

RT Volume 38, No. 4 Winter 2016 article text

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Cover Comment: Yves Fournier of IPMS Réal Côte added some aftermarket and scratchbuilt items to improve the ancient Hobbycraft 1/72 CF-100. The result is this lovely rendition of an RCAF 1 Air Division 'Clunk'. See page 5 for the full build article.

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Editorial

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One question that comes up at National Executive meetings circles around the big multi-part articles that I have run in **RT** over the past few years. I'm talking about the **CH-113 Labrador**, **RCN Avenger**, **RCAF Beaufighter**, **RCAF Ventura** and now the **RCAF Hurricane**. And the next up will be a two-parter documenting a **1/48 CF-105 Arrow**. All Canadian and all topics which, in this editor's opinion, provide a wealth of unique modelling/reference material to increase understanding of the subjects and interest in modelling them.

They have all been aircraft topics, but that is because only aircraft modellers have given of their valuable hobby time to write up these projects to share with the rest of us. If an extensive non-aircraft article came in that was too big for one issue of **RT** I'd give it the same consideration.

The feedback that we do get doesn't complain about the multi-part articles - but it would be nice to know that more members enjoy these 'split-issue sagas' or not. I suppose the lack of outrage is a good sign; that you are, collectively, not unhappy enough to write in about it.

But what do you really think about how IPMS Canada is running? In the old days (pre-interweb) we mailed out two large-scale surveys (in the late-1990's and in 2008), which provided some great feedback from a pretty substantial percentage of the membership. It definitely gave us a good picture of the state of the membership back then.

In the absence of sufficient feedback from the membership we currently do a lot of crystal gazing and then make our best guess as to our next move that will either please the troops, or having them storm the gates with Dremels and #11 blades in hand.

Survey says...

One thing I have suggested from time to time at our Executive meetings is that we send out occasional emailed short surveys to entire membership. These could help us:

- ◇ quickly take 'the pulse' of the membership
- ◇ see what you think about our latest scheme or plan
- ◇ get an idea about what our membership likes to build
- ◇ check your interest for the next free decal subjects

If you get a survey from IPMS Canada, please spend a couple of minutes to let us know what you think.

Membership...

Our membership numbers continue to slowly increase. Every **RT** quarterly mailing and membership renewal cycle seems to result in a few lost members, but generally producing a few more new members to make up the loss, resulting in our

slow growth. It's disheartening to lose members from our IPMS branch, and our follow-up contacts to find out why doesn't really give us anything to target for how we can reduce these losses.

My *'it-doesn't-take-a-rocket-scientist'* guess is that we have been losing some market share to the internet, but that's just a WAG. IPMS Canada membership ain't free, so we want to ensure that members feel that it's worth the money they have to shell out each year. A substantial part of membership costs go to producing and mailing **RT** to you great guys and gals, so we want to make sure that it meets your needs, and that it provides you with value for money. The internet, for all the great stuff it does provide for our hobby, is virtual and doesn't exist in the what passes for the real world these days. In other words it's not likely that we're going to see an internet-based equivalent of the **IPMS/USA National Convention** or the **IPMS (UK) Scale Model World** that provides as much solid 'bang' as these kinds of events do. I enjoy these online modelling communities but I think it's extremely unlikely that one of them will ever be able to put together a real-world get-together. A super-Skype session is probably the outer limit of what can happen, so if you ever want to go to a big plastic model show like the US or UK Nats, do what you can to keep IPMS alive, folks. Non-members can't count on others to keep IPMS healthy so that they can jump in to an IPMS contest or convention when it suits them.

Our next decals...

Financially we are in good shape so the topic of the next free decals came up. I mentioned this at my IPMS Ottawa meeting; I asked for members to *'contribute ideas...'*, and instantly got them, but then had to cut them off and finish my sentence by adding *'...and research'*. The decals are fun to see come to life, but we're spending the membership's money and we want to crank out something that a decent number of you will like. We need help from the members on this. **Jim Bates** really went the extra mile with his **HWE Hurricane** research and that resulted in one of the decal sheets we put out in 2016. Maybe your own pet research project can become our next decal subject.

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National Director

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Modelling and the World Wide Web; talk about the odd couple.

At first glance, plastic modelling and the internet would seem to be truly at odds with each other. One is a hands-on thoughtful process and the other is purely a mental exercise. I for one, would never have guessed at how one, the internet, serves the other, plastic modelling, so well. With the internet, a modeller has instant access to information, photographs, group discussions and yes, shopping. All of this and more, 24 hours a day, 7 days a week. Sounds like Nirvana, right?

However, the relationship is not perfect. The internet can prove to be an addictive habit. How many of us have sat down at the computer "only for a minute" and when you next look up next it has been three hours? Or sit down at the modelling desk with the tablet in hand and later find yourself not having touched the model?

On a far more serious level, we have seen the development of two particular trends that, at least to me, have had a negative impact on the hobby. The first is the rise of the 'expert' and the lack of civility. The 'expert' is that person who renders a verdict of 'unbuildable' or 'crap' on a yet-to-be-released kit, based solely on released CADD drawings or a photograph of a test-shot build. I am all for reviews and I like to hear the opinions of others, but I prefer facts and a balanced opinion based on the real thing, not a screen shot.

