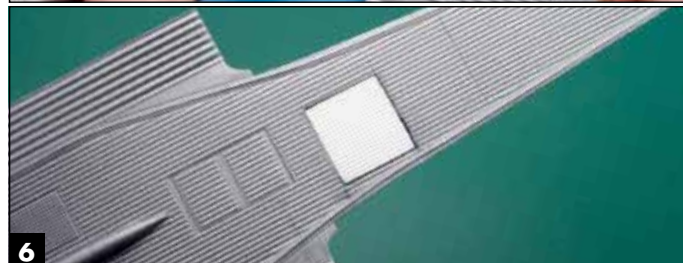
4

An airbrushed coat of Tamiya enamel red brown (XF-64) followed by a wash of dark brown artist's oils gave the upholstery a plush leather appearance.



5

Lacking definitive information, I assembled the lavatory straight from the box.



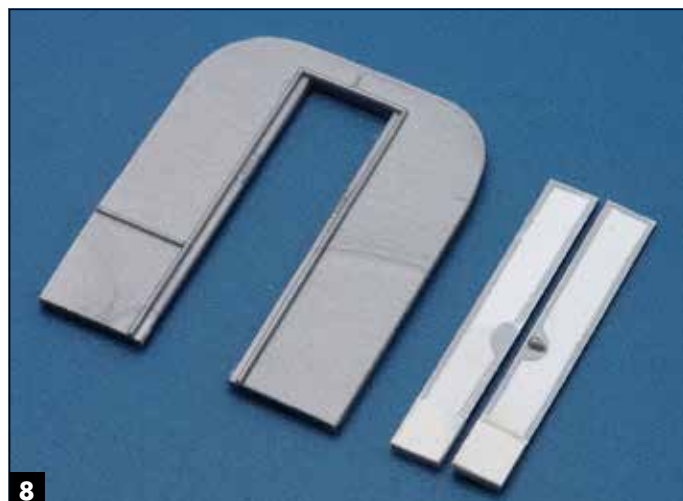
6

I cut a square out of the plane's belly and replaced it with corrugated sheet styrene. This was an escape hatch through which Göring's chair could be ejected in an emergency.



7

To line the cabin ceiling, I glued sheet styrene along the center and bent aluminum sheet to conform to the outside edges.



8

The final interior work involved modifying one of the kit bulkheads and doors to fit a new location separating the conference room from Göring's cabin.



9 To lend depth to the skin without exaggerating the effect like a wash might, I airbrushed a dilute mix of Tamiya acrylic black (X-1) and alcohol.



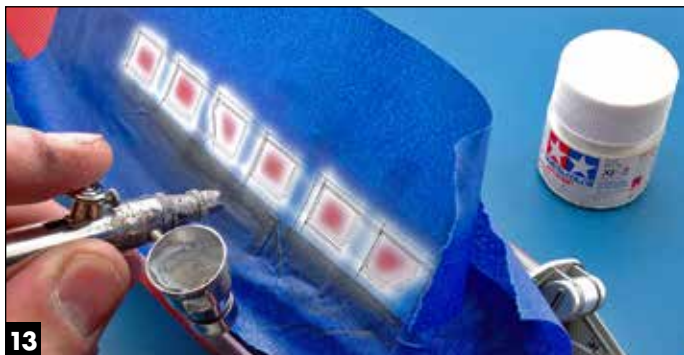
10 After the black dried, I mopped it from the upper edges of the corrugations using a cloth moistened with alcohol. This pre-shaded the recesses.



11 To intensify the red to come, I airbrushed flat white (XF-2) as a base coat.



12 Brightened by the white, the red acrylic (X-7) seems to vibrate.



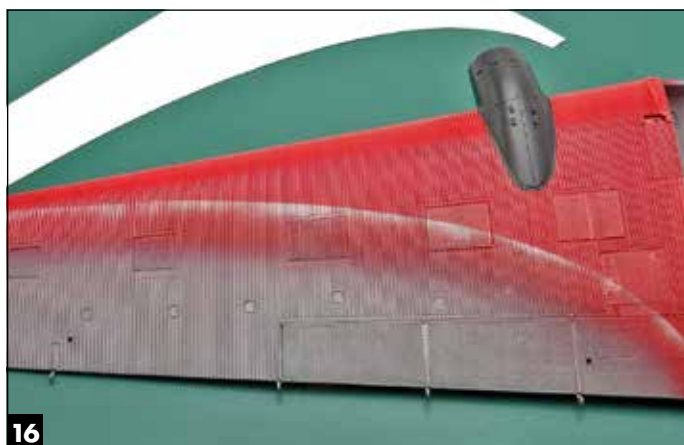
13 I carefully masked around the windows and painted the frames white.



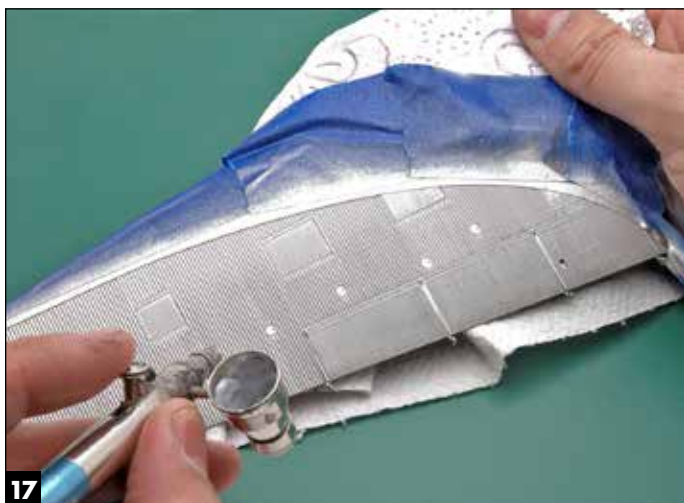
14 For added brightness, I mixed a few drops of blue into the gloss black I airbrushed over the nose and engines. Leaving the wings off made the model easier to handle during painting.



15 To help mask the curved red areas on the wings, I held a paper mask against the surface and airbrushed a very thin coat of Testors Model Master aluminum over it from a low angle.

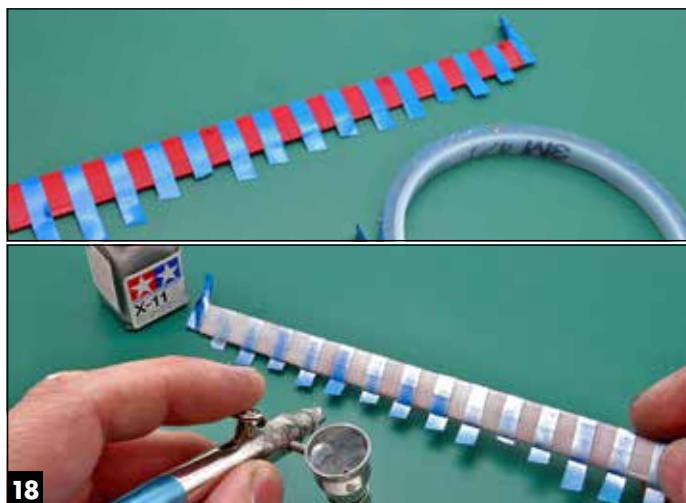


16 The result is a faint line that serves as a positive guide for masking tape and helps keep the curves on each wing identical.



17

After applying tape along the lines, I airbrushed aluminum over the wings and upper fuselage.



18

The stripes on the flaps and ailerons proved easier. I used strips of electrical tape to get consistent widths and sprayed Tamiya enamel chrome silver.



19

Getting decals to settle over corrugated surfaces can be difficult. So I cut masks for the registrations and airbrushed them with Tamiya acrylics.



20

To help the few decals I used conform to the skin, I brushed on a solution of 60 percent isopropyl alcohol.



I sealed the finish with a coat of Testors Visions clear gloss for a gleam befitting a well-maintained, luxurious personal transport. **FSM**

Questions & Answers

A clinic for your modeling problems

By Aaron Skinner



A A pipette provides a neat and tidy way to transfer paint from bottles to a palette for painting.



B Wetting the brush with thinner before painting promotes paint flow and prevents dried paint from clogging the bristles.



C When painting, use as few strokes as possible to cover the surface. Avoid going back over recently applied paint as it dries.



D Swirling the brush against the side of a container helps clean it. Don't use the bottom of the container, because that can bend or splay the bristles



E Drag the brush through a paper towel to remove the thinner and check for residue. Keep rolling the brush in thinner until it comes up clean on the blotter.



