

RT Volume 41, No. 1 Spring 2019 article text

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Cover Comment: *Massimo Santarossa took on Fujimi's 1:72 Sea King kit and created a very nice CAF CH-124A. See page 18 for the article to get a look at his use of aftermarket products and some fine scratchbuilding skills to produce a great model. We have further Sea King coverage starting on page 25.*

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Editorial

Steve Sauvé, C#0323 RT@ipmscanada.com

Compromise - not such a bad thing...

I think most of us do it. We first look at a pile of plastic pieces in the box and visualize the end product. In my mind (and my mind only) it's already Best-in-Show. Then the spectre of reality rushes in and stands ready to crush hopes and dreams at each step in the build process.

For me, paralysis sets in regularly, primarily out of fear that each next step I take is the one that will completely destroy the project. Being the Prophet of Gloom creates and stocks the Shelf of Doom. Things like digging and digging to find that last bit of reference material, agonizing over a kit's perceived shortcomings, deep conflict on the best way to solve a problem, or hoping to develop new skills by simply sitting back and wishing for them, all conspire to keep me from moving forward on a project.

Upon reflection I find that I'm simply wasting precious modelling bench time by this hand-wringing. I have to face it - I'm not going to win a Best in Show or likely to even place in a category at a Nats. However, when I can get my head around trading off trying to squeeze out that 'last 20%' in exchange for just accepting that the '80% solution' is resulting in a satisfying model for me, I get a kit completed. And I find it's okay to trade off some of the final glitter and polish to get a step done. It doesn't have to be perfect; in fact perfection mostly doesn't matter. My old buddy Harold in Winnipeg speaks of the "30-second rule" for models and contests. If the model can withstand a thirty second inspection by the proletariat or even the judges, and it still looks good, then you've probably got a pretty nice model.

Some sad news related to the last RT...

We received some nice email expressing satisfaction with the last issue of RT and the free decal sheet. On 19 December I got a note from member Richard Clairoux, informing me that regular RT contributor Yves Fournier, of St-Jean, Québec, had passed away unexpectedly after a short illness at age 52. This happened on November 13th, just a couple of weeks before the RT went out, and coincidentally which included two of Yves' articles.

Yves' 1:72 Hercules model has been the lead photo for our Facebook page. It was an RT article, as were two 1:72 CF-101's, a 1:48 CF-5D, two 1:48 T-Birds, a 1:72 CF-100, and the two 1:48 CF-5s in RT 40-4. As Tony Soprano might have put it, he was a 'good earner'; He was a talented modeller whose ongoing contributions helped keep RT going out on time.

Despite all that, I didn't know Yves well. I think we'd only met maybe a couple of times, at an IPMS/USA Nats, and maybe once or twice more here in Ottawa at a CapCon show. We mostly communicated by email or Facebook messaging. I was extremely appreciative of him first reaching out to me to offer articles on his various builds, starting in 2010 with his CF-101 Voodoo, and, sadly, ending in 2018 with the publication of his two CF-5 articles in the last issue of **RT**.

Yves' passing came as a real shock to me, and I'm sure his loss is keenly felt by his modelling friends in the Montreal/St-Jean area, and especially by his wife and children.

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National Director

Bob Migliardi, C#0490 box626@ipmscanada.com

Lots of interesting info to report this issue, much of which you may already have read about in **beaveRTales**. What!?!... You're not receiving your copies of **beaveRTales**!? Why not? About a dozen of the issues that we send bounce back as having bad email addresses. There are also a few members for whom we have no email address. So if you're not getting yours get in touch with us ASAP! But I digress...

The new **Associate Membership** category has now officially been established. \$20 a year entitles the member to receive four quarterly issues of **beaveRTales**; a membership card; access to various discounts that some shops and suppliers offer to IPMS Canada members; access to IPMS Canada merchandise that's available only to members; and while our "free decals" will not be free to Associate Members, they will be able to purchase any left-over copies (non-members cannot). Associate Members will **NOT** receive **RT**. We expect that the category will be especially appealing to those modellers who may be unfamiliar with IPMS Canada but would like to dip their toe in the water, and maybe upgrade to full regular membership later. We expect it will also be popular with modellers overseas, where outrageous postage rates make the cost regular IPMS Canada membership prohibitive.

And speaking of postage costs, this issue of **RT** has been sent to you at a higher cost than the last issue. At the beginning of the year Canada Post raised the cost of mailing **RT** an average of 5.9%. We have determined that we can absorb this increase for now and have decided to not raise membership dues. Of course, all bets are off if they raise rates again next year!

I would also ask all members to read the item on our cooperation with the Royal Canadian Legion that was in the recent **beaveRTales**. If you are in the Toronto area we encourage you to consider getting involved with this in with a large way by volunteering to help, or even in a small way by donating some of your surplus unbuilt kits and encouraging others to do so. You'll find all the details and contact info in the **beaveRTales**.

Next, given the great response to our two recent 'for-members-only' free decal sheets, we are considering doing it again. So, if you have subjects that you would like to see, now is the time to start gathering reference material and let us know. We have received a number of suggestions since the last sheets went out. Some are very interesting, but let me say once again that if there is a subject you'd like to see produced, you have to provide the references and not just a 'how about' list. Your grandfather's Spitfire might be a knockout markings-wise. But without details of the codes, serial, and good pictures of his nose art there's little we can do. We just don't have the time to track down information and photos to fulfil everyone's wish list. It's arduous enough to produce the artwork and **RT** articles, so get involved in the process with us.

Chapter & Member Liaison

Kerry Traynor, C#4083 CML@ipmscanada.com

The Local Hobby Shop

This column, like so many others, comes from a lunchtime conversation I had recently with a good friend. We were reminiscing about the hobby shops that were now gone and shops that although still in business, had been forced to diversify in order to keep the doors open. We were counting ourselves fortunate as we still had hobby shops in our respective communities to get our hobby supplies and kits.