When it comes to decorum, it seems that you can't go more than a couple of weeks on any of the popular modelling websites before there is a heated exchange about something. Some of the exchanges can get nasty, testing the patience of the site owner.

Again, just my experience, but I have belonged to the greater modelling community for over 30 years and I have never heard people argue like I have seen on the interweb. Safety in perceived distance, I guess.

There is no doubt that the internet has been a great thing for our hobby. There is some awesome information out there for us to enjoy and learn from. But let's all remember that this is a hobby and that the person on the other end of the conversation is like you; a modeller.

Official Business...

We have an interest in understanding the demographics of the individual IPMS Canada membership and how this population relates to our Chapter make-up. So we are reminding you that, during your annual membership renewal process, please indicate what, if any, IPMS Canada Chapter affiliation you have. Nothing sinister here other than this type of information gives us a better idea as to how to serve the membership and the chapters.

Enjoy the days we live in, folks.

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What's in a name? The 'Clunk'...

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I love modelling modern Canadian military aircraft; I must have made around fifty of them over the years. Why I had not yet made a CF-100 is a question worth pondering. First of all, I think the 'Clunk' nickname is very apropos. This aircraft is not very sexy... and then you have the **Hobbycraft** kit, which does not receive a lot of praise and has not been built by many people. But it is, and shall likely remain, the only game in town. I am fortunate to have a full size version of the CF-100 very close to my house, at the College Militaire Royale in St-Jean, Quebec. I chose to model the Mk.4 version as I find it better-proportioned than the Mk.5 with the wing tip extensions. I also wanted a camouflaged version from a European-based RCAF squadron.

The Kit and Aftermarket Items

The Canadian aviation aficionado in me knows the importance of this aircraft to Canada, and deep down, I knew I would build one someday. What got me going was the beautiful new decals from **Canuck Models** (canuckmodels.com) (**Photo 1**). It seems this was the little push I needed.

Since I am seriously running out of shelf space for my completed models, I decided to do the 1/72 version with the **Obscureco** resin set sold by Chris Bucholz (**Photo 2**). There is also the option of making a 1/48 version with the very nice **Mastercasters** resin set. The **Obscureco** set has been out for a long time and is very well done, with cockpit tub, seats, front and side instrument panels, intakes and main landing gear wells. Casting quality is generally very good (except for one instrument panel which ran out of resin) as well as accuracy when compared to photos. The instructions are complete but lack some photo references. Most of the cockpit is black and was painted with dark grey variations and silver highlights (**Photo 3**). I also used some of **Mike Grant's** instrument decals (**Photo 4**).

The fit of the resin tub and sidewalls is not great and a lot of trial-and-error fitting and sanding is required to get it to sit at the correct height and proper alignment. I had to remove a lot of resin from the bottom of the tub so that it would fit on top of the kit's nose gear well. I also added some lead weights in the nose for insurance against the model becoming a 'tail-sitter'.

The seats were painted a variety of flat black shades, with the distinctive light blue harness and olive green backseat. Red ejection handles made from lead wire were also added and the seat belt buckles painted with **Vallejo Air Silver**. (**Photo 5**) For reference there is a very nice full scale CF-100 seat on display at the Cold War section of the Canadian War Museum in Ottawa.

The Hobbycraft Kit

Upon opening the **Hobbycraft** kit box, one can see why I waited so long to do this kit. No details, heavy panel lines, suspicious shapes, etc...

Fuselage

After gluing the wings together I cut off the main flaps to position them 'down' as they always are when a CF-100 is on the ground with no running engine. There is also a large flap at the rear of the main fuselage behind the main gear doors which is always down on ground. I cut it out using the panel lines as a guide (**Photo 6**) and used plasticard to flatten out the bottom of the flap and box-in the resulting opening in the fuselage. (**Photo 7**) The gear doors are way over size in thickness and the front one is a bit too narrow, these were all replaced by plasticard. (**Photo 8**)

You need to remove a bit of the front intake lip from the kit to fit the resin intake (**Photo 9**), do not follow the instructions which tell you to remove all the way to the first panel line on the kit part or you will cut too much. I used a sanding stick to remove up to the fuselage fairing only (**Photo 10**). There is a flat on the bottom of the resin intake, they are not perfectly round in order to fit the kit shape, make sure to align these features. Once superglued to the kit they were puttied and sanded flush.

The kit's engine exhausts were sawed off and the nacelle 'stumps' were sanded smooth. The exhausts were replaced by 11/32" diameter **K&S brass tubing** cut with a small plumber's pipe cutter (**Photo 11**).

Wings and Tailplane

The wings were warped, not badly but enough to have to do something about it. Once glued together, I warmed up a pot of water and proceeded to straighten them. There is almost no positive location device for gluing the wings to the fuselage so care must be taken to get the correct dihedral.

