RT Volume 46, No. 2, Summer 2024

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Editorial

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Old Messages for Today

I saw this in an ancient issue of RT - a discussion about the importance of making new members feel welcome at your club. The advice then is just as important for 2024 - we should make a concerted effort to welcome visitors to our clubs. I suggest taking the comedian's standard questions for a live audience and repurpose them for your own group - e.g., what's your name?, how'd you hear about us?, what do you like to build? Get a conversation going and listen to them. I try to do this with the new folks who show up at IPMS Ottawa, and it's been very positive to see most of them coming back for future meetings. I suppose the same goes for reaching outside your local comfort zone and talk to other members of your club you don't always talk to. Ours can be a solitary hobby and finding a welcoming environment at the local club is always a good thing.

The IPMS/USA Nats

By the time you receive this in June the US Nats will be about a month down the road. As I write this in April I'm still hoping to make the drive to Madison with modelling buddies, but the hotel situation still isn't settled out.

We're looking at trying convene an informal IPMS Canada get-together at or near the main Nats hotel. It will likely be at a bar or pub and will be open to IPMS Canada members in attendance, along with friends of IPMS Canada who want to join in. More details to follow.

Our next free decal sheet

We settled out on the subjects for the decal sheet that is planned to be coming your way in the December issue of RT .

After some discussion and testing we came up with a hopefully interesting mix of markings. They are:

- Harvard Mk II 3250 V-27 (1/72, 1/48)
- Hurricane Mk I V6671, 1 (RCAF) Sqn (1/72, 1/48)
- Spitfire Mk IX MK734, 402 Sqn (1/72, 1/48)
- RN Gannet AS.1 at WEE Namao 1954 (1/72, 1/48)
- M4A2 Sherman, Fort Garry Horse, 1950's/60's (1/35)
- Cdn Army postwar domestic command shields (1/35)
- FMC 'diamonds' (1/35, 1/48)
- Canada flags for vehicles (colour and black) (1/35)
- RCAF WWII operational identifiers (1/48, 1/72)

We're trying something new with this sheet, and providing only the unique or special markings needed to complete the schemes. Standard items like roundels and fin flashes have been left out to make room for more subjects. I admit it was my idea, so if you don't like it, send the torch and pitchfork crowd my way.

A reminder that this sheet, like the others, is only going out as a freebie to current and paid-up national members. Pay attention to those membership renewal notices, folks!

Anyway, that's enough rambling. Hopefully a few of us can meet up and share some time together at the US Nats in July. Don't be shy - make an effort to say hi! To paraphrase that old saying, we all put our parts on one at a time.

Conversion of a Kettenkrad

Babiole Tracteur Vignoble

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A Little Background

If you're a military vehicle modeller with even the slightest interest in WWII subjects, then you're more than likely familiar with the German Kettenkrad, a unique vehicle, resembling a hybrid between a motorcycle and a half-track.

Kettenkrads were used mainly for light general duties, but it was also modified for quite a few special purpose conversions, such as cable layer, plow, light wrecker and remote controlled demolition vehicle. It was equally well-liked by German troops and Allied troops when captured.

The Kit

For many years the only widely available kits for us 1:72 scale enthusiasts were the old and inaccurate Hasegawa and Academy offerings. Then along came S-Model, who have finally produced a more faithful representation of this unique vehicle.

Regardless of what scale you favour, pretty much every Kettenkrad build you see represents a wartime subject. Not wanting to go down that well-trodden path I searched to find a Kettenkrad of a different stripe, hopefully something in civilian use.

Eventually I uncovered a post-war agricultural version manufactured by Babiole of France.

Babiole, an off-shoot of the automaker Simca, was a post-war producer of agricultural tractors. During WWII, Simca were contracted by the Germans to manufacture parts for, and eventually to build complete Kettenkrads. Post-war, Babiole adapted the Kettenkrad to make the Tracteur Vignoble (Vineyard Tractor), built using surplus Kettenkrad wheels, suspension, tracks,axles, fuel tanks and body tub; parts that were at one time sent to NSU and Stoewer during the war for their build programs.

The Tracteur Vignoble's diminutive size would have served it well in the confines of narrow vineyards.

Production Tracteurs differed radically from their Kettenkrad roots:

a new hood with a slotted grille covered the engine;

the transmission was modified to reverse the engine's output, This configuration resulted in the operator essentially driving the vehicle backwards (compared to a Kettenkrad) while looking out over the engine compartment.

Of the estimated 600 to 800 Tracteurs Vignoble manufactured, there are now approximately 15 surviving examples, one of which is thought to be a prototype vehicle, and which is the subject of my build. It also appealed to me since its modifications weren't too radical versus a normal Kettenkrad. The conversion required deleting the front fork, handlebars and wheel assembly, along with a new engine cover of a substantively different profile.

The Tracteur Build

The build started with the easiest modification, consigning the front fork pieces to the spare parts box. This left a small hole that required filling.

Next the engine cover and seat were removed from the rear of the kit's one-piece upper deck. This opened up holes at the rear of both gas tanks, which were filled with plastic strip. Extra detail for the driver's position took the form of various knobs plus a pair of knee cushions, all made from punched plastic discs.

Two small holes were drilled to eventually accept a pair of wire levers for the track brakes, which were also used for steering. Gear shift levers were made from guitar wire topped with super glue knobs.

A new engine cover was 3D-designed and printed by my most talented buddy, Will Alcott of Toronto, using my rough diagram and measurements.

The final product required a few iterations until we had one that fit plus possessed the desired look. Will actually sent me about a half-dozen final examples, and I fabricated multiple covers of varying lengths with them. In the end I decided to use the original short length design. Since the cover lacked a base, one was cut from some plastic sheet.

As I had expected, the new cover exposed enough of the body tub's interior that more detail work was needed here. Not sure about exactly what would be seen, I added as much detail I thought necessary, as follows:

Using half-round plastic rod, the four torsion bar suspension covers were added to the floor.

Removing the original engine cover and passenger seat exposed a hole at the rear of the track overhang that required filling with some plastic strip.

A bulkhead was added to the rear, then a radiator plus a shroud were added between the bulkhead and the rear end of the body, all fashioned from plastic sheet.

A heater trunk, exhaust pipe shield and a semi-detailed engine (all scratch built from plastic rod and strip, plus bits from the spares box) were added. Engine detail was kept to a minimum as not much of it would be visible.

Two small strips of plastic were added to the tub sides to level the cover.

A clevis hitch taken from the spares box, then drilled vertically to accept a pin made from some wire.

Some more detailing work was needed on other parts of the vehicle:

There should be a splash guard behind the front wheel, which was missing. I fashioned a template from thin cardboard and then used it to cut out a guard from some thin plastic sheet.

A pair of tow hooks, pulled from the spares box, were added as well.

The body tub's vertical panel at the extreme rear was sanded to a more-rounded profile, then a small piece of stretched sprue was glued in place, providing a lip to span a gap created by the sanding.

The Trailer Build

So there it sat, one Babiole tractor... but, something was missing... ah, a trailer would round out the build nicely; after all, any respectable farmer would want one to carry supplies. A rummage through the shelf of doom turned up a suitable Jeep trailer produced by S-Model (kit no. PS720046). It's not perfect but more than adequate for my purposes, though with that said, a few items on the trailer did need to be addressed.