F Good storage is important for longevity. Keep brushes in a place where the bristles don't rest against anything and, if possible, protect the head with a cover.

Mastering the art of brush painting

Q Finding a copy of *FineScale Modeler* last year rekindled my need to build models. I'm starting simple with Revell's 1/48 scale P-51B/C Mustang. I don't have a lot of tools; just paintbrushes, paint, a hobby knife, and some hand tools. What would you recommend as the best methods for hand-painting an entire model? Are you going to have an article on this subject?

— *Shawn Kirkpatrick, Redmond, Ore.*

A Welcome back to modeling! While most modelers airbrush, there are a few who do outstanding work hand-brushing models. It's how all of us started. Try these pointers:

1. Pick a paint you are comfortable with that gives good results hand-brushing. Some modelers prefer the longer setting time of enamels because it helps eliminate brush strokes. You can use acrylics, but they tend to dry faster and can leave more

brush strokes. Adding retarder slows acrylic drying time and makes for easier painting. Vallejo acrylic paints are especially good for brush-painting.

2. Decant a little paint from the bottle or tin it came in to a palette, **A**. You don't want to leave paint open because the upper surface can dry and "skin over."

3. Before doing any brushwork, dip the bristles in clean thinner — use the thinner recommended by the paint maker — then dab to remove the excess, **B**. The thinner will prevent paint from drying in the bristles and make it flow better.

4. Start each stroke on fresh plastic and work back to the area you just painted, **C**. Use as few strokes as possible, but don't attempt complete coverage with a single coat. That increases the risk of adding too much paint and getting runs.

6. Keep cleaning the bristles by swishing the brush in thinner, **D**, and blotting the bristles dry, **E**.

7. Clean and store brushes properly after each use, **F**. If you look after them properly, they will give you years of good painting and smooth finishes.

Clear-part cement best practices

Q What is the best way to use Testors Clear Parts Cement & Window Maker?

— *Jim McCannon*
Randolph, Mass.

A How you use Testors Clear Parts Cement & Window Maker depends on the application.

If you are attaching clear parts like canopies or windows, you can apply a little to one joining surface and press the parts together. Wipe away excess squeezed out of the gap with a slightly damp cotton swab. Let the assembly sit for an hour or so and the part should be OK to handle.

An alternative and cleaner way to do this is to thin the glue with a little water — not too much, but enough to make the glue flow. Hold the parts together and flow the thinned glue into the gap with a fine brush, as you would with liquid cement. Then set the assembly aside. If necessary, you can add more glue using the same method after the first has set. But don't apply too much or you'll liquefy the glue already there.

Another advantage of this kind of glue is that you can debond parts by flowing a little water into the gaps and working the parts loose.

You can also use this glue to form windows. It works best on smallish openings like portholes and airliner cabin windows, anything up to about 1/4" across. Dip a piece of fine wire (I like the wire inside twist ties) into a puddle of unthinned clear part glue and pull out a small blob. Insert the wire into the opening to be filled, taking care to avoid touching the edges with the glue. Now pull the wire back through the opening, slowly circling the edges to deposit the glue and form a film across the opening as you remove the wire. It will look white as you apply it, but dry clear within an hour or two.

Making and using tack cloths

Q For furniture finishing, I used to make tack cloths using turpentine and varnish. What should I use to make tack cloths for models before painting with acrylics or enamels?

— *David Starbuck*
Tucson, Ariz.

A A tack cloth is a slightly sticky, soft cloth for removing dust and other residue from a surface before painting. It's often used in

furniture finishing and car painting, and can be useful in modeling to ensure the surface is clean and smooth.

I can't see a problem using a standard tack cloth on models, but choose a lower-tack item. Testors sells blue tack cloths as a modeling tool, and they have a lower tack than yellow cloths I've picked up at auto supply stores. Some of those have left a sticky residue on my models.

For anyone interested in making tack cloths, here's how: Start with clean, soft cotton, like an old T- or oxford shirt. Cloth diapers, often sold for car cleaning, are great. (Commercial tack cloths are usually made from cheese cloth.) Cut it into a 12" square, dip it in lukewarm water, and wring it out.

Next, soak the cloth in turpentine: Really saturate it, and squeeze it out well. Add a few drops of varnish — it doesn't take much — and knead it through the cloth until it's evenly distributed. The varnish provides the tack, so more will make it stickier.

To use the cloth, gently wipe it over the surface to be cleaned. You don't need to press hard; the sticky stuff does the work. Be careful around pointy bits, as the cloth can snag and break them.

Paint it scale black

Q What is scale black, and can I make my own with paints I already have?

— *Richard Fourzan*
El Paso, Texas

A "Scale black" refers to the fact that all colors appear slightly lighter and less intense from a distance. In modeling we call this diffusion "scale effect." Standard black on a scale model can appear very, very dark, and detail is easily lost.

Instead, very dark gray appears black but still allows detail to show.

Making scale black is as easy as lightening black with a few drops of white — be careful how much you add — or darkening gray with black.

How far you go depends on the effect you want or the scale you are working in. Smaller scales usually require lighter paint. I've seen modelers use percentages to show how much white should be added to a color to account for scale effect. One school of thought suggests halving the scale of model and using that as the percentage of white to be added. For example, on a 1/48 scale subject, the mix would be 24 percent white and 76 percent color. That doesn't

mean you have to go that extreme, but lightening dark colors, especially in smaller scales, can add realism.

The other advantage to using dark gray rather than black is that you can apply a black wash to deepen shadows and recesses to emphasize details.

Translating Mr. Base White

Q I have a bottle of Mr. Base White 1000, but all of the instructions are in Japanese. How do I use this product?

— *Kevin Cook*
Blenheim, New Zealand

A Mr. Base White is similar to Mr. Surfer and is designed to be used where you want a white primer instead of gray. The 1000 denotes a medium-grade filler; it will fill minor scratches and holes.

Most of the time it can be hand-brushed out of the bottle, but it needs to be thinned for airbrushing. Use Mr. Color Thinner or another lacquer thinner for that. **FSM**

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Reader Tips

Solutions and innovations

By Mark Hembree

Score and cut tubing

When using a single-edge razor blade to score and cut brass tubing, I do the work on a piece of 600-grit wet/dry sandpaper. The sandpaper helps roll the tube as I move the blade back and forth across the tubing. This speeds up the job and makes for a cleaner cut, as the grip provided by the sandpaper keeps the blade pressure even throughout.

— Ken Niles
Fayetteville, Ga.

Cut up credit cards for modeling

You can use old or junk-mail plastic credit cards as spatulas for spreading fillers and putty. They can be cut to any size or special shape. I also use them as a flexible sanding stick by gluing wet/dry sandpaper to them and cutting them to the desired size or shape. Now those unwanted mailers aren't junk mail — they're modeling supplies!

— Mike Gebhards
Springfield, Ill.

Weighty floors

When a 1/72 scale airplane needs extra weight to stay on its nose wheel — and there's no space to stow ballast where it's out of sight — I replace the plastic cockpit floor with a white-metal or lead piece. This usually has enough weight to keep the nose down.

Maybe someday someone will sell white-metal cockpits in the aftermarket.

— Manuel Huerta
Madrid, Spain

Note: When handling or shaping lead, be sure to wear gloves and respiratory protection.

One-stop seam-filling

When I'm gluing two pieces together and I don't want the seam to show, I put a layer of plastic putty on one side of the join and glue on the other. When the pieces are joined, the putty oozes out a bit. This can

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No muss, no fuss, no mess: A simple modification keeps distilled water close at hand and off Pete's workbench.

Pouring without spilling

I like to keep a small squeeze bottle of distilled water handy for thinning acrylic paints when I'm brush painting. Decanting the water into the squeeze bottle always resulted in spills or tipped bottles from heavy funnels (with the same result) until I discovered this trick: Use a hobby knife to carefully trim a small square-cornered notch in the rim of a gallon jug. No more spills!

— Pete Hamann, Mill Creek, Wash.

be sanded off and the seam will be smoothed over and ready for painting.

— Van McLemore
Wichita, Kan.

Spray-can chromate yellow

If you're looking for a spray-can equivalent to zinc chromate yellow, try Liquitex cadmium yellow medium — a perfect match to Testors bottled zinc chromate yellow. It is water-based and goes on smoothly. I have already used it to paint interior details on a 1/48 scale Corsair and it looks great. I bought mine at a Michael's craft store. It came in a 12-ounce can.

— Donald Lichay
Gurley, Ala.