The horizontal stabilizer was not glued until after painting was done in order to ease the camouflage application. Fuel tanks were added to the wing tips. Even if they were rarely used on European-based Mk.4s, I like the look they give the Canuck.

The Cockpit

I wanted an open cockpit to see the nice resin details. (**Photo 12**) To do this, the canopy was cut with a razor saw at the front windscreen junction. The front part was glued with **Tamiya Thin glue**. The rear part is too thick and will not fit over the rear fuselage fairing as-is. It needs to be carefully thinned at the sill on each side to increase its width. You also need to reduce the diameter of the fuselage fairing at the canopy junction.

Painting

Once all glued up, a coat of primer revealed some imperfections, and careful sanding and puttying was required on several joints. Missing or incomplete panel lines were re-scribed, others were completed using a **black Berol non-leded pencil** once the model was painted.

Once I was satisfied, the bottom of the model was painted with **Gunze RLM 76**. (**Photo 13**) As with all the other main camouflage colours, slight variations of the main colour was used to get proper tonal variations. The topside camo was done with **Gunze Dark Green H330** and **Gunze Dark Sea Gray H75**. The demarcations were done with rolled up **Lepage's Blue Tac** about 1/4" in diameter. (**Photo 14**) I was careful to roll the **Blue Tac** with a cotton cloth and not my fingers to avoid any oily residue on the paint. The many black leading edges were painted last. The model was then given an overall coat of **Tamiya Clear** in preparation for decal application (**Photo 15**).

Markings

I chose to model a classic **440 'Bat' Squadron (City of Ottawa)** aircraft which operated out of **RCAF Station Zweibrucken**, West Germany from 1957 to 1962. The **Canuck Decals** laid down well. They are very thin and must be carefully applied onto a well-wetted surface to position them correctly. They responded well to **Micro-Sol** application. There were two or three stencils with no call-ups on the instructions. The numbers used on the front nose gear door are too large to fit on the kit part. Unless you scratchbuild a wider door, you will need to source some smaller numbers. Once

all applied the decals were sealed with another coat of **Tamiya Clear** sprayed relatively dry and far from the model so as not to get an overwhelming gloss. A nice rub-down with an old T-shirt produced the sheen I was looking for.

Weathering and Final Bits

A black wash was applied all over with **Testors Flat Black** enamel thinned with **Testors Thinner**. **Bare Metal Foil** was used to simulate some visible metal panels on the de-icing boots and the demarcation between the radar dome and fuselage.

The new brass exhausts described earlier were painted with **Vallejo Air Aluminum** and weathered with dry pastels. The pitot tube was painted white, dipped in **Future Floor Finish** and the red 'barber pole' marking was airbrushed on with **Tamiya Red** after being masked with a thin strip of **Tamiya Tape**. I sanded down the huge boss on the wing leading edge and then drilled a hole to fit the pitot tube.

Landing Gear

When time came to trial fit the landing gear, it became clear that the model's 'sitting angle' was off. The reason was that the main gear was about 1/4" too low. I elongated it with plastic rod and careful measurements with Vernier calipers (**Photo 16**). I actually made a dummy gear leg to measure the correct height (**Photo 17**). The scratchbuilt main gear doors were made too long and were thus trimmed to size the proper length. I added some stretched sprue to the sides of the main gear to locate the doors so they do not touch the wheels. I also did this inside the front gear well for the aft nose gear door.

The Final Steps

The resin ejection seats were trimmed to fit at the correct height in the cockpit. Some more plastic was removed from the interior sill of the canopy so it could sit flat on the main fuselage. The canopy was not meant to be shown open so it actually sits a bit more rearward than it should.

Finally, there are position lights on the front sides of the fuel tanks as well as three static discharge wicks on each tank, these may be made at some point out of decals for the lights and lead wire for the discharge wicks.

Conclusion

No doubt this was a challenging build to produce a model of an important aircraft in Canadian aviation history. Believe me, It bears its 'Clunk' nickname very well!

About the Author

Yves Fournier was born in 1966 in St-Jean, Que., where he still lives with his wife, son, daughter, and two cats. Influenced by childhood Air Force family friends, he toured the airshow circuit, developed a keen interest in modern military aviation and has been modelling since age 10.

Following mechanical engineering studies at McGill University, Yves was hired by Pratt & Whitney Canada's Engine Design department and still works as a vibration specialist at their Longueuil headquarters today. Yves attends as many IPMS Réal-Cote (Montréal) meetings as he can and enjoys participating in Torcan, CapCon and the occasional IPMS/USA Nationals with his modelling buddies.

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We all have to start somewhere; every one of us began our hobby in simple ways. Making glue bombs with thumb-print embossed pain jobs. That didn't seem to stop us, though. Something inside of modellers always seems to pull us onward, to try to improve our skills so that we can put something on our shelves and say, proudly, "I built that!"

Many of us had to do that on our own, taking years to develop our skills, others had access to peer groups that they could get tips and advice from. Often times we had to make use of books and magazines that had work done by master modellers that have skills and experience that most of us only dream of, myself included. In fact, this is how I had to learn my own skills.