First was the lack of a support leg on the front fork. One was fashioned by bending some leftover etched brass to shape. Next the axle was replaced with a section of round rod. A lack of shock absorbers was rectified with additional sections of round rod. The lunette eye is open-ended, designed to be snapped onto the S-Model Jeep's pintle. It was replaced with one from the spares box. Some tie-down hooks were stolen from etched brass leftovers and glued to the sides. The last item was replacing the kit's etched side markers with punched plastic disks. This allowed me to drill shallow depressions into them as well as the two marker lights already moulded to the trailer, to which I would eventually add gloss red paint to simulate reflector lenses.

Yet, still something was missing. Ah yes, tools and whatnot for the trailer load. A search through the parts boxes supplied a pail, from Armand Bayardi (item no. M72/17), a tarp from CMK (item no.MV061), a wood tub from Brengun (item no. BRL72082), a sack made from two-part epoxy, plus a shovel and pick from some kit leftovers.

Painting and Weathering

With the construction phase completed, it was now time to paint everything. As I'm still a Testors user, everything was covered with Model Master enamels or from their little square bottles. During construction, as many parts as possible were mounted on toothpicks to ease painting.

First, a primer coat of Light Grey (1732) was sprayed over everything, followed by a pre-shade of Burnt Umber (2005). Guided by my reference photo, a light coat of German Panzer Dunkelgelb 1943 (2095) followed on the lower half of the body tub and tracks, then the outer wheels and drive sprocket received German Panzer Olivgrun 1943 (2097). Tires on the wheels were brush painted Flat Black (1749).

Next a variety of thinly and randomly sprayed reds were used to replicate a faded and oxidized finish: first came Flat Red (1703), then the same red lightened by a bit of Flat White (1768) and finally Marker Red (2127), leaving some of the dark umber shading barely visible beneath. Detail, such as bolt heads, was accentuated with water based washes created using an AK Interactive (item no.10001) black paint pencil. Burnt Umber, applied with a paint brush, replicated worn dark rusty areas primarily along a few of the body edges. A light over spray of Afrika Dunkelgrau '42 (2103) on a few panels plus tracks added a dusty look.

As for the trailer, its interior received a dirty and rusty look through thinly applied layers of Burnt Umber, RAF Dark Earth (2054), Light Grey and Panzer Schwarzgrau '39 (2094). The upper half of the interior walls received the same treatment of reds as applied to the tracteur.

The trailer load was finished as follows:

the sack was painted Flat Light Brown (1166) and dry brushed with Dark Earth

tool heads are flat black, with handles painted Wood (1735) and grain added with AK Interactive Dark Rust weathering pencil (item no. 10013)

the pail was left in its light grey paint with chips of Burnt Umber applied using a brush and sponge

the wooden tub received a similar treatment of browns like that done to the inside of the trailer, followed by a wash of black weathering pencil to highlight the moulded in wood grain

the tarp was painted with the only non-Testors paint, that being Vallejo German Field Grey WWII (70830). Straps were painted Umber and buckles are Chrome Silver (1790).

A spray directly from a can of Testors Glosscote (1261C) levelled the paint, then decals for the two dials were added. These came from a Mike Grant Decals set of aircraft dials (item no. CKP072). Numerous soakings of Microsol got them to lay down over their moulded-on faces.

The final tasks were gluing the tools into the trailer, attaching the trailer to the tracteur with its pin, all followed with a light coat of Golden brand Hard MSA Varnish with UVLS (Matte) thinned with lacquer thinner, to flatten the overall finish.

A pair of punched disks of Tamiya Tape lightly placed on top of the dials provided protection from the spray.

Conclusion

So there you have it. A ton of fiddly, meticulous work to make one extremely small and obscure modelling subject. Great fun and another interesting "swords into ploughshares" project.

References:

nevingtonwarmuseum.com/kettenkrad-tractor-conversion.html

Beech Restorations Vehicle Profiles Profile NSU HK101 Sdkfz 2 Kettenkrad (murrellsmodels.co.uk/files/kettenkrad-profile.pdf)

About the author

Al Magnus was born in Regina where he has spent the majority of his life. His modelling got started during his pre-teen years, followed by about a 20-year hiatus. Returning to the hobby in the mid-1990s he joined the Regina Scale Modellers soon afterward. Al exclusively builds to 1/72 scale and his primary interest is armour/artillery, with some dabbling in aircraft, sea

vessels and rockets/missiles. He retired in 2009 after 29 years as a public servant. Al and his wife Janice have been married for over 40 years, and they have a son and daughter, and now their first grandchild.

F-36 Kingsnake

A 1:72 Paper design

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F-36 Kingsnake

Back in early 2021, USAF Chief of Staff General Charles Brown indicated he wanted an affordable, lightweight fighter to replace Cold War-vintage F-16s and complement a small fleet of sophisticated stealth fighters. The aviation site Hush-Kit (hushkit.net) published a well thought out and intriguing response they dubbed the “F-36 Kingsnake” (**Fig. 1**). Written by Joe Coles, Stephen Mcparlin, James Smith and Andy Godfry, the article outlined a cool-looking fighter based on an updated F-16 XL with suggestions for procurement rules, the engine, electronics and weapons. The article’s illustration showed a plane featuring a diverterless supersonic inlet (DSI) and twin tails mounted outboard on the F-16 XL’s “cranked arrow” wing. The article can be viewed at hushkit.net/?s=f+36+King+snake.

I thought the Kingsnake was very cool and futuristic and would be fun to make a model of it to see what it looked like in “3D”.

Sourcing Components

Like the Hush-Kit article, the logical place to start was with a kit of the General Dynamics F-16 XL. Monogram brought out a 1:72 kit in the ’80s and I was able to source one from Rare-Plane Detectives (rare-planedetective.com) (**Fig. 2**). The hard part was going to be replacing the F-16 XL intake with a DSI. I was contemplating scratch building or using a “parts box” fuselage until I chanced on an illustration of the Chengdu J-10B and it had a very similar if not identical intake. Trumpeter had a kit of the J-10B so I ordered one (**Fig. 3**). The final resource was a Fujimi 1:72 F-16C/D “Jaws” donated by a friend for parts.

Of course, the all dark grey Kingsnake was going to need markings. As the decals in both kits were for a standard camouflage F-16s another internet search produced appropriate options on Caracal Models’ F-16C Dark Vipers Part 2 (caracalmodels.com). I assumed the camouflage colour of the Kingsnake artwork would be Gunship Grey as it is the top colour of the F-16s in service and purchased AK Real Color (akrealcolors.com) FS36118 Gunship Grey.

As a new fighter, I wanted the Kingsnake to feature the very latest armament available. Hasegawa has continued to update their “Aircraft Weapons” series and with sets number VI, VIII and IX (**Fig. 4**) provided up to date bombs, missiles and various pods:

- ☐ AIM-9X Sidewinders with LAU-127 launch pylons
- ☐ AIM-120C AMRAAMs with LAU-115 B/A launch pylons
- ☐ an AN/ALQ-184 ECM (electronic counter measure) pod
- ☐ an AN/AAQ-33 Sniper targeting pod
- ☐ a GBU-3(V)3/B JDAM bomb.

I decided to include a drop tank from the F-16C to complete the stores.

The Build

The following is grouped for ease of understanding, but each step was intermingled with others as the build went on.

Fuselage/Wings

The Monogram F--16 XL was not a bad kit for a 1980 model. It seems pretty accurate in outline and has some main wheel well detail, a tinted canopy and a reasonably detailed ejection seat. Unfortunately it has almost no instrument panel at all, a simplistic nosewheel, large slots under the fuselage and wings for AMRAAMs and (of course) raised panel lines.

I had to fill in the slots under the fuselage, the slot for the F--16XL's single tail and sand off and fill in the gun muzzle on top of the left wing. I used Milliput (milliput.com) two-part filler as it dries to a hard finish which can be sanded and scribed (**Fig. 5**).