Complement your camouflage

To make a camouflaged vehicle look at home in a diorama, try using the same camouflage colors in the scene. Walls of buildings can be painted or tinted to match the vehicle, and tinting grass can be extremely effective when an olive drab vehicle is the centerpiece. Small details, such as pieces of debris or general accessories, can also be subtly painted to complement the vehicle for effect.

— Jasper Cole-Kink
West Stockbridge, Mass.

Tarp tip

I have found a quick and easy way of making tarps: Cut a small piece of thin aluminum foil to the size you want. Gently crumple the piece to make it look realistically wrinkled. Apply a light coat of olive drab, let that dry, then dry-brush with brown or a lightened olive drab. Then you can form the foil to the shape you want. I have tried making tarps from tissue and diluted white glue, but I find this technique much easier and more realistic.

— Jim Allman
Grayling, Mich.

App provides scale using images

I've just created a (free to use) online scale-finding app you may find interesting. Load an image, mouse-drag to measure a known dimension (such as a wheel diameter) and set the scale to find all other dimensions. Try it yourself at www.scale.blocklayer.com/scale-fixereng.aspx and see what you think!

— Greg Tarrant
Wonga Beach, Queensland, Australia

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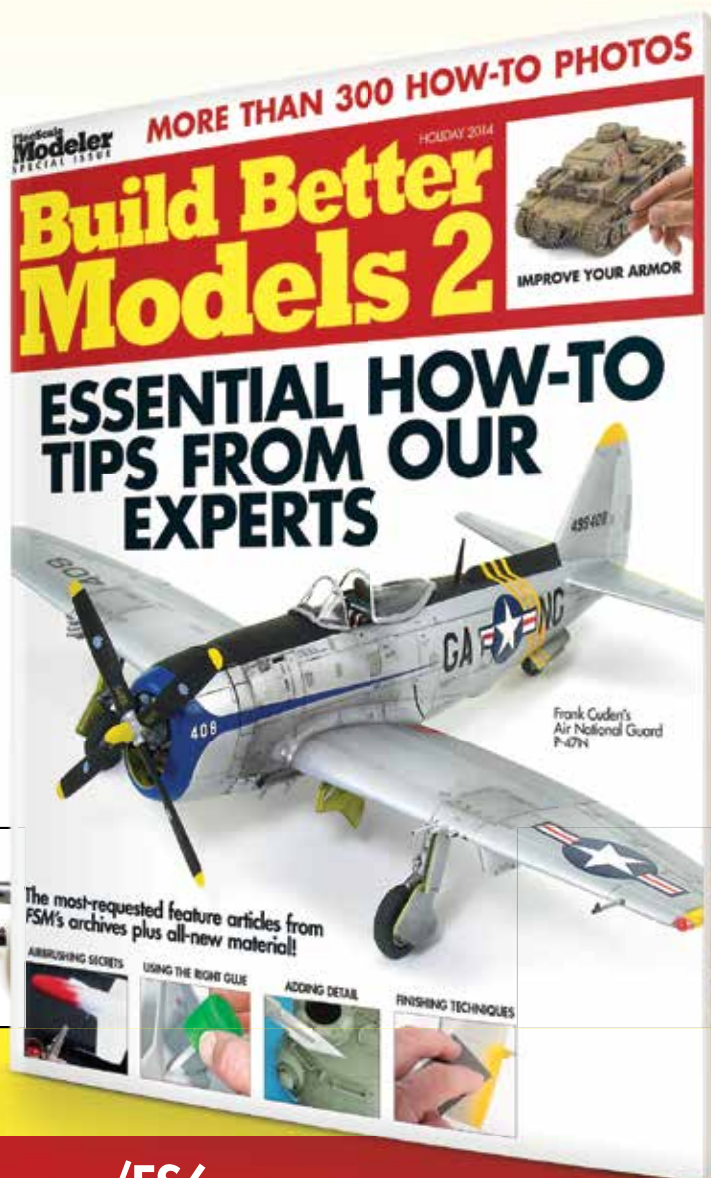
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SPECIAL ISSUE

Workbench Reviews

FSM evaluations of new kits on the market



Well-engineered model of the versatile Stearman trainer from Revell

After a decades-long wait, modelers can finally welcome a newly tooled 1/48 scale Stearman to compete with the vintage Lindberg kit. Reflecting current molding technology, Revell's Stearman is loaded with petite surface details, including such finery as a combination lock on the baggage compartment. The interior is graced with an abundance of detail, tubular structure is well represented along the full length of the fuselage, and the engine accessory bay lacks only wiring and tubing for a well-furnished look. The version of the Stearman chosen by Revell for this boxing includes a detailed Continental W670 to hang out front, including complete exhaust detail.

Two decal options are provided, both for currently airworthy warbirds with accurate vintage schemes. Leave off the included

"N-number" registrations and you'll have a reasonably accurate representation of a typical World War II Stearman.

Construction of the interior was fuss-free — decals depict the instruments for the main and auxiliary panels. Separate rudder pedals are installed as well, using keyed tabs for alignment — nice!

Of the two fire extinguishers provided, one is an old type that should be painted silver (not mentioned in the instructions); the other is a current design with a plastic nozzle. Since I was modeling a restored warbird, I used the modern one.

There are ejector-pin marks on the interior walls, but they aren't very noticeable when everything is installed. Assembly is fast once the interior is complete.

In a throwback to older kits, you will find the kit copyright molded on the

underside of the stabilizer. A few quick passes with a knife and sandpaper erase this mark.

As with all biplanes, I spent time reviewing the rigging instructions and comparing them to photographs. Revell missed a set of double wires leading from the upper-wing cabane connections to the upper centerline of the fuselage. My initial plan for rigging included using fine stainless steel wire to emphasize the look of a restored warbird; to that end, I drilled oversized rigging holes all the way through into the hollow upper wing to allow the wire to adjust to the exit angle without bowing. Be aware that the rigging diagram seems to indicate the wires meet the wing at the strut attachment points; that is incorrect for a Stearman. Photos show the wires enter the wing well away from the struts. I drilled



partway into the plastic for the lower rigging attachment points, referring to online photos and drawings. In theory, the lower end of the wire would be glued in the lower hole and allowed to “float” in the upper hole. I rigged the tail surfaces with metallic fly-fishing line.

Once the rigging prep was complete, I finished assembly by adding the engine-bay covers in the closed position (although you could leave them off or loose if you wished to display the engine accessory detail). The fit of the panels and upper fuselage coaming was near perfect, needing no filler. I also installed the lower wing prior to painting — you did remember to paint the interior of the wing center section that’s visible through the interior, right?

I painted my Stearman with Testors Model Master true blue (Federal Standard 15102) and chrome yellow (FS13538). Decals went down nicely with a little setting solution, although the white is a bit translucent.

It was while placing the numbers on the nose that I realized what I believe is the inertial starter lug is out of position — it should be lower on the cowl, not in line with the filler cap. Basically, the lug and the numbers on my model should swap locations to be accurate. You may wish to trim the decal film from the inboard edges of the wing-walk decals to improve fit.



The full-size Stearman cockpit is pretty simple, an aspect that Revell’s kit captures very well. Framing, seats, and controls are included.

Since my original rigging plan used wire, I installed the upper wing before rigging. I had to clamp the wing down to get it to seat fully on the strut mounts. My first attempt at rigging failed because I hadn’t allowed enough slop in the entry angle of the wires into the wing. My second attempt, using stretched sprue, failed as well.

So much for planning. I resorted to E-Z Line, which lived up to its name, but it is not the shiny silver I was hoping for.

After slightly more than 21 hours —



Kit: No. 85-5264 **Scale:** 1/48

Manufacturer: Revell, www.revell.com

Price: \$16.95 **Comments:** Injection-molded, 51 parts, decals **Pros:** Excellent fit; well-engineered for ease of assembly

Cons: No detailed paint references; incomplete and inaccurate rigging diagram

some of it spent on my failed rigging plan — the Stearman was done. Even with all the handling and fuss, it never complained or fell apart. The kit’s detail should satisfy all but the most fastidious, and the opportunity for modeling different versions — with or without Revell’s eventual help — makes this kit a winner. I’m very happy to have finally been able to put a state-of-the-art Stearman on my shelf. Thank you, Revell! Now how about a cropduster, and an air-show bird, and ...

— Chuck Davis



Academy F-35A Lightning II

As the Lockheed Martin F-35A proliferates, so do the plastic models. Academy's 1/72 scale release closely follows the Italeri kit and precedes the forthcoming Hasegawa F-35A.