This article will focus on the needs of the newer modeller. Someone that is just venturing into the armour building genre, maybe with a few kits under their belt. In as simple terms as possible, an 'out of the box' build of **Revell's Sherman M4 Calliope**. I want to concentrate on the steps involved, not so much the subject or the research.

Getting Started - inspecting the goods

It all begins with a box; in this case, **Revell's M4A3 Sherman** with the Calliope rocket launching system.

The first thing I normally do, a few weeks before I want to start a build, is inspect all the kit parts to see what condition that they're in. I decide then if I'll need to replace or update any parts in general. I'll order any parts or aftermarket items so that I have them on hand when I begin building.

I mostly look for damage, flash, seam lines, ejector pin marks, missing surface textures, and manufacturing flaws. Things that I would have to clean up, add, or fix myself. Like this transmission cover for example (**Photo 1**), it's completely devoid of surface texture, among other things. I would have to add that.

Or this glacis plate. (**Photo 2**) It has flash, location lines for the brush guards that need to be removed, as well as having no surface texture.

Assembly Begins

Once I'm happy with the condition of the kit and I've replaced or fixed anything that was damaged, I've collected any relevant reference material for the build that I'll need, I'll begin to build the model.

As with most armour kits, assembly began with the road wheels and suspension. A few simple things can be done to improve them as you build. These road wheels for example (**Photo 3**), you can use a small jeweller's file to add damage to the rubber surfaces. The surface can also be treated with a rough sanding stick to 'wear' the surface as well. You need to be careful not to completely remove the centre seam on the rubber as they're supposed to be there, just maybe not so pronounced.

The bogie assembly (**Photo 4**) is missing a bit of detail that can easily be added with a pin vise or with the tip of your hobby knife. The seams should also be sanded down and filled. Small things like this can greatly improve the appearance and the realism of your finished work.

Casting and Rolling

The next step that I took was to add the cast metal texture to the turret and the rolled steel texture to the hull. (**Photo 5**)

For this I chose to use **Mr. Surfacer 1000**. There are several other methods that can be used to add this texture, but for my own tastes this one is best.

I apply it with an old stiff-bristled brush in a thin coat over all of the turret's surface and the hull (**Photos 5a-c, 6**), doing small patches at a time. It dries fairly quickly and you don't want to overdo the texturing, so apply, stipple, and move on.

Refining the look of kit parts

Improving the appearance of a part is usually preferable to replacing it with aftermarket, and far cheaper. A simple improvement for these brush guards (**Photo 7a & b**) would be to thin them out a bit as they're far too thick. A round jeweller's file or soft sponge sander is used to thin out the material on the inside of the guards.

Adding Figures

Figures always add to the life-like feel of a build, they also help add a sense of scale to a piece, more than any other addition would. Mocking up your build to test parts fit and progress is also a very good habit to get into. It can help you to catch errors or things that you've missed, as well as confirm that your plan for the build is still on track (no pun intended) and that everything is fitting. This is especially important if your piece is part of a vignette or diorama. (**Photo 8**)

Details - Vehicle-Mounted Tools

Some of the vehicle-mounted tools that came with the kit were in a poor state. They were oddly shaped and badly moulded, so I chose to replace them from my spare parts bins. Inevitably as you build more and more models you will begin to accumulate a large stash of extra parts. These are still of value for future work and can really save a build when the 'carpet monster' has eaten an important bit. (**Photo 9**)

Details - Calliope

The M4's 'CCalliope' rocket launcher system was a very straightforward build and went together very well. It could use some extra details like the wiring added, but that would be a somewhat more advanced addition. (**Photo 10 & 11**)

Details - the Small Stuff

With the Calliope finished I could add all the small details to the vehicle. I prefer to paint all of the tools and stowage while it's on the vehicle rather than keeping everything separate. This is a personal preference, and I find that it makes things easier for me. It also allows me to do shadows the way that I prefer on a model. Other modellers will paint with everything left separate, to be glued on later. There's no right or wrong with either of these methods, it's what every you're comfortable with that's important. (**Photo 12 & 13**)

Painting Options

Now that the construction is complete, painting can begin. It all begins with primer. I find that there are many different opinions about what primer works best, acrylic or cellulose based, what brand works best, etc.

I tried many of them myself, disregarding the opinions of everyone else, until I found the one that works for me. In the end, as with any product or procedure, it's what works best for you after trying them out yourself.

This being said, **Badger's Stynylrez black primer** is what I currently use for an acrylic primer. (**Photo 14**) Whether it be primer or paint you should always shake/mix your paint very well before you use it. Unless the manufacture instructs otherwise, like **Alclad's Aqua Gloss** for example. I can't stress enough the importance of mixing your paint well. A non-corroding ball bearing added to the bottles of some paints can really help with this.