The next task was to re-scribe the panel lines. In most other build reviews I have read this process seems to be simple and was described with one or two lines, but I had never done an entire airplane before and it was one of those "learning experiences" for me. Using Dymo tape or two thicknesses of Tamiya tape for guides and a Tamiya scriber, it was slow going. I made many mistakes that had to be filled with Milliput and re-scribed, often multiple times to get a reasonable result. **Fig. 6** shows this work in action. My final "reasonable result" was more "early Matchbox" than "modern Tamiya." This correction process continued after I painted the model as I kept on discovering small errors.

During the scribing process I bought a Mr. Scriber narrow scriber and it was a revelation. I was able to scribe fine panel lines with much less difficulty than the Tamiya scriber.

Cockpit

The F--16 XL cockpit's tiny instrument panel was scraped away, along with as much of the instrument coaming inside as I could. I made up a new panel using decals from the J-10B and my spares box (**Fig. 8**).
I had the luxury of choosing between the Monogram and Fujimi interiors, but the Monogram had better detail and was, of course, a perfect fit. The detail was easy to paint using Vallejo greens and greys from my stock and I added some spares box PE seat belts (**Fig. 9**). The instrument coaming and the area behind the seat were painted Tamiya NATO Black.

DSI

An initial fit of the J-10B DSI to the bottom of the fuselage showed a pretty good fit (sometimes the modelling gods smile on you). However, I had to link it up with the back of the F-16XL fuselage and put the "bump" in front of the inlet. I cut the "bump" and the portion of the fuselage behind it from the J-10 fuselage (**Fig. 10**), hoping that I could use the entire structure. I decided that it would be easier to use the bottom of the F-16XL fuselage as it preserved the bottom of the fuselage including the F-16XL nose wheel well. I cut the F-16XL oval intake off the fuselage bottom to fit the J-10B inlet (**Fig. 11**).

I failed to heed the rule "measure twice and cut once" and had to correct the length. I also sanded the F-16XL intake "wedge" from the bottom of the fuselage to make room for the new intake (**Fig. 12**)

I assembled these parts together with masking tape (**Fig. 13**) and everything looked "do-able" with plastic card sides, lots of fettling and lots of Milliput.

Lower Fuselage

I used plastic card to add sides to the intake piece. I glued the J-10B inlet lip on the front and used small pieces of card stock to help the fairing in process. I glued the J-10B "bump" halves together and sanded the bottom to make it sit flush on the fuselage. **Fig. 14** shows the entire structure, glued together and **Fig. 15** shows the results of filling with Millliput and lots of sanding before gluing it to the bottom of the F-16XL. I checked the results with a light coat of Tamiya silver to reveal any remaining imperfections and repeated filling/sanding as necessary.

Intake Trunking

I had initially planned to paint the back part of the fuselage behind the intake black, but I tried fitting the bottom half J-10B trunking in the bottom of the fuselage and it was perfect (**Fig. 16**). Great! - I could now have full trunking visible through the opening rather than a black painted hole. My next step was to cut out the bottom of the F-16XL fuselage to allow the intake trunking to fit. I used the Tamiya scriber and a razor saw (measuring twice, cutting once) and was able to fit the trunking into the intake through the hole in the fuselage bottom (**Fig. 17**). I glued both intake trunking halves together and checked for the fit before gluing the trunking into the fuselage bottom. I glued the interior into the fuselage and finally glued the halves together. Another "oh no I didn't" incident was the omission of the instrument panel before the halves were glued. With some tricky fitting acrobatics, I was able to get it in.

The F-16C kit provided two navigation lights that I glued to either side of the intake and two small intakes I glued to the back part of the fuselage under the wings.

Tails

I found a pair of F-18 tails in my parts box that (I think) came from a Testors kit, sanded off the F-18 detail and re-shaped them to reduce the sweepback (**Fig. 18**). I glued them to the wing farings at an appropriate angle, using wire pins to make sure they had a robust joint and then fared them in with Milliput.

Landing Gear

I started out to use the Monogram main gear with the more detailed Fujimi nose wheel and main wheels. I broke the Monogram main gear and had to switch to the Fujimi and as I had previously drilled the Fujimi wheels to accept the thicker Monogram axle and I had to add a shim to the Fujimi axle. The modelling gods gave me a second break as I was able to find vinyl tubing that provided an exact fit (**Fig. 19**).

Radome and Jet Exhaust

I wanted to use the J-10B radome as it was “fatter” and better looking than the F-16XL’s very narrow nose. I cut off and sanded the front of the fuselage to accept it (**Fig. 20**) and smoothed it in with Milliput and sanding. The J-10B kit also provided an IRST that I modified to fit just in front of the canopy. I sourced an aerial for the top of the fuselage from the spares box and one from the J-10C for the bottom of the fuselage behind the front wheel well. I have had issues in the past with aerials being fussy and hard to glue on, so I made a card stock flange and glued the upper aerial to it. Thankfully, the Trumpeter aerial already had a flange. I shortened the bottom aerial, painted both aerials Tamiya X-2 Gloss White and left them for installation at the end of the build.

I used the F-16C exhaust as it was bigger and looked more “modern” than the Monogram exhaust. It required a lot of filling and sanding to mate the exhaust to the fuselage as the latter was slightly “flat” on the top (**Fig. 21**).

Armament

I used the four F-16C pylons for under-wing stores and the F-16XL centreline pylon. Internet pictures provided examples of F-16s with various loads and I decided to use the F-16 XL wing tip pylons for two AIM-120Cs and the forward fuselage pylon for a third mounted on a LAU-115 B/A launcher. The F-16 XL used the under wing fairings for missile stations, so I used them for two AIM-9Xs mounted on LAU-127 launchers. The JDAM and drop tank were mounted to the “main” pylons underneath the wings and the Sniper Pod was added to the other forward wing pylon. Finally, the centre line pylon was used for the ECM pod.

I used wire pins for all joints. **Fig. 22** shows the stores before painting mated with the pylons and **Fig. 23** shows them painted and decaled and weathering on the drop tank.

Painting

As mentioned, I applied AK Real Color FS 26118 in thin coats for the overall Gunship Grey. The painting revealed some more small scribing mistakes that required masking off along panel lines, filling with Milliput, sanding and re-painting, Fortunately, the AK Real Color paint was easily sanded with #4000 grit Micro Mesh cloths and I was able to blend the areas quite easily. To provide some contrast for the radome I masked off the fuselage and painted it Tamiya XF-25 dark grey, a colour very close to FS 36118 but just slightly different than AK’s. I masked off the front of the canopy, but to match the Hush Kit artwork I left the back area to be painted the same colour as the fuselage. Finally, the pylons were all painted Gunship Grey and the tailhook was painted Model Master Metalizer Steel. The two navigation lights were painted gloss white and when they dried the white was over painted with Tamiya clear red (left side) and blue (right side).

I painted the front of the IRST with a Molotow chrome pen and then painted the chrome area with clear orange.

I masked off and painted the exhaust Vallejo Metal Color Steel (acrylicosvallejo.com) and applied three coats of Tamiya Smoke to give it a dark brownish/metallic hue.

The landing gear, landing gear bays, inside of the gear doors and the wheel hubs were painted Tamiya X-2 White. They were all weathered with a black poster paint wash and some light dusting with brown and black pastel powder.