Like the real machine, this kit is state of the art, with crisp surface detail and finely molded detail in the cockpit, weapon bays, and wheel wells. Surprisingly, Academy's kit has four colors of plastic (black, dark gray, gray-green, and white); all roughly correspond to the colors of the aircraft. You can choose markings for one of three U.S. Air Force aircraft, all sporting the unique F-35 finish.

Instructions are straightforward and

easy to follow, and the excellent fit and engineering make construction a breeze — hardly any filler is needed. To facilitate painting, I didn't attach the exhaust cone, horizontal, or vertical stabilizers until later in the build. Though it isn't mentioned in the instructions, I added ballast in the nose. I also enhanced the ejection seat with harnesses made from tape. Doors on the weapons bay fit great, but I wanted to display the model with a full load of external stores — so, I closed the nicely detailed bay and moved the bombs to the wing pylons. The closed canopy completes this look.

The biggest challenge is painting the Federal Standard 36231 gray outlines around many panels on the fuselage and wings. I'm not sure, but I guess this paint has something to do with the stealthiness of the aircraft. Paul Boyer, in his review of the Italeri F-35A (*FSM* March 2014), masked these areas with foil and then removed the excess from the model. I tried a different tack and cut numerous thin strips of blue masking tape to form rectangles, triangles, and squares to cover these areas. (My approach took 10 hours; Paul's, less than half that.) The lines and zigzags differ on individual aircraft and from the painting guide, so check your references.

After spraying the recommended gray shades with Gunze Sangyo paints, I removed the FS36231 masking, only to find the contrast with the FS36118 area was minimal. Reluctant to minimize 10 hours of masking work, I added dark sea gray to the gunship gray (about 1:3) and

repainted the model. Academy suggests adding 10 percent silver to the grays to achieve the metallic sheen. I didn't have luck with that approach, so I sprayed the model with a highly diluted coat of Testors Model Master Metalizer dark anodonic gray. Much better! However, subsequent coats of gloss drastically muted the effect. I should have sprayed one or two more layers of the Metalizer.

I did have problems with some decals. Decals placed on flat surfaces worked fine, but the white patches on the fuselage spine and the markings on the curved surfaces of the weapons would not conform to the contours. After trying progressively stronger setting solutions, I finally "glued" them down with Pledge FloorCare Multi-Surface (PFM) and applied pressure with a toothpick until they dried. Nothing I did helped the decals for the smaller-diameter weapons. Finally, the decal guide doesn't show locations of many stencils. However, photos on the Internet indicate where to put them.

Despite the glitchy decals, this is a wonderful kit that accurately captures the look of the F-35A and has the added bonus of external stores. Beginners should have no problems building it, although all that masking will be a challenge. My effort took 39 hours.

This kit would be a great addition to any collection of modern fighters. I hope Academy releases the other versions of the Lightning II.

— Phil Pignataro



Kit: No. 12507 **Scale:** 1/72

Manufacturer: Academy,
www.academy.co.kr **Price:** \$39

Comments: Injection-molded, 110 parts, decals **Pros:** Excellent detail, especially in the cockpit; wide choice of weapons; extensive color guide for 11 different paint brands; easy construction **Cons:** Masking the panel lines; inflexible decals

Moebius “Lost in Space” Robot B9

Although “Danger!” and “Warning!” are the only lines most people remember spouted by Robot B9 in Irwin Allen’s 1960s TV series “Lost in Space,” it was actually as much a character in the series as any other actor. It often showed human emotion and even fell in love in one episode. Its full name was “B-9, Class M-3 General Utility Non-Theorizing Environmental Control Robot,” but usually it was referred to simply as “Robot.”

Aurora issued a 1/11 scale model of B9 in the 1960s that was reissued by Polar Lights in the ’90s. Now, Moebius Models has produced a 1/6 scale model of B9.

The kit is molded in gray and clear plastic with dark gray vinyl for the arms and legs, which can be built retracted or extended. Three photoetched-metal grates are supplied to go behind the lower torso vents. Sadly, the head dome, while clear and free from distortion, had to be molded in two halves. That leaves an obvious seam around its circumference. But, in fairness to Moebius, it is hard to see how it could have been molded otherwise.

The instructions feature clear assembly diagrams, and all the parts are named. Generic painting instructions are spelled out in the assembly diagrams — no specific paints are listed, just color suggestions. It’s left for you to figure out what “medium metallic gray” or “gloss dark gray” should be. A small decal sheet provides markings for the chest-panel buttons and programming bay.

I started by gluing together the main parts that would need seam work. The torso (parts 28 and 29) and the lower radar-section (Part 49) seams were filled with Gunze Sangyo Mr. Surfacer 500. The worst fits of the kit were the right and left tread sections (parts 37, 38, 39, and 40). The instructions have the part numbers mixed up, but it is

easy to figure out as the right tread section has the hatch for the soil-sampling arm.

Not only are there large seams where the parts join, but several mold lines need to be cleaned up. Decide whether you want to show the soil sampler deployed or retracted before sealing up the right tread section: If you stow it retracted inside the tread unit, the door will not stay closed on its own. I just left the sampler arm off the model and glued the door shut.

Most of the time spent on the kit will involve painting. I used Tamiya flat aluminum for most of the model, with dark metallic gray and chrome silver for body details.

The vinyl arms and legs are shiny; that agrees with stills from some of the shows, but in others the arms and legs are flat dark gray. I chose to paint them with Tamiya flat dark gray. The decals did not want to stick very well to the clear button panel, so I coated them with a couple of applications of Pledge FloorCare Multi-Surface to make sure they stayed in place. Also, the decals for the programming bay are a little too large to fit as shown in the decaling diagram. I had to move the “DEC” decal down a bit to clear the tape reel.

After painting, assembly went rapidly. I mounted the “brain” parts in the head, then glued the dome halves together with G-S Hypo Cement; it remains clear, and any squeeze-outs can be cleaned away with denatured alcohol.

The photoetched stainless-steel grates wouldn’t bend to the compound curves of the lower torso vents, even after annealing them, but that’s not very noticeable when you view them through the ribbed vents.

I wanted to use the extended arms, which are supposed to snap into holes in the torso. However, they did not fit very



securely; the slightest tap would dislodge them from the torso. I used small nuts and bolts, along with large fender washers, to secure the arms to the torso before gluing the top and bottom parts in place.

The most difficult assembly was attaching the torso/leg units to the tread units. When everything was positioned and glued, I placed a book on top of the torso to make sure it all stayed in place until the glue dried. Then I mounted the head assembly and Robot B9 was finished.

I spent about 23 hours building my robot, mostly in painting. I could only find one (unofficial) source of dimensions; it listed the height of B9 as 6'8". If that's the case, the finished model is about ¾" too short. But who's to say which is correct?

The finished model looks great to me, as it would in any science-fiction model collection.

— John Plzak



Kit: No. 939 **Scale:** 1/6 **Manufacturer:** Moebius, www.moebiusmodels.com **Price:** \$54.99 **Comments:** Injection-molded, 107 parts (3 photoetched metal, 8 vinyl), decals **Pros:** Position options for arms and claws; well-molded vinyl parts; paint directions incorporated in assembly instructions **Cons:** Obvious circumferential seam in head dome; stiff photoetched stainless steel; soil-sampler door stays ajar; decals don't stick to clear plastic

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Roden Fairchild C-123B Provider

One of the workhorses of the war in Vietnam, Fairchild's Provider grew from an all-metal assault glider designed by Chase Aircraft in the late 1940s. For those whose memories don't go back to the '70s, preserved C-123 Providers starred in Hollywood's "Air America" and "Con Air." Yeah, now you remember.

Roden's new kit brings sighs of relief from 1/72 scale builders who for decades have had only subpar kits of this significant transport. In its first issue, Roden provides the first production version of the Provider.



Kit: No. 056 **Scale:** 1/72

Manufacturer: Roden, www.roden.eu

Price: \$69.99 **Comments:** Injection-molded, 152 parts, decals **Pros:** Good shapes, fine interior details, good fit, good decals **Cons:** Overly complex nose gear assembly is wobbly; engine/cowl assemblies difficult to fit; no light lenses

The parts are molded in gray and clear styrene and include decent interior detail for the flight deck and cargo compartments. The landing gear is well detailed; maybe too detailed, as the nose gear strut assembly is complex and wobbly. Since I planned to keep the rear loading doors closed, I left out much of the bulkheads and details from the cargo hold (instructions Step 22). I did add the main floor and wing crossover box to strengthen the fuselage assembly. Before installing it, you may want to scratchbuild a forward bulkhead for the nose gear bay to prevent overspray from swirling through the hollow nose and into the cockpit when you paint the model. Also, the main gear wheels must be added to the wells before the wells are inserted in the fuselage halves. This complicates masking them before painting the airframe.