Airbrush setup is something that is so wide and varied in usage that it's not something that I could possibly cover in an article for a build. There are far too many brands, types, usages, and opinions on them to talk about here. Very briefly, for my work I use a **Harder & Steenbeck Evolution Silverline** and a **Badger Anthem 155** running off a cheap no-name compressor that I bought on of Ebay a few years ago. I spray most acrylics between 15-20 psi and I thin some of my paints and spray others neat. That's about all that I could honestly say about airbrushing without writing another article

I use a black primer for almost everything that I build because I use a method called pre-shading to add depth to my models. I use the black as a base colour to highlight all of the recessed and overhung areas on the model, areas where light would have a hard time reaching. More on that later.

Painting - the Base Coat

After the primer has had a solid day to dry and cure, I start the base painting. The base painting is simply adding all the colours to the model without any effects added. For the main colour I chose **Mig's AMMO Olive Drab Base**. I spray all of the surface first with a very thin layer of colour so that the black from the primer isn't absolute but still visible, then I gradually build up the colour from the centre of the panels outward to the edges, leaving a thin shadow of darkness. (**Photo 15**)

Painting - Highlights and Shadows

Then I added a thin coat of **Olive Drab Highlight** to all of the topmost surfaces to offer the impression of fading from the sun. You can take this even further into an effect called colour modulation, but that's a more advanced technique that has a fair amount of controversy over its usage, and I want this to be a more simple approach. (**Photo 16**)

Markings

After the base colours are dry I'm ready for decals and detail painting. I use **Alclad's Aqua Gloss** for all of my gloss finish needs. The stuff is near bulletproof and it stands up to acrylic thinners. Also keep in mind that it's nearly impossible to remove if you make a mistake with it.

I add the **Aqua Gloss** to all the areas where I plan to add decals first, then I'll use a small fine tipped paint brush to paint all the details on the vehicle, tools, stowage, rubber on the wheels, vehicle damage, etc. (**Photo 17**)

Decals come in all shapes, sizes, makes, and qualities, but I have yet to find any that I have had trouble with applying with **Walther's Solvaset**. I've tried every brand out there that I could get my hands on and I can't beat the ease of use and reliability that I got from **Walther's**. (**Photo 18**)

To add decals to a model I make sure that the surface is as smooth and glossy as possible, so a few thin coats of **Aqua Gloss** takes care of that. Then most fellas will use a small container of warm water, a pair of soft edged tweezers, a cotton bud, and a cocktail stick for tools.

I use all of these things except I don't bother with the warm water. I just use room temperature water, unless the decals are particularly thick like **Tamiya's**. The **Walther's** will do the work that I need to soften the decal once it's on the vehicle after I've stopped trying to move it around, and I tend to be a bit rough handed with decals, so the cooler water keeps me from tearing them.

Cut your decal free from the paper as closely to the decal image as possible, trimming off the excess film that carries off the edge as much as possible. Place it face up in your water and submerge it. Allow it to soak until the paper has no dry spots left on it, then remove the decal from the water to rest on a piece of paper towel. The towel will draw out the excess water.

After a few minutes (it depends on the manufacture of the decal, some take longer than others), try to move the decal about the surface of the paper, if it moves freely you can apply it to your model.

I will add a drop of water to the spot where the decal is going just before, to aid in the transfer of the decal. It will help keep the decal from folding. Slide the decal off the paper onto the model, then using a moist cotton bud, move the decal into its final position. Roll the cotton bud over the decal to push out the bubbles, then add a thin layer of the **Walther's Solvaset** or other solution to the decal.

It will wrinkle up and look like it's falling apart at first but that's normal. Don't touch it. Once the decal had laid down flat again you can examine it for bubbles and roll it again gently with a moist cotton bud if needed.

Wait a few hours and seal the decals with another layer of the gloss coat. I usually do this when I seal the entire model before weathering.

Detail Painting

After the decals are dry I'll start with the detail painting. All of the tools, stowage, vehicle damage (round hits, scratches, chipping) is done. Wood, leather, bare metal, rope, canvas, cloth, all are present and take a variety of colours to look convincing. My preferred paints for doing details are mostly **Vallejo Model Colour (VMC)** and **Life Colour**. Excellent brush-paintable materials. Though I do use **Mig's Ammo** for some colours as well as **AK Interactive**.

For this build it was mostly **Mig's Ammo** and **VMC** for the detail painting. The wooden tool handles were painted with **AMMO's Light Wood**, tool heads with flat black and drybrushed with gunmetal. The straps for the **Italeri** tool clamps were painted with **VMC's Leather** then stained with **VMC's Smoke**. (**Photo 19**)

Painting Tracks

For the tracks and their base coats I again chose **Mig's Ammo** for the colours.

They make several colours of rust that blend very nicely together and when I've used them on tracks and exhausts I find them quite appealing.