The Hasegawa painting instructions indicated the missiles, ECM pod and launch rails were grey FS 36375 the missiles had steel fins and steel and white tips for the AIM-9X and AIM-120C respectively. I used AK Real Color Light Ghost Grey for the grey, Tamiya X-2 Gloss White for the AMRAAM tip and Metalizer Steel for the AIM-9X tip. The Sniper pod was painted grey FS 36118 and I used Bare Metal foil painted with a mixture of Tamiya clear green and blue to simulate the glass areas. I painted the F-16C drop tank With AK's FS 36375 as this is the colour they are painted on F-16s and I wanted some contrast to the Gunship Grey. I didn't do any weathering to the overall paint job as I wanted it to look "factory fresh" as it was supposed to be a new airplane and the Hush Kit illustrations didn't show any.

Decaling

I used tail markings, refueling receptacle markings, fuselage/wing "stars and bars" and front fuselage stencilling from the Caracal sheet. I looked through all my spares box decal sheets to get light grey "No Step" markings for the control surfaces and wing slats and "No Push" stencils for the rudders.

As I find it difficult to airbrush Pledge (Future) clear gloss in a uniform, no-drip coat, I masked off the radome and applied the Pledge to the entire airplane and the stores using a very thin, brush painted coat. The Caracal and Hasegawa decals worked beautifully with no silvering. I applied another very thin Pledge coat over the decals and when it was dry, I sanded the entire model to a smooth, uniform finish with 4000 grit Micro Mesh. I airbrushed a final coat with Vallejo Matt Acrylic varnish.

Finishing Off

The last touches were to dirty up the control surfaces with a wash and some pastel weathering and to glue the aerials on top and bottom of the fuselage.

Final Thoughts

I was quite pleased with the final result. The Kingsnake looked as sleek and modern as Hush Kit's illustrations and unlike any other fighter in my collection. Sadly, all the work on the intake trunking was pretty much invisible without a direct look down the intake, but it did look better than a blanked-off area. I was lucky enough to win a medal with it at the 2022 Heritagecon in Hamilton and received a nice comment from Joe Cole who messaged, *"great to see our aircraft in 3D."*

About the author:

Ken Woodruff has lived in Burlington for almost his entire life. He is married, has two sons and four grandchildren, but reports none of them have the modelling "bug". He has been modelling since childhood (except for the usual interlude for university, marriage and young kids). Ken is a founding member of IPMS Burloak and a long time member of IPMS Hamilton. His interest is primarily 1/72 aircraft, but also completes the odd science fiction and racing car.

A USMC A-4E Aggressor

Scooter

Frank Cuden
IPMS Canada C3476
IPMS/USA 4311
IPMS (UK) X55047
Albert Lea, MN, USA

Introduction

OK, I admit to being somewhat addicted to modelling A-4 Skyhawks and I have a few in my collection. With many colourful schemes available for the aircraft, this time I branched out a bit. I had obtained Gekko Graphics #GG 72-001 decal sheet for A-4E Aggressors, and the sheet contained some interesting and rather obscure schemes. The one I chose was unlike any of the more "conventional" Aggressor schemes I had previously seen; it called for wrap-around camouflage colours consisting of Intermediate Blue, Navy Blue/Gray, Light Gull Gray and Light Sea Gray. Fortunately I had all four Testors Model Master colours in my paint larder. There was but one remaining Fujimi 1:72 scale A-4E kit, #F-24, in my cabinet of unbuilt kits, so out it came and I began work on the Scooter.

Construction Begins

An Aires A-4 resin aftermarket cockpit set #7158, was added to replace the rather basic kit cockpit interior and in **Fig. 1**, the components can be seen. The detail on the seat was much-appreciated.

In **Fig. 2** I assembled and glued the intake housing to the right aft fuselage half, used buckshot to add nose weight to the model. I added the cockpit wall side panels and I would later add the Aires photo-etched lap and shoulder belts to the seat. Aires also provided a part which was attached to the back wall of the cockpit and filled a void in the fuselage cavity behind the seat. It is seen in place in the photo. Using a hammer, I flattened some of the buckshot and added it to the rear cockpit wall behind the seat just to make sure the model wouldn't be a tail-sitter. More is more, I guess.
I wanted the flaps to be in the down position and in **Fig. 3**, I've begun removing the flaps from the wing bottom. The Skyhawk had split flaps with the upper extendable wing panels acting as air brakes. Note the slat actuator "fingers" protruding from the wing. Somehow, throughout the build, not a one of them broke off and that is a rarity for me when building Skyhawks! Evidently, the Modelling gods were on my side during the build. With the addition of photo-etched details the entire cockpit has been painted in **Fig. 4**. I used Testors Model Master Dark Gull Gray for the seat and interior and then added some detail to the side consoles. Tamiya Light Gray was used for the top portion of the seat and I added Airscale #A54B DAN tiny data placards to the upper part of the seat, **Fig. 5**. Note the resin detailed structure that filled the void behind the seat.

The seat and cockpit are in place in **Fig. 6 and 7**. I didn't glue the seat in at that time so that I wouldn't have to mask over it when the model was painted later on. The installed Aires set certainly made for a busy cockpit.

The particular A-4E that I was modelling carried a centreline tank with a blunt rear end on it and it is seen in **Fig. 8**. I cut off the end of the kit-supplied centreline tank and punched out a plastic circular disc and used filler to eliminate that seam. The basic filled and sanded airframe components are also in the photo and at that point, were ready to be glued together.

A quantum leap is seen in **Fig. 9** with the airframe components together and with the landing gear legs glued to the model. I glued the intake ramps to the fuselage and then sprayed them and the insides of the intake parts with Testors enamel

Gloss White. As it was getting close to applying the camouflage scheme, I had glued the landing gear on to keep the model off of my work pad.

Painting

Fig. 10 shows the model filled and primed and ready for the first addition of the four-colour camouflage scheme. One big mistake I made was gluing the cranked air refuelling probe to the model because I managed to break it off, so it stayed off until all of the painting and handling of the model was complete.

The first colour I sprayed on the model was Intermediate Blue and when those areas were dry I used thin Loctite Fun-Tak 'sausages' to mask for the next colour, Navy Blue/Gray, **Fig. 11**. The product is similar to Silly Putty, but my experience with that particular product left behind tell-tale "grease" whereas the Fun-Tak does not do that.

Fig. 12 shows how I masked over the Fun-Tak to prevent over/under spray and **Fig. 13** shows the underside camouflage completed. To obtain the correct camouflage scheme, it was just a matter of applying the thin sausages in the correct places as I followed the patterns shown on the Gekko painting instructions. First masking to prevent over/under spray, and then airbrushing on the colour and when done, pulling the tape and Fun-Tak, took care of the Intermediate Blue application. I just repeated the process for the remaining three camouflage colours. That's how it went for me and the photos show the camouflage pattern for that Aggressor Skyhawk.

In **Fig. 14**, one can see the gloss finish I obtained by spraying Floquil's Crystal Cote onto the entire model.

Note the white interiors of the speed brake wells. They are painted white so ground crews can more easily detect any hydraulic leaks within them. I masked the appropriate areas and sprayed the wheel wells and gear legs, again using Testors enamel Gloss White, **Fig. 15**. I've also added the nose wheel door, and I used a fine red Sharpie marker on the edges of the door to alert them to prevent injury of groundcrew. After the white spray job, I hand-painted the tires using Model Colour acrylic Black-Gray and then glued them in place.

On this particular aircraft the tail hook was not striped so as to better blend in with the camouflage. The wing slat housings, the flap interiors and flap wells also had the camouflage continued in those areas. That prevented the "enemy" from seeing "red" when on the tail of the aircraft during "Turning 'n' Burning" simulated dog fights.