I was pleased with the overall fit of the parts. The only problems I had were with the engines and cowls. Each bank of cylinders is molded in halves, and the inside faces of these halves are riddled with raised ejector-pin marks that must be clipped off and sanded flush. The exhaust collectors, pipes, and engine accessory pack are realistic, but you'll not see them again once you assemble the power eggs: All you're going to see is the forward bank of cylinders, the prop shaft, the crankcase at the front, and the two exhaust pipes at the rear.

The large landing-light covers fit poorly in the leading edges of the wings, and there are no representations of the lenses inside. Instead, I installed a pair of shiny self-stick droplets found in a craft store. Also missing are wingtip navigation lights. I just added tiny blobs of clear red and clear green paint with a toothpick.

The exterior surfaces are a bit rough and could benefit from wet-sanding with 600- and 1200-grit wet-or-dry sandpaper to smooth the skin for the natural-metal paint job. I used Alclad white aluminum over gloss black primer, and accented some panels with dark aluminum.

The decals look good and they worked fine. Those odd "Es" on the fin are actually some sort of antennas. The locations for them are correctly shown in the instruction diagrams, but the kit's engraved panel for the one on the right side of the fin is incorrectly located. The "91" decals for the nose are about twice the size of the numbers seen in a photo of this Provider in Al Adcock's *C-123 Provider in Action* (Squadron ISBN 978-0-89747-276-0).

I put in 38 hours on my Provider — and remember I left out most of the cargo hold detail. It is not a kit for beginners, but experienced builders will enjoy adding an accurate and well-detailed cargo classic to their collection.

— Paul Boyer

Merit International M19 tank transporter

Early in World War II, the British needed a vehicle capable of navigating narrow country lanes to transport tanks stocked in central England to the front in the event of an invasion. Diamond T Motor Car Company of Chicago, Ill., produced a unit that met British as well as U.S. Army standards: the 12-ton 6 x 4 M20 Diamond T Model 981 and M9 45-ton trailer. Together they were known as the M19 tank transporter.

Merit International has made a splash with the M19 as its first 1/35 scale release. It's a big model: 698 plastic parts molded in dark yellow, with clear-styrene lights and windows. There are also 37 vinyl tires, two photoetched-metal frets, and a piece of string for the winch cable.

Flash and knockout marks are minimal and easily removed, but there are many mold seams to be remove; be careful, because the many small rivets hidden within these seam lines are easy to damage. An abundance of small parts adds detail, but if you are all thumbs (like me) you'll spend a lot of time on your hands and knees looking for fugitive bits.

Directions are mostly clear, but vague in places; good references help. A large, two-sided color sheet provides color callouts and two options for markings, one British and one American.

Before you begin, study the instructions to plan your build: With the busy chassis and many undercut sections, it's easier to prepaint many parts.

Assembly starts with the Hercules engine, which comprises many tiny parts in great detail. For example, there are three fan belts for three pulleys on the front; I had to enlarge their grooves to properly seat the belts. You could add engine wiring (not supplied).

The frame features multiple parts, but the fit is good and the frame square. Make sure you mount the muffler when it is called for; you can't add it later. I painted the frame interior dark green before adding details to get paint into all the recesses. Leaf springs are molded in halves, leaving a nasty seam to fill.

In Step 5, Part B1 should be marked B2. Sliding the rear differential onto the leaf springs while connecting them to Part B7

and the drive shafts requires at least two pairs of hands. I glued the brake drums to the axles instead of the rims as shown in Step 7.

The vinyl tires have good treads but no trademarks. Photoetched-metal tread plate is provided for the side steps and fuel-tank covers. You'll need a photoetched-metal rolling set to bend them easily.

String is included for the winch cable, but mine frayed even after clear-coating the spool. Also, it is too short to show a tank being winched onto the trailer. I recommend replacing it.

A one-piece decal represents all gauges in the cab. Nothing I tried would settle it down over all the irregularities of the dashboard, and I ended up ruining the decal. Better to punch out each gauge separately; there a lot of gauges, but the result would be worth it.

The M9 trailer is a model unto itself. I pre-painted the interior of the chocks, rear ramps, and lower cross-member assembly the same dark green to ease painting. Fit of the rear-axle is poor, leaving a bad seam.

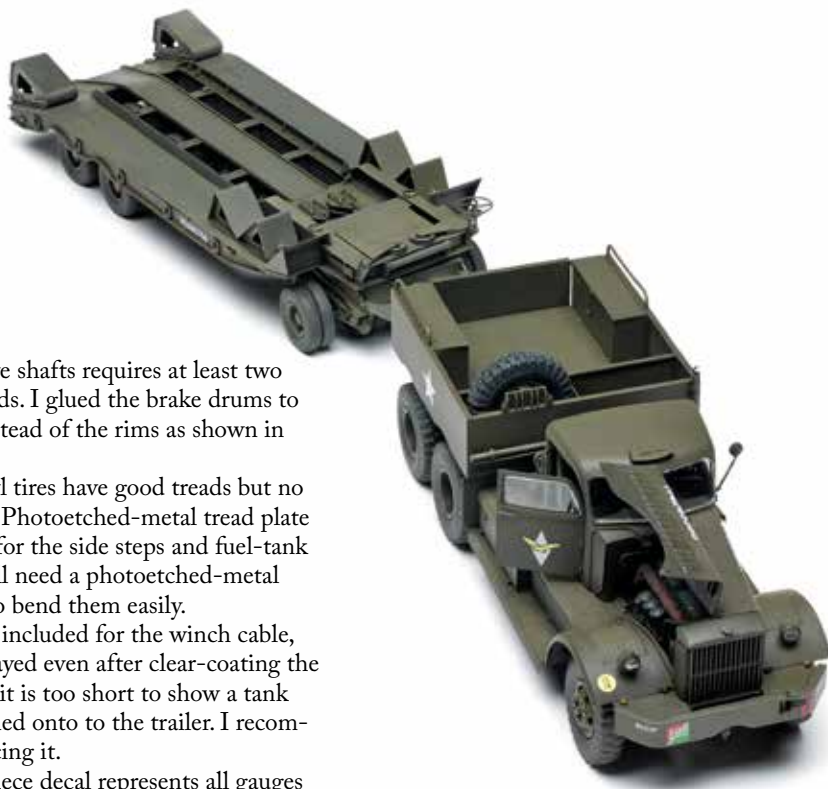
Step 16 directs you to bend parts PE-B5 but doesn't say how. Reference photos show this is a retaining bracket for 10 U-rings on the sides of the trailer. It is a complex bend I was not able to replicate. They are tiny, but Merit does give you an extra four to save the carpet monster.

To make moving the model easier, I recommend gluing the tongue of the trailer to the truck as shown in Step 24 and snapping it into place on the trailer when showing the two models together.

Based on the markings, you have only one color choice — olive drab. British vehicles in the Mediterranean and North Africa had some colorful schemes, but you'd need different markings.

I gave the model a coat of Vallejo olive drab primer followed by Tamiya olive drab for the primary color. Spraying olive drab lightened with Tamiya yellow green imparted some color modulation. On the trailer, LifeColor olive drab provided some variation. I painted details with Vallejo, Humbrol, and Testors Model Master colors and weathered with various Mig and AK Interactive washes and filters.

The decals are some of the best I've ever



used — easy to move without tearing and drying dead flat with no silvering. The finished model is absolutely stunning.

The build took 64 hours — not a week-end, and not for beginners. David Doyle's *M19-M20 Tank Transporter Detail In Action* (Squadron, ISBN 978-0-89747-745-1) helped clarify vague directions and informed my detail painting. The book also showed some interesting British paint schemes that I hope the aftermarket will augment with markings. All I need now is a load for the trailer; the possibilities are endless.

This being Merit's first release in 1/35 scale, I look forward to seeing what's next.

— Mike Scharf



Kit: No. 63501 **Scale:** 1/35

Manufacturer: Merit International,
www.merit-intl.com **Price:** \$149.99

Comments: Injection-molded, 771 parts (35 photoetched metal, 37 vinyl, string), decals **Pros:** Good fit, high level of detail; great-performing decals **Cons:** String for cable; decals for instrument panel in one sheet



Dragon M103A1

The M103 was the U.S. Army's last and only major commitment to deploying a heavy tank. Developed as a counter to the Soviet heavy tank forces, the M103 served until the adoption of the "main battle tank" concept by NATO armies.