Mig Dark Tracks as a base followed by **Track Rust** thinned into a wash is how I handled these. This style of track is one of the all-steel 'metal chevron' types so I didn't have to contend with the rubber block that appears on many other

Sherman tracks. If I did have to add this feature, I would just paint the rubber by hand after taking care of the track's metal parts. (**Photo 20a & b**)

The metal wear parts of the tracks were handled next. An **HB pencil** combined with a drybrushing of **VMC's Gungrey** do wonders for adding worn exposed metal. It's not too shiny and not too dull, and, when combined with the proper use of weathering later, I find looks quite convincing. (**Photo 21**)

Further detail painting is done by painting the rubber on the road wheels followed by the chipping. **Mig's AMMO** makes my favourite colour in rubber, and **VMC** makes my favourite chipping colour for armour, **German Cam. Black Brown 70822 8518** (**Photo 23**)

Weathering - Chipping

Chipping is probably by far one of the most interesting and most overdone element of weathering used in armour modelling. It's very easy to go overboard with chipping, so it's best to be able to fix it if you do. Especially if you're using acrylics. With oils you have more forgiveness but also more drying time.

I use acrylics to do my chipping so I'll talk about those this time.

When I do chipping I always do it over a gloss coat of **Alclad Aqua gloss**. This is so I can easily correct mistakes and reverse excessive chipping. To do this I use the gloss as a base then I use the **VMC 70822** for the chipping. I usually add the chips using one of or a combination of a torn makeup sponge, a torn piece of green plastic scouring pad, and a small paint brush, but for this build it was just the torn green scouring pad.

I chose this because the type of chipping that I wanted to impart is the single layer type, meaning only two colours, the base paint and the chipping paint. It's also the simplest form of chipping.

The scouring pad is a good material to use as it will make a variety of marks that are irregular. Not only will it make small dots and lines, it will make large and small scratches. The effect can be very interesting and realistic.

(**Photo 24 to 27**)

Last Looks?

And the final look and check before the washes and weathering begins. (**Photo 28 - 29**)

Not quite! - Weathering

Once the base painting, detail painting, decals, and chipping are applied it's time for the weathering to begin.

These all begin with a solid gloss coat varnish, in this case, **Alclad Aqua Gloss**.

There are two kinds of weathering when building models, placement weathering and static weathering.

Static Weathering

Static weathering is weathering done to a subject that will be a stand-alone piece with no diorama or vignette as a base. The base is usually a well-chosen piece of wood or frame that is simple and only for displaying the model.

Placement Weathering

Placement weathering is the type of weathering done to a model if that model is going to be part of a vignette or diorama. Usually it follows static weathering or is a continuation of the static weathering. It is the blending of materials that is done to marry a model to the scene. So that the vehicle is in the diorama, not on the diorama.

The type of weathering that I will do to this model will be placement weathering, as it will be later added as part of a vignette.

Weathering Techniques

The first part of weathering that I do is the washes. I'll use a combination of oil washes and clay washes to accomplish this. I began this one with a clay based wash from **Ultimate Modelling Products** called **Dark Dirt**. I'll use it to deepen the resolution of the panel lines and add age to the vehicle at the same time. (**Photo 30**)

A very good gloss coat is paramount for the wash process as any leaks or thin spots will cause any wash material to stick and stain your work.

I cover the surfaces of the entire model with a liberal coat of the **Dark Dirt**, making sure that there are no bubbles or voids in the coverage. Then I let it dry completely, this is usually about an hour or so. (**Photo 31**)

Then I remove the wash from all of the open areas of the model using a cotton bud and pieces of paper towel, all the flat undetailed surfaces. For all of the vertical surfaces I use a downward or rainward motion to best imitate the flow of water during rain. This adds a very subtle streaking effect. The horizontal surfaces cleaned less regularly, as pooling of water tends to occur on those.

The results are a vehicle that looks as though it has a heavy shadowed and soiled appearance. (**Photo 32**)

After the clay based wash a protective layer needs to be added to keep any further work from disturbing the delicate clay particles. A coat of **Testors Dullcote** was added to seal it in and left to cure for a few days.

Filters

Filters are another type of wash that is a tiny amount of paint suspended in a large amount of thinner; typically they are made from oil paints or enamels. This is more like a tinted glaze than a wash, in fact that's what they used to be called back in the day. Filters are a corrective measure or a blending feature used to either adjust a paint colour that is a few shades off, or to add a sense of homogeneity to a multiple coloured camouflage pattern. It can also be used to add aging to paint and fading if it's added to specific areas like the turret roof or hatch covers.

In this case I wanted to add an aging feature to the olive drab colour of the tank. Often the paint of Shermans would fade to a blue-green to even a turquoise colour if left long enough.

I mixed some titanium white, a forest green, and a topaz blue oil colour together and added it at about 5% paint to 95% thinner, then added three layers of glaze to the entire tank. Letting it dry for several hours between layers. Then I added two more layers to the top most surfaces like the upper deck and the turret roof. (**Photo 33 & 34**)

Dot Filtering

The next order of business is called a dot filter or mapping. This technique is used to add a very subtle tonal variation to all of the large open areas and break up the uniformity of colour. Small dots of oil paint are added in a random pattern to the surface and then removed with thinner dampened soft brush. (**Photo 35 & 36**)

The colours that I chose are colours that are ones that are similar to the base coat colour or simulate another type of deposit that would occur on a vehicle. Green for the base coat, white for salt deposits and bird droppings, burnt sienna for rust, and blue to add a deep tone to the greens.