A lot has happened in **Fig. 16**:

- ☐ I used a soft lead pencil to accentuate the indented panel lines
- ☐ I glued the ejection seat into the cockpit
- ☐ I also began applying the Gekko decals
- ☐ The nose cap was masked and sprayed using Testors enamel "Wood" as per the decal instruction sheet
- ☐ The cranked re-fuelling probe was added (okay, it was re-attached) at the end of the build
- ☐ I sprayed the tail cone with Alclad II's Duralumin, and the decals have all been applied
- ☐ The speed brake doors have also been glued in their open position. When deployed, they folded out straight from the wells with no droop as was the case on some other jet aircraft, such as the F-86 Sabre
- ☐ At that stage of the build I also glued the wing slats into their drooped positions. Note the camouflage continuation on to the slat housings.

Final Bits

Prior to applying Testors Dullcoat over the whole model, **Fig. 17** shows all the main landing gear doors in place, flaps deployed, and the red cautionary edges applied with a red Sharpie marker on the gear door edges.

Skyhawks had a thin lanyard that hung from a hook inside the canopy, **Fig. 18**, and that attached to the inside of the right cockpit sill. It was there to prevent any sudden gust of wind or errant jet blast from dislodging or entirely blowing an opened canopy off of the aircraft. I replicated that little detail with a thin piece of masking tape, doubled over onto itself and then trimmed to size. Some were red and some were yellow and I chose the latter.

I produced some wear marks on the slat housings using a silver drawing pencil. Navigation lights were added to the wing tips using Tamiya Clear Red and Clear Green. When they dried I coated them with Tamiya Clear Acrylic to make 'em

shine. A black blade antenna was added to the curved housing behind the cockpit and a rotating beacon was added to the fuselage dorsal spine just in front of the tail fin. The small intakes on either side of the fuselage were drilled out during early construction. I also cut out and deepened the air bleed-off trough just in front of the beacon. I dipped the canopy and separate windshield in Future as these days, some manufacturers are making clear parts much thinner than they used to be so I didn't have to vacuform replacements. When the Future was very dry, I masked and hand-painted the frames. I like to open my canopies so the cockpit can be seen and the kit canopy was quite clear after the "dip." Although the scheme is "non-standard" I liked the outcome of the camouflage scheme on my little Scooter and the fact that none of the slat actuators were damaged or broken during construction. Using pastel dust, I applied a little streaking behind the vent just forward of the right speed brake, **Fig. 20**. Reference photos and the Gekko instructions showed that detail. I also used some medium grey pastel dust to further accentuate some vertical panel lines on the fuselage, and in that case, less was more. I also applied the same dust to the slat track housings and I highlighted the horizontal panel just above the nose gear door using Mike Grant black rivet decals and they're just visible in the photo.

Fig. 21 shows a good view of the underside of the scheme including the centreline tank having received a coat of Intermediate Blue. One can see the underside camouflage scheme, the pastel dust in the wheel wells, and the lack of the normal red interior areas on the flaps and speed brake doors, along with a non-striped tail hook. Two small rear-view mirrors were added to the inside of the forward canopy frame, and I made them using .010" sheet plastic. With the in-flight re-fuelling probe finally having been re-attached, the model was complete.

Conclusion

The Skyhawk's scheme stands out among my other Aggressor Skyhawks and if you're in the market for a different Aggressor scheme, Gekko's decal sheet provides four of them for your choosing.

About the author:

With the completion of his first model in the early 1950's, Frank Cuden has continued in the hobby over the years. 1:48, 1:72 and 1:144 are his scales of choice and he enjoys adding extra detail to each kit. He also enjoys e-correspondence with modellers world-wide, and enjoys improving his writing skills with each article he writes. Since retirement in 1999, he's enjoyed modelling at will, and becoming more fun as time goes by. Wife Marilyn, three children and seven grandchildren complete the circle.

A CT-133 of VU-33

Modelling aircraft 133102

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Many Canadian aviation admirers will know of the long service history of the Canadair model CL-30, otherwise known as the T-33, Silver Star, CT-133 or, most commonly, as the 'T-Bird', as many fondly referred to it. A stable workhorse with the RCAF, RCN and CAF, it outlasted many other aircraft types that came into service after it, and finally retired in 2005, after more than 50 years of faithful service to Canada.

Although most examples flew in bare metal aluminum finish, a few jets in Europe wore the NATO camouflage scheme of Dark Green and Dark Sea Grey over PRU Blue, then later the dark green overall finish (same as the CF-104), or the later (also same as the CF-104) dark green and dark grey over light grey camouflage paint. After that most of those T-Birds left serving transitioned to the familiar low-visibility grey colours and markings.

During my career in the Canadian Armed Forces (CAF) I was fortunate enough to have several years of hands-on maintenance experience with the CT-133, which was one of my favourites during my career in the military. Seeing the aircraft up close always gives you lots of small mental notes which are especially helpful (or damning) when modelling the subject.

Most of my modelling projects over the years have been about finding an interesting subject in terms of paint scheme, sometimes going after a unique perspective. Of course all that type of research is very easy being internet driven. Finding research online on the CT-133 is difficult but fortunately I have taken detail photos of the aircraft over the years and can draw on my personal working experiences.

Patrick Martin and Bryan Volstad's 2019 book, '*Canadian Silver Stars The CL-30 "T-Bird" in Canadian and Overseas Service 1951-2005',* is filled with reference photos and information. A must for the CT-133 enthusiast and modeller.

Looking back to RT 38-01 Spring 2016, the late Yves Fournier of St-Jean, Quebec packed that issue with two exceptional builds using the Academy kits. Yves covered these builds very well, along with notes to describe the details that make the Canadair version different from the Lockheed-built T-33. In fact at the end of the article he alluded to the then-forthcoming Great Wall Hobby (GWH) kit.

GWH has released several versions of the Lockheed manufactured T-33A. In this article I will examine this kit and describe what it takes to turn it into the Canadair CT-133 used by Canada's military.

As my personal recognition of Yves' commitment to IPMS, both locally and nationally, I would like to dedicate this article to his memory and his devotion to a hobby we all enjoy and share.

Great Wall Hobby's (GWH) release of the RoCAF T-33A "Shooting Star" #S4805 was my kit of choice for this build. However, in studying the parts list of the other boxings of this kit shows the correct later style of main wheels are included in their release #L4821, so I used wheels that I liberated from an Academy T-33 kit. The RoCAF box also includes a small resin sprue that features a nice UHF antenna and pitot tubes.

This article will not take on any of the kit inaccuracies that some have noted, none of which I consider to be overwhelming. Instead I will simply point out the areas that differentiate the Canadair-built aircraft from the Lockheed version provided in the GWH kit.

The main points to modify this kit to represent a 1980's-era CAF Canadair version are all found on the two fuselage halves. These changes are detailed later in the article:

Things to remove:

☐ a square panel on the topside of the aft fuselage needs to be removed. (**Fig. 1**)

☐ GWH has an engraved square panel located forward of the left-side engine intake; this needs to be filled in, as it doesn't exist on a Canadair jet. (**Fig. 2**)

☐ GWH chose to provide some large external skin doublers located on either side of the upper fuselage just aft of the cockpit with engraved lines and countless divots. To my knowledge, no Canadian T-33s had these fitted, so it is best to fill this area in. (**Fig. 2**)

☐ there is extra engraving on the inboard end of the aileron on the starboard upper wing. It is really only a fixed tab on the airplane.