Cleanly molded in gray plastic, Dragon's new M103A1 is the first 1/35 scale injection-molded kit of this tank. A wire tow cable and single-piece Dragon Styrene tracks are provided.

The M103 bears a strong resemblance to the M48, and Dragon appears to have

reused many of the parts from its recent M48 Patton. I carefully studied the instructions to note which parts to use and which to ignore. The running gear is taken directly from the M48 kit with additional parts for bogies, suspension arms, and shock absorbers.

I started construction with the road wheels. These are built in two parts, the inner bogie wheel and the outer tire. The tracks are an appropriately lengthened version of the M48 track. They painted up nicely and installed easily.

The hull comprises several parts. Pay careful attention to alignment to avoid problems installing the engine deck.

I noticed the hull parts match Dragon's M48 hull very closely, and this choice has created many problems; it looks as if the hull was extended only back from the turret race. According to my references, this makes the hull front and the overall hull length too short. This issue also affects the turret position, which looks wrong when viewed from the side.

The turret built up quickly and without a problem. When checking the references, I found the shapes around the mantlet were off. Surprisingly, the kit does not include the mantlet cover depicted in the box art. If it were included, the mantlet shape would be less of an issue. The turret provides a separate hatch for the commander's cupola, but the loader's hatch is molded closed.

I was impressed by how long the gun barrel was, but, when checking my references, I was surprised to find the kit's barrel is actually short! My primary reference was R.P. Hunnicutt's *Firepower: A History of the American Heavy Tank*. (Presidio, ISBN 978-0-89141-304-2).

The exhaust cover proved problematic. On test-fitting, I found it prevented the turret from being mounted. I determined that if I installed the turret I could carefully fish the cover into place under the turret overhang. This was not the end of the problems, though. Once in place, the turret would only rotate a few degrees left or right before being stopped by the cover. Argh! I am not really sure where Dragon went wrong here. Unlike many other armor kits, the periscopes and headlight are not in clear plastic.

I painted my M103 with a combination of Tamiya acrylic and spray paints. Decals applied well with the help of a small amount of decal solution; the sheet provides three sets of markings.

This kit can be handled by modelers at all skill levels. I completed mine in 22 hours and was left with mixed feelings.

In terms of molding quality and fit, it was a fun kit to build. On the other hand, the inaccuracies were extremely disappointing. I hope Dragon considers retooling it in a future release.

—Jim Zeske



Kit: No. 3548 **Scale:** 1/35

Manufacturer: Dragon,
www.dragon-models.com **Price:** \$69.95

Comments: Injection-molded, 495 parts (15 photoetched metal, 4 vinyl, 1 vacuum-formed), decals **Pros:** Excellent molding; good fits; easy assembly

Cons: Inaccurate dimensions and turret shape; no mantlet cover

Kitty Hawk T-6 Texan

The North American T-6 Texan, or SNJ as it's known in the Navy, holds a special place in my heart because it was the very first model I ever built — the Hawk 1/72 scale SNJ back in 1959.

Originally designated AT-6 (for advanced trainer), the Texan has probably been used by every country in the world at one time or other. Many of them live on today as privately owned planes performing at air shows or just for recreation — a rich man's toy.

To my knowledge, this is the first injection-molded kit of the T-6 in 1/32 scale. (I seem to recall a resin release back in the day, but don't hold me to it.)

Molded in medium gray plastic, the kit features finely engraved panel lines and rivet detail. You get a fret of photoetched-metal seat belts, but no instructions on where or how to install them. It's pretty easy to figure out, though.

Two sheets of decals provide options for seven aircraft. The three U.S. aircraft don't look like regular military — more like privately owned planes photographed at an air show — but the foreign aircraft look legitimate.

A heads-up about the decals: They will suck down immediately. You have to use lots of water and apply them as close as possible to their final position because they're hard to move.

The kit seems a little like a hybrid. One odd aspect is the canopy glass: The three center sections don't have vertical bracing on the side panels. That type of canopy didn't appear until the production of the T-6G and SNJ-7. It is accurate for the Italian version, however.

Steps 1-7 deal with the cockpit. You have a choice of joysticks for U.S. and foreign, and decals for the instrument panels. They actually fit pretty well, but, as I said earlier, they want to stick right away. When you finally pull all the components together, take your time — there are a lot of locator holes.

Leave the rollover tower that's supposed to be installed in Step 7 off until final painting; it's easier to mask the cockpit area that way.

In Step 8, you must decide on which exhaust outlet you want: stubby or extended, depending on your version.

Step 9 puts the basic engine together,

and there are a few color corrections needed: Part A7's directions call for painting the gear housing and push-rod sleeves gloss insignia blue, but the gear housing should be gloss Navy gray Federal Standard 16081. The push-rod sleeves should be gloss black. Same goes for parts F45 and A11; they should be black, not blue.

Not all the parts in steps 11 and 12 are needed because you won't see any of it. The coaming in Step 19 doesn't fit very well, so I just glued it down.

You are instructed to install the engine mounts in Step 14. But when that whole assembly is attached to the forward cockpit bulkhead, it doesn't line up and the engine assembly doesn't line up with the forward fuselage opening. I ended up ripping out all the motor mounts and parts A14, A15, and F38, then just gluing the basic engine assembly onto the forward fuselage.

To simplify: Just use the engine from steps 9 and 10: the bulkhead (Part A5), exhaust ring, intake, and manifold (Part F25). Combine these two steps and glue it to the fuselage; make sure all the parts are lined up. All those other engine compartment parts? Toss them.

The only other major issues are in Step 19. Part D5, the top piece for the compartment in front of the cockpit, needs to be clamped in place; it fits with no filler but it has to be clamped. Part D6, the top panel between the rear of the cockpit and the tail, is undersized. I had to fill, sand, blend, and rescribe all the way around. Also, depending on which version you are building, you may need to fill some holes.

The three center canopy pieces are meant to be closed. If you want to pose the canopy open, you need to trim off the locator tabs on the corners of parts GP4 and GP5.

The kit provides an assortment of gun pods, bombs, rockets, and a centerline fuel tank, none of which I used. But they're there if you want them.



For markings, I chose Option 2, a Navy plane with yellow wings and dark gray fuselage. Paint callouts point to a tan prop, but I've never seen one painted that color; I painted mine flat black. I found the landing gear is too far inboard (by about 1/8"), but that's not a fatal flaw.

It took me only 19 hours to build this Texan. That's pretty quick, considering the engine-mounting difficulties. A beginner might get crossed up by some of the problems I found, but intermediate modelers should be able to work their way through to a decent model. Kitty Hawk's kit looks nice when it's complete — even if the canopy doesn't go with the variants depicted and the colors don't resemble standard military schemes.

Now I want an all-yellow SNJ.

— Larry Schramm



Kit: No. KH32001 **Scale:** 1/32

Manufacturer: Kitty Hawk, www.kittyhawkmodel.com **Price:** \$79.95

Comments: Injection-molded, 252 parts (6 photoetched metal), decals **Pros:** Nice detail in cockpit and engine; well-printed decals **Cons:** Some fit issues; not accurate to any one version; ejector-pin marks on cockpit frame

Airfix English Electric Lightning F.2A

Brawny, brutish, and British — a mainstay of the Cold War, English Electric's Mach 2-plus Lightning exuded raw power and blistering acceleration, courtesy of more than 30,000 pounds of deafening Rolls-Royce Avon thrust. In the capable hands of Royal Air Force Fighter Command flight demonstration teams, it also exhibited grace in its unique way. The F.2A version was considered by its pilots to be the sweetest-handling of the Lightning line.

Airfix's new tool of this iconic fighter features beautiful detail, options for posable

flaps, canopy, and speed brakes, and the inclusion of closed gear doors (though no display stand is supplied). An optional intake cover and pilot figure are included, as well as weighted tires and other small-but-welcome touches.

Airfix has upgraded its kit instructions with what look like CAD schematics showing assemblies and parts in a contrasting color (in this case red). Excellent touch! Sidebar illustrations showing correct angles for attaching the aerodynamic surfaces and gear struts are a real plus, too.

The cockpit tub features decals for the side consoles and instrument panel, but none for the AIRPASS radar sight. The seat builds up into a basic but fairly nice representation of the real aircraft's Martin-Baker unit, though purists will want to add some detail besides the masking-tape belts I used on mine. Two Firestreak missiles with separate seeker heads are provided.