Using a wide thinner dampened brush, and in downward motions, I remove the dots until all that is left is a stain. (**Photo 37**)

This is done over the entire vehicle surface, including the tops, only on the tops you use a stippling motion instead of a streaking motion of the brush. (**Photo 38**)

Fuel and Oil Stains

Once that has dried for several days I'll add the fuel and oil stains. This is a mix of oil paints and thinner. **Lamp Black**, **Burnt Umber** and some **Liquin**. **Liquin** is an additive that I use in oils that will speed up drying time as well as add a glossy texture to it. It is for the glossiness that I've added it to this mix. (**Photo 39**)

Patience... then Pigments

After that has had a couple of days more curing time (if you can still smell the paint, it's still drying), I'll move on to the next stage of the weathering, pigments.

I use a wide assortment of pigments to affect my vehicles. Pastel chalks, ground paint particles, wet, dry. The material that I use the most of is ground pastel chalks as they're the cheapest and easiest to control for colours. I'm not a big user of "over the counter" pigment products, though I do use a few for very specific purposes.

For this project I started off with pigments made by Doc O'Brien, a railroad weathering set. It's fairly cheap and the colours are very dynamic and easily identified by their name. I do have pet peeve with some companies naming their products with non-colour related names like eastern European Dust, or Egyptian Sand for example. These are useless for modellers that are looking to combine colours together. You spend time opening pots to see what colour is what. I would much prefer a simple dark tan, light brown, burnt umber, type of naming. **(Photo 40)**

To start off I chose the green to fade some of the paint of the Sherman. Taking a small amount of colour out of the pot and set it on a piece of paper towel to mix out all of the large particles. Then I used a small medium soft bristled brush to pick up some of the pigment and applied it to the surfaces of the tank. Concentrating mostly on the upper surfaces and the centres of panels, leaving the edges in the original colour. This is a very much LESS IS MORE effect. You only need a tiny amount to apply this effect.

I did the same thing with the two dirt colours, the grungy grey and dirty brown. These I added to the lower areas of the hull and the leading edges of the sponsons, around the crew passage area like the hatches and climbing surfaces, etc. The pigments are gently scrubbed into the surface of the flat coat so that they stick, there's no need to overload the surface with the dirt. Heavier effects will come later. **(Photo 41)**

Mud

Mud effects are the next level of weathering that I apply after the pigments. They're made from almost the same thing as the pigments so they blend very well together. I will mix a couple of colours of mud, usually one dark and one light and apply both to the vehicle to impress the effect of old and fresh mud. Pastel pigments, clay based washes, and static grass for texture are the usual ingredients for my muds. **(Photo 42)**

I will grind up the colours that I need to make the mud body, then add some of the clay based wash to either darken or lighten it a bit. These **Ultimate Modelling Products** washes are cheap and extremely finely pigmented, much more so than anything that I could make myself, so it's more than worth it for me to use these as an over the counter product. The colours are also very basic so they are very easy to mix and match. Once those are mixed I'll add some of the static grass for texture.

Then I'll add it to the underside of the hull, sponsons and around the running gear with a brush. **(Photo 43a)**

Once dry it has a nice base for a dried mud effect. **(Photo 43b)**

A variance of tones and wetness is also something that's needed to make mud more like mud. Simply adding a gloss varnish (not Future Floor Polish) to the mix after it's dry will give it a wet look as well as darken it.

Mud spatter is also a feature that could be added to the vehicle. A Sherman wasn't speedy, but was quick enough to kick up some mud at speed. It would also be a nice visual trick to make the spatter a slightly different colour than the rest of the mud. Making it glossy would do that nicely.

Mixing up some **UMP Dark Dirt** with **Mud** and adding a bit of **Vallejo Gloss Varnish** makes really nice mud spatter. Using a stiff bristled brush I use my thumb to flick the mixture onto the tank from below, so that the spatter travels upward in the same direction that it would if it were being thrown from the tracks.

This is usually the last effect that I will add to the model before I put it on the shelf. **(Photo 44 & 45)**

Conclusion

Once all of that is completed I would call the vehicle finished and I could either place it on a simple display base, stand alone, or on a diorama/vignette. If the model was going on a dio or vignette (in this case that's exactly what happened) even more weathering would have to be done in order to blend the vehicle into the diorama.

Coen

About the author:

Michael 'Coen' Campbell is a retired law enforcement serviceman, now a stay-at-home dad of three. He's been modelling, off and on, most of his life, when life permits. He recently got back into the hobby that his grandfather introduced to him as a teenager and spent as much time as he could learning everything he could about the hobby. WW II armour is his main interest area, but he'll build almost anything he finds exciting. Not

long ago he discovered that he liked to share what he's learned so he joined International Scale Modeller, IPMS Canada, and made a few YouTube videos about scale modelling.

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On the Home Front - The RCAF's Hawker Hurricanes - Part 3

by Jim Bates

IPMS Canada C#6008

Seattle, WA

(This is the third and final part on Canada's home-based use of the Hurricane. The extra 'oddball', but really interesting material that didn't fit into the first two parts is presented here. Editor)

Part 3 - Oddballs and Stragglers...