☐ remove and round out the rather prominent bump on the top of the leading edge of the vertical tail. (**Fig. 3**)

☐ four vents that are located just aft of the forward/aft fuselage break line need to be removed. (**Fig. 4**)

Things to add:

☐ Regarding the two NACA vents located on both the armament door panels at the nose *(note that these vents were not initially on Canadian jets; they appear to have been introduced to the fleet in the late-1950s)*:

- ☐ the lower ones are too small and are positioned too high on the panels. I used the Leading Edge decals to represent this feature on my model (**Fig. 5**)
- ☐ the upper louvred vents should be replaced with a rear-exiting vent. There is an angled panel line just aft of the door that will help to reference the location. (see **Fig. 5**)

☐ addition of two louvred air exit vents to the bottom of the aft fuselage. (**Fig. 6**)

This GWH kit offers no surprises in the build or construction sequence; much like the real aircraft, it is simple and practical.

Seats. The cockpit is a good representation but the builder is left with no options for the seats other than the kit-supplied items. If you can find them, True Details P-80/T-33 seats are noticeably smaller and look underscale compared to the kit seats. The kit seat, however, does look similar in size to other manufacturers' seats of different aircraft, so the error may lie with True Details. Fortunately the kit seats are quite good with only slight changes required. (**Fig. 7**)

At the top of the kit headrest side structure are two items, which I believe are striker plates for breaking through the canopy during ejection; these had to be filed off.

(**Fig. 8 and 9**) A seat pack sits at the bottom of the seat, but GWH chose to mould in a back support cushion as well. So remove the back support. The seat/pilot separator strap (known as the 'butt-kicker') was added using lead foil.

Seat headrest changes. My model subject is referenced from a 1984 picture and it is difficult to see exactly which style headrest is used, but I went with the version where the shoulders straps exit beneath the headrest (see **Fig. 10**). The seat harness was produced using Milliput and finished off with some fine wire for the microphone cord that was attached to the top right side of the headrest. Fine grade Milliput is great for making straps and the like.

Instrument Panels. (**Fig. 11**) The kit's front and rear instrument panels are medieval-looking, to put it kindly. The instrument bezels are extremely thick and over scale. Each of the instrument panels is a two-piece 'sandwich' with a decal applied in between the layers. The front part has the bezels and holes for the instruments to show through. Both the front and rear face of the top layer of the instrument panel were sanded down thinner to better show the instrument decal applied on the rear part.

Wings. This kit has simple wing construction with the main landing gear wheel wells installed on the lower one piece wing. Canadian T-Birds have bare metal finish in all wheel wells.

You may wish to note that the main wheel well details are simply mirrored on the left and right sides, which is not correct. Details like this would have incurred the wrath of the modelling enthusiast community if this was a more mainstream subject. However, I decided to live with this minor shortcoming. I do like the slight dihedral represented which I thought was missing on the Academy kit. Thinning the trailing edges of the wings and ailerons will help improve the look.

Panel Seams. A sensible approach some kit manufacturers are taking is to break down kit parts along skin panels, much as they are on the actual aircraft. This can save us some work.

One area to make sure you leave a tidy seam is on top of the fuselage just aft of the canopy. This large rectangular panel gave better access to the engine for those regular inspections and it was fitted with two pressure relief doors which allow extra air into the engine plenum at lower speeds and high power settings, like on takeoff. The large panel has a long piano hinge, as it was normally referred to by maintainers. It runs longitudinally down the middle, right where the kit fuselage halves meet. Many unknowing modellers will fill this in but in fact should be a quite prominent seam. (**Fig. 17 to 19**)

The filling of the various non-CT-133 vents and a few panel line corrections was a gradual process. Tamiya Liquid Surface Primer was my filler of choice and many layers were applied over a period of a few months. Nevertheless there still seemed to be a problem with the “ghosting” of seam lines long after the filling and sanding was completed.

A cross-country flight necessity of the T-33 is the luggage pod carried under the fuselage. For my model this was simply assembled by building the main section with thick styrene panels and some spare resin blocks (**Fig. 21**) that were glued to each end. Coarse, then finer sanding rounded off all edges and corners.

The pod required a scupper and drain line to allow drainage of fluids leaking from the aircraft. (**Fig. 22**) They were sometimes decorated with base or unit markings on the sides and all the ones I saw had black front and rear endcaps. (**Fig. 23**) Short attachment fittings were made from brass rod to replicate them.

The challenge to many modellers is representing the natural metal finish common to so many aircraft. Lucky for us a number of paint manufacturers have developed various metallic finishes in lacquer, enamel and water-based mediums. My path to represent this aircraft’s finish was trying different colours of undercoats, like blue…. and then varying the topcoat paint finish in areas where the natural aluminum that became scratched, scuffed and worn from crews performing their duties. Aluminum is a highly reflective metal and the use of various metal alloys changes its appearance. It can act like a mirror to appear with various hues depending on many different factors. Besides the well-used look of the aluminum, my other goal was to produce a faded look to the Day-Glo seen in so many photos of this and many other CT-133’s. I recall seeing the application of the Day-Glo panels over top of a white priming paint which shows through on excessive fading of these panels. Of course the entire object of my build is to grab the viewer’s attention and to stimulate curiosity.

Wing tip tanks, horizontal stabs and elevators were painted separately to avoid any clumsiness when applying paint, decals and finishing. While many recommend using a black primer for metallics, my preference is white to give the effect of a light finish that aluminum embodies to me. And as well I sprayed a light blue before over the white for an added tonal variation.

Vallejo Metal Color Aluminum was my choice following a number of favourable reviews that I found. It had been several years since I had used anything other than water-based acrylics for modelling and I was anxious to try this line of metallics.

Many reference photos show bare metal finish aircraft with definite visible distinct-toned sections of panels, service wear and tear would make the distinctions less noticeable over time. The T-33 layout required personnel to climb on the wing for refuelling and to access the upper engine panels on the spine regularly, adding countless scratches to the surface. Rather than masking off different panel sections and going over them with different metal finishes, my approach was to finely spray different metal finishes over areas that would have a more-worn look to them. Areas such as the engine access panels and wing refuelling points got this treatment

A priming coat was applied using Tamiya Acrylic White, which would also provide a good underlying reflective tone for the Day-Glo Orange. The Day-Glo areas were then masked off and Tamiya Royal Blue was sprayed over the highlight areas of the fuselage to give some depth to the aluminum finish. This was my first test and use of the Vallejo Metal Color line and it proved to me to be a very durable paint finish. After testing a few different tones I selected the straight Aluminum 77.701 for the base finish.

The Day-Glo paint application was a simple plan of Tamiya X8 Yellow, thinned and lightly covering the primed white. Next up was Tamiya X6 Orange but being careful not to cover the areas selected for fading later, which was the topsides (the

areas most exposed to the sun) and the leading edges. And a final spray of X6 Orange with a 10% addition of X7 Red to add some darkening and depth to areas less affected by direct sunlight on the aircraft.
The wing walkways were masked off and using a good quality paint brush I applied diluted Vallejo Model Color 995 (German Grey) in thin coats. Letting the paint dry for just a few minutes I then took a water-dampened brush to slightly remove some of the paint to show the aluminum finish partially beneath.

My gloss coat of choice is Future Floor Finish thinned with a 1:1 alcohol/water mix. I've found the alcohol seems to speed up the hardening of the Future and I can comfortably handle it in less than 12 hours.

Two excellent decal options are available but Leading Edge's (**lemdecal.com**) is out of print. Leading Edge sheet 48.015 focuses on three aircraft of the late 70's to the early 80's and Belcher Bits (**belcherbits.com**) sheet BD22 covering multiple variations of CT-133 schemes. The Leading Edge sheet was enough for me to decal most of the aircraft, with only the COMOX text on the tail left for me to print on a clear decal sheet and to paint the yellow/blue tail markings.