Airfix's ingenious way of assembling the entire front end of the aircraft — cockpit, intake trunk, nose-wheel well, and engine-intake ring — works well, but all those parts coming together right at the nose, along with the separate gun-trough inserts, meant some moderate filling and sanding.

Most parts just clicked together with minimal putty needed. I think I erred in positioning the exhausts on my sample — they protrude too much to suit me.

Markings are provided for two separate wing commanders' aircraft from RAF Gütersloh, Germany, one in natural metal and one in the camouflaged scheme that followed a couple of years later. I opted for the earlier 92 Squadron scheme. The instructions' color callouts (referencing Humbrol paints) call for a medium sea gray glare shield, but most reference photos I saw seemed to indicate it was black. So, that's how I painted mine.

The extensive decal sheet has a plethora of stencils, and I had a little trouble getting a couple of them to conform to small-radius curves. The yellows and reds are overstrikes on top of white, and thus are a little thicker than the rest. Otherwise, the decals were excellent and adhered well.

I spent 22 enjoyable hours building this honey-for-the-money model from Airfix. Apart from some very small parts and very small decals, such as individual chop marks for the canopy, it's an easy build and highly recommended.

— Walt Fink



Kit: No. A04054 **Scale:** 1/72

Manufacturer: Airfix, 44-1428-701191, www.airfix.com **Price:** \$18

Comments: Injection-molded, 91 parts, decals **Pros:** Good fit, terrific instructions, nice options of posable parts including annular intake cover **Cons:** Some decals are a little stubborn

FlyHawk SMS Derfflinger 1916

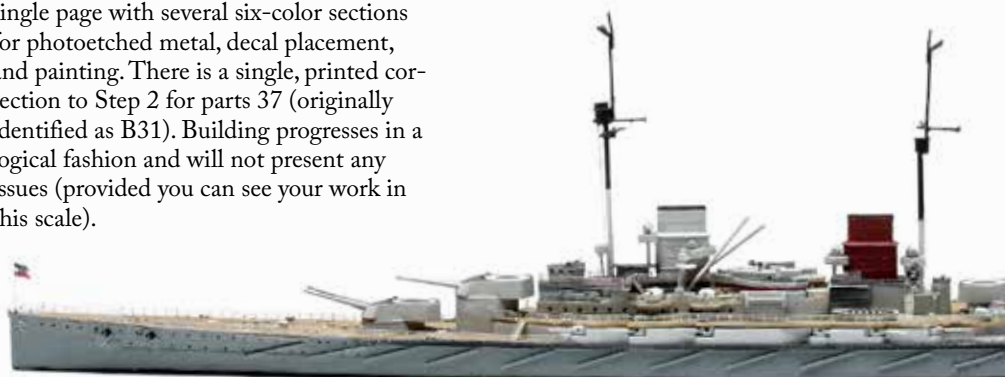
SMS *Derfflinger* was the lead ship of a class that, along with *Lützow* and *Hindenburg*, comprised three battlecruisers built at the Blohm & Voss shipyard in Hamburg, Germany, a century ago. During the Battle of Jutland, *Derfflinger* contributed to the sinking of two Royal Navy battlecruisers while absorbing 17 large caliber shell-hits and was still able to steam back to port. In November 1918, the SMS *Derfflinger* was interned at Scapa Flow and, the following June, scuttled there. The ship was raised in 1939 and by 1948 was broken up in Scotland.

The kit comprises a waterline hull base, 10 gray styrene sprues, and one fret of pho-

toetched metal. The molding is clean with no flash and no sink marks. The 10-step instructions are printed front and back on a single page with several six-color sections for photoetched metal, decal placement, and painting. There is a single, printed correction to Step 2 for parts 37 (originally identified as B31). Building progresses in a logical fashion and will not present any issues (provided you can see your work in this scale).

The two-piece waterline hull fits well with a flat bottom section and weight, but mount it carefully so you don't splay the hull and prevent the deck from sitting flush with the hull. (I speak from experience.)

The four turrets, a dozen 5.9" casement



Eduard MiG-15bis

For a time in the early 1950s, the Soviet Union's MiG-15 was the best high-performance fighter in the sky. Its startling appearance in the Korean War is legend.

Eduard's MiG-15bis (second) features optional photoetched-metal interior pieces, masks for the clear parts, a posable canopy, and optional parts for some of the variants. There are markings for five aircraft: Cuban, East German, Egyptian, and two Soviet.

In the cockpit, you have a choice of plastic pieces and decals or photoetched-metal pieces; I chose the latter, gluing them down with Microscale Micro Metal Foil Adhesive. It was hard to hold onto the throttle quadrant, let alone glue it in place. The cockpit and pilot seat are painted ocean gray; likewise, the intake ducts were painted aluminum and installed on either side of the cockpit.

I dry-fitted the fuselage halves and wings, looking for fit issues, and only had small gaps at the wing roots. But with the cockpit, the front of the fuselage was noticeably spread. I had to sand off a raised portion on the left half of the inside of the fuselage, along with the edges of the duct work, for a better fit.

After assembling the wings, I painted their wide wing walks flat black; the control surfaces are painted with Testors stainless steel. I did this to the tail as well. Opening up the locator holes produced a better fit between the wing root and the fuselage.

With that well-detailed cockpit, and the parts I needed to do it, I decided to have the canopy open. A tab on the bottom of Part No. B12 makes for a secure glue joint



to fix the canopy in the open position.

I painted the model with decanted Tamiya silver leaf, Tamiya ocean gray, and Gunze Sangyo red (No. 22) and flat black, using Tamiya tape to mask the red portion of the nose. The wheel wells were lightly weathered with an artist's oil wash.

My reference for this kit was *Mikojan Gurievitch MiG-15*, by Dariusz Karnas (Mushroom, ISBN 978-83-89450-05-0). I chose decals for the markings of Korean War ace Col. Yevgeny Pepelyayev of the Soviet air force.

It took me 15 hours to build and finish this kit. Make sure you look over which air force version you are making; there are optional parts to substitute to make the correct version. With so many air forces flying this aircraft, the modeling possibilities are diverse. Extra bombs and racks in the kit are a sign of more versions to come.

— Tom Foti



Kit: No. 7056 **Scale:** 1/72

Manufacturer: Eduard, 420-47-611-8259, www.eduard.com **Price:** \$24.95

Comments: Injection-molded 137 parts (28 photoetched metal), decals

Pros: Good detail overall, decal options

Cons: Cockpit too wide for fuselage, causing fit issues; tiny photoetched-metal pieces

guns, and four 88mm casement guns can be placed and left unglued to allow later movement, a nice feature if you're planning a diorama.

You will find one of the greatest innovations of this production at steps 8 and 9: a color-coded reference guide for placement of wee parts and the boat deck, followed by Step 10, which numbers and color-codes railings, ladders, and other photoetched metal that fits perfectly to length for different areas of the deck and deckhouses. A word of caution: Follow the guidelines and



the railings will fit true — but there are no extra lengths provided.

Decals for this kit include the ship's coat of arms forward, a nameplate and eagle aft, turret-top recognition circles, and flags for the flagstaff aft and jack staff forward.

This is a finely detailed plastic model enhanced with a lot of photoetched brass. If I were to upgrade the kit, I would just beef up the flagstaffs and the upper mast sections.

The model's dimensions (300mm long with a 39mm beam) scale out exactly, and the deck detail is fine. Although the fits are very good, after a 42-hour build I would recommend this one to fairly experienced modelers who wish to add a bit of unique history to their collection.