As with any aircraft type used in large numbers, various modifications were evaluated and tested on RCAF Hurricanes during the war. The vast majority of these projects were 'one-off's', or produced in very limited numbers, but they illustrated that the Hurricane was quite the adaptable aircraft.

Rocket Projectiles (RPs)

Out of all the projects illustrated in this article, the RP-modified Hurricanes were the most common. Operated by **No. 1 Operational Training Unit (OTU)** at Bagotville, Québec, and its **No. 1 Advanced Tactical Training Detachment (ATTD)** at Greenwood, Nova Scotia, 'sprog' pilots would test-fire rocket projectiles fitted with concrete heads. It appears that the Hurricanes with lower 'buzz' numbers were assigned to **1 OTU**, while numbers in the '60' and higher range were with **1 ATTD**. Modified by No. 4 RD at Scoudouc, NB, at least ten aircraft were modified. Confirmed serials include **5461, 5462, 5651, 5660, 5666, 5667, 5670, and 5671**.

One unique mod that appears common to the RP Hurricanes with **1 OTU** and **1 ATTD** is that the carburettor air intake just in front of the wheel well was removed. An explanation has yet to be discovered, but it is known that some intakes were modified in Canada for **1 OTU** Hurricanes for cold weather purposes. Whether the cold weather modifications were removed during the summer, or if most of **1 OTU's** Hurricanes were 'scoopless' later in the war is currently unknown. An example of a non-RP Hurricane at the OTU with no intake is **5463/'42'**, illustrated in **Part 2** of this series. Hurricane researcher **Dr. Jon Leake** is responsible for noting this anomaly and also pointed out that later non-tropical Hurricane IV's were also 'scoopless.' More research is needed!

Anti-Submarine Hurricanes

It appears that the German U-Boat menace preoccupied the thoughts of many RCAF members on the east coast. After attacks in 1942 around Newfoundland, the resident 125 (F) Sqn again illustrated that the Hurricane was one of the first 'multi-role combat aircraft', long before the term even existed, when a few of its aircraft were fitted with locally adapted bomb racks in January 1943. Fitted with either 250-lb depth charges or 250-lb bombs, the Hurricanes of 125 Sqn flew anti-sub patrols until June 1943. No subs were sighted or attacked.

Ski-Equipped Aircraft

Two Hurricanes were fitted with fix skis to test winter operations. **Hurricane 1362** (which was a 'Battle Hurricane', as previously described in **Part 1** of this article) was the first aircraft fitted in what was a joint project between Canadian Car and Foundry and the Canadian government's National Research Council (NRC). Later, **Hurricane Mk. XII 5624** was tested on skis by the RCAF's **Test and Development Flight** at Rockcliffe, Ontario during the winter of 1943. The skis were produced by Noorduyn Aviation Limited and a pair of skis survive and are on display with **Hurricane Mk. XII 5584** at the Canada Aviation and Space Museum at Ottawa.

Balloon Chasers

As mentioned in **Part 2** of this series, a handful of Hurricanes were taken out of storage and transferred to various British Commonwealth Air Training Plan (BCATP) stations on the Prairies to stand guard against the Japanese Fu-Go balloon threat. Many scrambles were undertaken, but RCAF pilots spent more time chasing the moon than actual balloons. These Hurricanes were locally modified; removing all of the wing guns and then reinstalling one gun per wing; this had the result of lowering the aircraft's all-up weight and increasing its climb and speed performance.

Wooden Drop Tanks

In 1942, the RCAF became concerned that they had no external fuel tanks available for their Hurricanes. Rather than attempt to source tanks from the RAF, a plywood tank was designed and manufactured by the Canadian government's National Research Council (NRC). Tests were conducted on Hurricane Mk. XII **5656** by the Test and Development Flight at RCAF Stn Rockcliffe and the tanks were found to be satisfactory except for violent aerobatics and steep dives. However, by this time the Hurricanes squadrons were in the process of being disbanded and only 1 OTU was operational. Therefore, only the prototype tanks were ever fitted on the Hurricane.

Photo Survey Hurricane

While three Hurricanes (**BW884, 5400, and 5625**) were on strength with 13 (Photographic) Squadron, aka the **Photographic Flight** at RCAF Stn Rockcliffe, only Hurricane **5625** and **5400** did much flying with the unit. The Squadron diary states that Hurricane **5625** was used on "*RAF photo exposure tests.*" It is currently unknown what those tests entailed, and the Hurricane was most often used for test flights, practice and aerobatics.

About the author:

Jim Bates, an expat Canadian, is now a US lawyer living in Seattle, Washington. Jim is the modelling editor of RCN News Magazine and the Social Media Coordinator for IPMS Canada. He builds RCAF, RCN, US Navy, and Commonwealth aircraft in 1/72 scale.

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RCAF Hurricane 'Stragglers'

This is the Editor's Cut of Jim Bates's HWE Hurricane photos - here are some nifty shots that didn't make the final cut for Part 3 of his Hurricane articles. Hopefully some inspiration for your Canadian Hurricane modelling projects.

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