Panel lines were accented with India Ink thinned slightly with water. **(Fig. 24 to 29)** Touch ups were carried out, then a coat of Vallejo Satin clear to provide a slight sheen to metallic finish and then Vallejo Matt to tone down the anti-glare panels. Weathering was generally light on these aircraft and was usually isolated to the belly/engine areas, but it was certainly seen more on aircraft after they were painted in the grey camouflage paint. Most of the wear areas were on the large nose panels and wing/tip-tanks refuelling points.

A boarding ladder is included in the kit but the dimensions and design are off from the ones used later in CAF service. My choice was to scratchbuild one by soldering square and round brass rod using reference photos. Once you get used to soldering you will like how quickly something can be built up and the great strength overall. **(Fig. 30 to 33)**

The T-33 for me will always be a personal favourite and the Great Wall Hobby kit is currently the best of the limited market offering with nice surface detail. With just a couple of changes it builds up into a near-perfect Canadair CL-30 or T-33 Silver Star, or just plain old T-Bird.

About the author:

Craig Baldwin was born in Winnipeg and raised in rural Manitoba and by chance started his career in aviation maintenance in Winnipeg. In 1979 he enrolled in the Canadian Armed Forces as an Airframe Technician. He retired from the CAF in 1999 and moved on to Air Canada where he is now an Aircraft Maintenance Engineer at Dorval airport in Montreal. Early modelling inspirations were helped by Al Scot, owner of Roundel Hobbies in Courtenay, BC. Craig's work has inspired most of his hobby projects, and includes many forms of transportation besides aviation along with auto racing, miniatures and railway subjects. Along with IPMS Canada his regional chapter associations have been with Cold Lake and Winnipeg.

EF-101B

The Black Voodoo

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History of Canada's EF-101B

Voodoo 101067 flew with 414 Squadron (Sqn) at CFB North Bay Ont., from December 1982 until March 1987. It was originally part of a USAF project to create high-speed target aircraft to be used for electronic warfare (EW) training of interceptor crews and radar operators. It was originally intended that 11 F-101Bs would have radar jamming systems installed, but only one aircraft, USAF serial 58-300, was modified before the project was cancelled. After service with the USAF from 1979 to 1982, it was leased to Canada. The aircraft was known locally as the "Electric Jet" or the "Electric Voodoo".

No. 414 Sqn is well-known as the "Black Knight Squadron", so the all-black scheme for the Electric Voodoo naturally followed from that. A regular dual-control CF-101F, serial 101006 (which stayed in its standard grey scheme), was transferred from 416 Sqn at CFB Chatham, NB, and used as a pilot proficiency trainer by 414 Sqn. Along with '067 they were the last two operational Voodoos in the world when they were retired in 1987. Some of this information is gleaned from an excellent article by IPMS'er Terry Leversedge on his Kestrel Publications website (**kestrelpublications.com**) that goes into more and better detail about the history of "Electric Jet" (see References).

The Kit

I purchased the Revell 1:72 F-101B when it was released in 1992 and added it to a collection of Canadian fighters I have been planning. To say that my build pace is slow is an understatement; glacial might be more accurate. I finally started the Voodoo in 2022.

Display Planning

To me, most airplanes look better in flight than on the ground, and some, like the F-104 and F-15 just look wrong on the ground, so this one was done in flight. As a public service announcement, DO NOT build this model in flight unless you want to spend a lot of time hacking away at the flaps to get them to fit in the 'up' position, filling and scribing the gear doors, and fiddling with the speed brakes and canopy. Thanks to noted RT author, friend and all-around nice guy, John Lumley, I had close up photos of the ECM antennas and "racks" that are unique to the Black Voodoo, '067. Most of the build effort, other than the in flight mods, went into trying to make these details, and that is what this article will focus on.

Cockpit

The kit instrument coamings were greatly thinned, and the instrument panels were replaced with .010" plastic sheet, with decals for the instruments.

The kit has the navigator's instrument coaming on the left of the cockpit and the radar on the right with nothing in between. This gap was closed with a .020" thick strip, just over 6 mm wide and long enough to span the width of the cockpit at that point, about 24 mm. The round radar was replaced by a rectangular version used on the EW airplane, that is about 6.5 mm

long. This is .080” x .080” plastic and some Contrail .070” tube, with the walls thinned to represent the scope. The pilot’s radar bezel is from Airscale’s Cockpit Instrument Bezels (PE48 BEZ) set with Tamiya Clear Orange used for the screen. The canopy actuator retracts into a rectangular ‘post’ that sits just behind the front seat. This was added using .100” x .125” plastic, with the actuator and canopy brace attached to it. All these sizes were guesstimated by trial-and-error. Details of the actual airplane are in **Fig. 1 and 2** of a Voodoo simulator located here in Winnipeg, at what is now known as the Royal Aviation Museum of Western Canada.

The rails were cut off the kit seats, and re-glued, to improve fit and spacing for the crew. A missing arch that joins the rails at the top was added from .010” plastic strip sanded to shape.

The crew are PJ Productions US Navy pilots (50s) set (721139). These were selected because they have decent oxygen masks, and the correctly-shaped helmet over the ears.

Helmets

The annoyingly-unique Canadian Gentex DH 41-2 helmets (**Fig. 3 and 4**) from the day consisted of a white plastic shell on top, with a red cloth liner and red cloth earphone covers. There were two sliding visors (clear and smoke grey) under a white plastic cover with visor retraction mechanisms on each side of the visor cover. Finally, there was a black plastic mask frame with an olive green rubber oxygen mask and oxygen hose. The helmets on the figures were basically modified the same way, except for the oxygen masks, which I thought looked fine for 1:72 scale.

The goggles and helmet details were shaved off the PJ Productions parts and the Canadian details were added in layers with AVES Apoxie Sculpt two-part putty.

The putty was rolled on and formed to shape with round toothpicks that had been dipped in super glue to make them hard and smooth. The technique is thanks to noted figure modeller Bill Horan’s internet video. The result is initially a bit lumpy, but the putty sands down nicely with 600-grit paper to produce a smooth finish. Oxygen hoses were made from some wire in my supplies that looks something like wound guitar string, but is much more flexible. Not sure where it came from, but the same effect is easy to achieve by winding fine wire around a slightly thicker core. Parachutes were added, also from Apoxie Sculpt, to get the crew the right distance forward on the seats, and straps added from lead foil. Most of this can be seen in **Fig. 5 and 6**.

ne EW ‘Stuff’

My build process

All these items were built by trial-and-error and test-fitting, with sizes and shapes determined by looking at the photos from IPMS Winnipeg’er John Lumley and what looked reasonable on the model. If uncertain, I find it is usually helpful to go with a smaller size/thickness of stock material as it is hard to keep things in scale. Numerous ‘prototypes’ were built before deciding on final material and dimensions.

It is also important to do as much work as possible with a large piece of material so you have something to hang on to while cutting and sanding. Final size is ideally made with one cut after all shaping is complete, it just takes some planning.

Evergreen plastic was used except where noted. Cuts were made by pressing down a blade along the entire length at once in a chopping motion, rather than pulling the knife along. A heavier knife helps with this. (**Fig. 7**)

Most gluing was done on a piece of glass as it helps with alignment and any excess glue is not an issue.

‘Tube’ Antennas (for the AN/ALT-13 Radar Jammer)

There are three antennas under the cockpit on the missile door, which are tube-shaped, and seven other wedge-shaped antennas.