— Mark Karolus



Kit: No. FH 1300 **Scale:** 1/700

Manufacturer: FlyHawk Model, www.flyhawkmodel.com **Price:** \$59.95

Comments: Injection-molded, 308 parts (47 photoetched metal), decals

Pros: Good fits; terrific instructions; posable guns **Cons:** Just enough photoetched metal railing, so no room for errors

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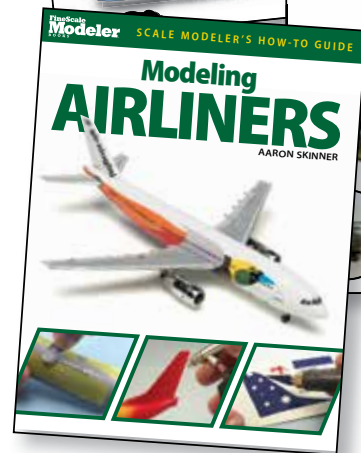
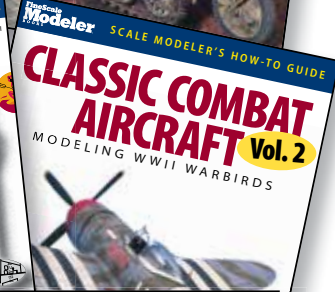
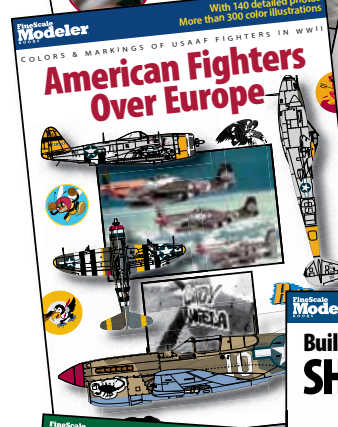
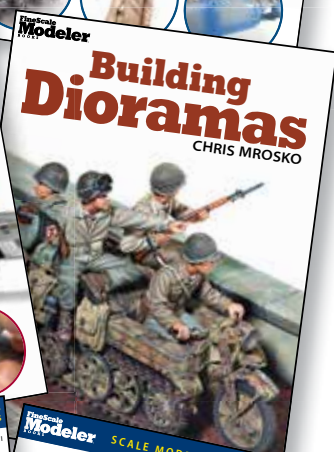
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AL, HUNTSVILLE: Huntsville Plastic Modelers' Society 38th Annual Model Show. Jaycees Building, 2180 Airport Road. October 4, 2014. 8:00am-4:00pm. Free admission. Model Registration: \$10.00 first model, \$2.00 each additional, \$2.00 IPMS discount, \$1.00/model for 16 and under. Vendor tables \$25.00. Vendor Info: Phil Cassibry, 256-656-9624, vendors@hpmsonline.org. General info: <http://www.hpmsonline.org>

FL, ORLANDO: Modelpalooza 2014. International Palms Resort, 6515 International Dr., Zip: 32819. September 19-21, 2014. Rooms \$89 single/double. Reservations: 888-690-8693. We use the "Open Judging System". Free Modeling Seminars: Junior, Basic, Advanced Skill Levels (\$20 Registration). 90 Vendor Tables (\$50, \$45 for 5 or more). Contact: President@IPMSOrlando.com Complete information: www.ipmsorlando.com/modelpalooza.html

IL, SCHAUMBURG: The Military Miniature Society of Illinois holds its 40th Annual Chicago Show at the Hyatt Regency, 1800 E. Golf Road. Saturday, October 11, 2014, 9:00am-4:00pm. For more information contact Show Chairmen John Van Der Meulen (JVanDerMeulen@aol.com 847-918-8456) or Pat Vess (pat@livezey.net 630-730-2492) or website www.mmsichicago.com

NY, Poughkeepsie: HVHMG 2014. Celebrating 28 years, Elks Club Lodge, Overlook Rd. October 18, 2014. Sponsored by IPMS Mid-Hudson. Registration 9:00am-noon. More information at: www.HVHMG.com or contact John Gallagher at: 845-462-4740 or gallagherjohn@optonline.net

PA, CARLISLE: PENNCON 2014 Model Show. U.S. Army Heritage & Education Center, 950 Soldiers Dr. Saturday, September 20, 2014, 9:00am-4:30pm. Contest Fee: Adult: \$12.00, Junior: \$5.00. Walk In: \$5.00 for Individuals, \$10.00 for Families. Uniformed Individuals Admitted Free. For additional info see: <http://www.cenpennipms.com> or contact Chet Mohn, 717-774-4803 E-mail: Magus47@aol.com

TX, AUSTIN: ASMS Capitol Classic 2014. Presented by Austin Scale Modelers Society. Norris Conference Centers, 2525 West Anderson Lane. Saturday, October 4, 2014, 9:00am-5:30pm. Show Theme: "Fabulous Firsts!". Model contest, vendor tables, door prizes, seminars and Make & Take for kids. Visit: www.austinsms.org or contact Randy Bumgardner at randy.bumgardner@gmail.com

CANADA, AJAX, ONTARIO: Ajax 34 Model Contest. J. Clarke Richardson Collegiate, 1355 Harwood Ave. N. Saturday, October 25, 2014 10:00am-4:00pm. Admission: \$5.00, Model entry \$2.00 to max \$15.00 (no limit on models). Sponsored by IPMS Toronto, IPMS De Havilland & Peel Scale Modelers. Contact: Bernie Hengst: 705-878-1740 or berniehengst@xplornet.ca Visit: info@ajaxcalemodelcontest.com

CANADA, MONTREAL, QUEBEC: Montreal International Model Meet. D.D.O. Community Center, 12001 Boul. De Salaberry. October 4, 2014, 8:30am-6:30pm. General Admission: Adults \$6.00 + \$2.00 per model, Juniors \$2.00 + \$2.00 per model. Sponsored by Apocalypse Models. Contact Pierre Lahaie, 438-870-8767 or pierrelah@gmail.com Visit www.apocalypsemodels.ca

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Final Details

Compiled by Mark Hembree

Your five must-have tools

With an ever-increasing level of sophistication, the scale-modeling hobby is bolstered by more advanced, more specialized tools and materials than ever before. However, aside from all the gadgets, many modelers will tell you they still build mostly with the few tools that will fit on a TV tray.

In our forum at www.FineScale.com, we asked readers to name their five most essential tools. Here's a sampling of what they told us.

Dave Coulthard, Wellington, New Zealand

1. Patience — without it you are not going to make a good model.
2. A steady hand.
3. Research.
4. Forums — a mine of information.
5. Hobby knife — with a very sharp blade.



Vince Cordaro, Pottstown, Pa.

1. Hobby knife — with a padded handle and lots of extra blades. I probably use 10 blades on a single model.
2. Xuron cutting shears.
3. Doll needles — 3" needles I found in a fabric store. I use these mostly for applying super glue and sometimes to scribe very fine lines.
4. Wood blocks — with holes of varying size. I use small blocks of hardwood to hold small parts or to create a building jig.
5. OptiVisor — with 2x lens; reduces eyestrain, especially when detailing.

Bobby Gianino, St. Albans, Vt.

1. OptiVisor — when I got back into the hobby, this became a must.
2. Sanding sticks — can't think of a time I'm at the bench that I don't pick one up.
3. Tape — can be used to hold parts while drying, and you can't airbrush without it.
4. Clothespins — handiest little tools you'll buy for the hobby! *
5. Hobby knife — probably the most-used tool by any hobbyist. More than one is a must.

* Or *FineScale Modeler* magazine and forum! I can live without the clothespins, but don't take my *FSM* away from me!



Doug Shearer, Atlanta, Ga.

1. Sprue clippers
2. Hobby knife — with No. 11 blade, of course.
3. Airbrush and compressor — no need to say any more.
4. Lazy Susan — I can place items to paint or put assemblies on it and turn to where I need to without having to touch wet paint or disturb just-glued parts.
5. "Helping hands" — I use these all the time to hold parts for assembly or detailing.

Martin Bishop, Bury St. Edmunds, Suffolk, England

1. Magnifying headband — a must-have for older eyes; never leaves my head.
2. Airbrush — vital for the types of schemes I do, mottling and soft-edge camo.
3. Desk lamps — speak for themselves.
4. Electric minidrill — very useful for cutting and drilling the many small holes I need.
5. Camera — for sharing my builds on the *FSM* forum. **FSM**



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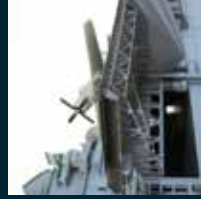
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**Aircraft Elevator
Port Midship**

It took 1,000 parts and six photo-etched sheets to capture the details of this modified, Essex Class carrier. The kit depicts the Intrepid after its modernization in 1957 to an SCB-27C angled deck, anti-submarine carrier. One thousand parts assure that everything needed to

build this spectacular 30" model is already in the box. Authenticity begins with a full hangar deck with three position-able elevators. Note the realism in the extensive, photo-etched radar suite that uses solid forms to assure the correct curvature for the

SPS-10, SPN-6 and SPS-29 radars. The SPS 30 parabolic radar is on point as well. Also carefully reproduced are the AN/SQS 23 bow sonar and four 5"/38cal. guns. Vietnam era aircraft deliver a superb kit building experience in themselves.

There are four A4 Skyhawks, four F-8C Crusaders, four A1H/J Skyraiders, two E1B AEW Tracers and four UH-2B Seasprites. Display stand with nameplate is included.

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