The tubes, seen in **Fig. 8**, are just under 5 mm long and were made from .040” Plastruct rod. I find Plastruct rod generally to be more truly round in shape; I have run into problems with Evergreen rod in this regard, finding that it is less-round than Plastruct at these smaller diameters. The antenna end domes were shaped with 600-grit sandpaper, while turning the rod chucked in a Dremel at about 2500 RPM. I have always found the best sanding pad is the tips of my fingers, or just the sandpaper.

The finished tubes were attached to .010” x.100” strip mounting “posts”. The posts are about 5 mm long, including a tab for mounting. To ensure that the posts were attached straight on the tube centreline, they were laid flat on their side on a piece of .015” plastic to provide a riser, and the tube centreline butted against them before adding a touch of Tamiya extra thin cement. (**Fig. 9**)

Once happy with the alignment, a bit more cement was flowed into the joint to solidify it. A mounting tab was cut at the top of the post using a pencil line to try to ensure a uniform shape. The black end-domes of the tubes were created by carefully dipping them into a puddle of paint.

‘Wedge’ Antennas (used for both the AN/APR-9 Search Receiver and AN/ALT-13 Radar Jammer)

In **Fig. 10** you see two of the antennas and the .010” x 6 mm x 12 mm mounting plate for the tube antennas on the missile bay door, which has slots cut with a scalpel blade and then enlarged with a .010” thick razor saw.

The wedges were made from a double layer of .020” x .156” Plastruct strip. A 10-degree angle was cut from a piece of paper and transferred to the strip. A cut was made and the resulting wedge glued back on to the strip to double the thickness to the final .040” that I wanted to have. (**Fig. 11**) *(Note: I could have done this as a single step by using a single .040” strip, but I find it easier to cut thinner plastic more accurately.)* The top of the wedge was then rounded off.

The wedge antennas seem to be in three different styles. The three grouped behind the rear canopy are the tallest and are used for the AN/ALT-13 Radar Jammer. The one under the right side of the rear fuselage is similar, but is used for the AN/APR-9 Search Receiver, and is mounted in place of the data link antennas of a regular Voodoo. (**Fig. 12**)

The two under the nose are shallower and are also used for the AN/ALT-13 Radar Jammer. These six all have all two angles as they slope down to the fuselage. The wedge antenna on top of the nose is just a single slope, and is the thinnest.

Starting with the behind-the-canopy set of three AN/ALT-13 antennas, I cut about a 45-degree angle at the front of the slope and then rounded off the nose to final shape. After several attempts to get one I was happy with, I tried to get two others to match it using the original for reference. The remaining antennas were made the same way, just moving along the original wedge shape to get the required height of the antennas. **Fig. 11** shows all this.

The dome on the end of the antennas was created the same way as for the tube antennas, sliced off with a razor blade and glued on. Completed antennas are shown in **Fig. 13**.

Stores Racks

The Voodoo’s weapons bay rotating door was modified with two stores racks to permit the carriage of external chaff and electronic jamming pods. The racks were basically open boxes with a slight taper inwards towards the open side of the boxes, which is seen in **Fig. 14**. The final size is about 16 mm long, just over 2 mm deep and 3 mm wide at the base where it mounts to the airplane. (Referring back to **Fig. 7** shows the rack box under construction) These were started by making the narrow ends, cutting about a 10-degree angle on the end of the .020” x .156” Plastruct strip and then another 10-degree cut to remove what was initially intended to be the finished piece. This turned out to be too tall, and parts were trimmed slightly to final size. The long sides were cut to final length, but over size in depth, and the narrow ends were glued on to one side piece. When dry, a retractable knife blade was leaned against the short ends to cut the long sides flush and parallel. This was repeated for the remaining side. Another piece of .020” strip was glued inside the box to stiffen it and provide a mounting surface.

The sway brace arms are .020” x .020”strip, with the ends shaped with sandpaper. The braces were completed with .010” Plastruct rod and .5 mm discs punched from .005” sheet. The results can be seen inset in **Fig. 14**.

Finish and Markings

Paints are all Tamiya (LP & TS) and Mr. Color lacquers, thinned with Mr. Color Levelling Thinner.

I painted all the “secondary” colours first, and masked them off before spraying the overall black. As an example the general area of the turbine warning stripe was painted red first, which was much easier to apply on grey plastic rather than trying to cover the black finish coat. A piece of Tamiya tape was cut to the correct width and placed where the stripe goes. Again, I find it easier to get the stripe in the correct position, and keep it lined up as it goes around the curve of the fuselage, also easier for me than wrestling with a decal. On areas like the wing walks and anti-glare panel it is easier for me to get the

correct shape when applying a positive mask in this manner. The radome was painted last, as the pitot tube was blended in with putty at the end of the build.

To recap, before the overall black colour was sprayed onto the model:

- The turbine stripe and arresting hook were painted Mr. Color C327 Gloss Red.
- The silver for the radome, burner cans, tube antennas, and rear lower fuselage were sprayed Tamiya LP38 Flat Aluminum.
- The bright silver rings at the rear fuselage are Testors Metalizer.
- The formation strip lights look tan when they are turned off, and Mr. Color C45 Sail Color was used for this. The kit plastic probably should have been sanded to make the lights thinner,I didn't really notice this until it was too late.
- The anti glare panel and wing walks are LP 65 Rubber Black.

The overall black colour is a mix of 75% Tamiya TS 14 Black and 25% TS 26 Pure White. The radome is straight TS 14 Black. These were decanted from spray cans because I had them available and they are gloss.

Decals are from what must be at least a 30-year-old Superscale Canadian special schemes sheet, 72-472, which worked amazingly well. A lot of the maintenance markings were made from coloured decal sheets, kit decals or Hasegawa F-15 markings. The left side rescue markings are from Leading Edge. I tried to blend the decals with Mr. Color GX 100 clear gloss, and the final finish was a semi gloss of three parts GX 100 and two parts GX 114 flat. I am happy with the sheen on the model but the mixed semi-gloss was flatter than I expected and the gloss coats underneath helped get the desired finish. The yellow shade on the windscreen framing and canopy framing was mixed from two parts Mr. Color C113 RLM 04 Yellow and one part UG 08 Purple. This was an attempt to tone down the yellow, but in retrospect it is still too bright. The colour varied considerably on actual Voodoos, and on '067 it was quite dull. The yellow colour was sprayed onto a clear decal sheet and cut into strips for the canopy. Revell has moulded the windscreen yellow framing as if it goes all the way around the central black part of the frame at the top. This is not correct, and makes the windscreen look odd. It was beyond me to correct it, so I did the best I could by extending the black paint to the canopy arch.

The pitot tube is by Master. The red spiral is cut from decal after a piece of Tamiya tape was used to determine the right length. The burner can and rear fuselage shading/weathering is ground pastel chalk and pencil lead.

Display Stand

My wife does stained glass for a hobby, so I relied on her expertise for cutting out the components for the stand. UV-setting glue holds the two parts together. The aircraft sits on a piece of plexiglass epoxied to the glass, and was drilled for two brass rod mounting pins that just go into holes drilled in the model.

Conclusion

It would be much simpler to just paint a Voodoo kit black; most people would not know the difference. However, if you are afflicted with the same hobby ailment as I am, maybe this article will help. Either way I think the all-black EF-101 scheme is striking.

References and Resources

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Klaus Meyer is a retired Canadian military pilot. Most of his career was spent instructing on the Tutor and King Air, with a tour on the Buffalo and the final ten years on the Dash 8. He has been building models most of his life, mainly fighters, 1:48 piston and 1:72 jets.

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