I am sure that there are any number of reasons as to why hobby shops close, but I am guessing that online shopping is a contributing factor in the final decision. So with this in mind, is online shopping still what it used to be? Or is it more worthwhile to head to the local hobby shop? For me, I often do a comparison between the total costs of an online purchase versus buying the kit locally. In most cases, once the exchange rate and shipping is taken into consideration, the total cost of the online purchase is not that much cheaper than what my local hobby shop is charging. And in order to have a place to buy my paint and hobby supplies, I will often make my purchase at the local hobby shop.

Now, I understand that circumstances, financial and otherwise, vary for each of us. There will be those who don't have a local hobby shop and there will be cases where that \$10 makes a big difference in the hobby budget. For those modellers, I say do what you have to do. But for those of us who are fortunate to have a hobby shop in our communities, I am going to suggest that we support the hobby shops where we can.

Hobby shops need to pay rent and salaries, and they cannot survive by selling just small jars of paint. Please take this into consideration when you are contemplating that next kit purchase.

A Reminder...

If you move, please be sure to send along the new address to IPMS Canada as soon as possible. When we send out **RT**, we use whatever address is on file at the time of mailing. And as we do not print extra copies of **RT**, we won't be able to send out another copy to you if your **RT** is lost.

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Building a Railway Semaphore in 1:35 scale

By Barry Maddin
IPMS Canada C#6000
Truro NS

Building a Railway Semaphore

A signal is a device found alongside a railway line to pass information regarding the line ahead to the train drivers. The driver reads the signal and responds accordingly. Typically, a signal might inform the driver of the speed at which the train may safely proceed or it may instruct the driver to stop. One of the earliest forms of a fixed railway signal was the semaphore. The semaphore arm consists of two parts: a wooden or metal arm which pivots at different angles and a spectacle holding coloured lenses which move in front of a lamp in order to provide indications at night. Semaphore signals were originally illuminated by a kerosene lamp however they were not bright enough in the daylight so the semaphore arm was crucial for the signal to function. With the advancement of powerful electrical lights replacing the kerosene lamps the semaphore arm has been eliminated on modern railway lines.

The Kit

With a wide range of 1:35 scale railway models available MiniArt has produced a number of accessories to compliment any 1:35 scale railway scene. The kit is the MiniArt # 35566 Railway Semaphore (**Fig. 1**). The kit comes in a 5" x 15" x 2" box with the assembly instructions printed on the back of the box in 12 steps with small but highly-detailed line drawings (**Fig. 2**).

The kit consists of 102 parts on five light grey styrene sprues, with one small decal sheet, a bag with clear and coloured lenses and a waxed cord (**Fig. 3**). Painting detail is called out on the assembly diagrams with a colour chart identifying the colours using Vallejo, Testors, Tamiya, Humbrol, Revell or Mr. Color paints at the bottom of the build diagram. The parts are nicely cast with fine detail. The size and delicacy of some of the parts required extra care during the build. Additionally some of the parts were extremely thin pieces that although finely-moulded ended up having multiple sprue connections

that were a challenge to clean up. There was a small amount of flash on the truss members but it was easily removed. The trusses were very delicate and great care was taken to remove the sprue connections without damaging the fine beveled edges.

The Build

The build begins with the lower portion of the tower. I found the tower trusses to be very flexible and easily bent but the beveled edges went together very nicely. I paid close attention to the placement of the trusses to ensure the locating holes for the other parts were on the correct side. I didn't add the base plate until after I had the lower tower built to ensure a proper fit. The top section of the tower is detailed in Step 2 and the same care is needed as with the bottom section. The beveled edges went together well rendering a nice clean angle joint. The lower mounting plate on truss D7 needs to be drilled out. The diagram shows a hole but on the part itself there is no hole. Fortunately there was a shadow of where the hole should have been and I drilled it out with a # 61 (0.039") drill bit. This hole facilitates the mounting of the lower semaphore arm so it's important to get it in the right spot. The next three steps involved the installation of the kerosene lamps and spectacles along with the top pulley wheel. I didn't install the coloured lenses in the spectacles but I painted the inside of the lamps with Vallejo 997 Silver and glued the clear lenses in place with Gator Glue (**Fig. 4**). I'll install the coloured lenses after everything is painted. The locating holes and pins are very shallow and small so I was extra careful fitting the parts and for the most part I held the part in position and sparingly applied Tamiya Extra Thin glue. In Step 7 the most difficult part is removing the two control rods from the sprue and their cleanup. I installed the cross shaft mounting pins on the tower and then set the cross shafts in place and connected them to the cranking wheel in the control box. I almost forgot the control box lid and had to undo the rods from the wheel and slip the rods through the lid and re-glued them in place. The second half of the control box is installed in Step 9 but I glued it in place to finish off the box. Step 8 and 9 details the installation of semaphore arms and associated parts. The control rod and other parts are delicate but fit together very well although I did drill out the detents and reamed out the mounting holes for a more positive fit of the mounting pins. However in Step 8 the instructions have you connecting the control rod part Cb13 to the wrong lever. It should be installed to the counter weight lever Cb3. Additionally the counter weight lever identified as Dc12 is actually Cb8 on the sprue. The mounting sequence for parts Cb6 and Cb8 should be reversed as there is a channel moulded on the back of the arm for the Counter weight lever Cb8 to fit into (**Fig. 5 and 6**).

In Step 9 I installed the mounting rungs Dc5 to the marker panel Cb1 instead of the tower to ensure positive placement when I glued the marker panel in place on the tower. With Step 9 completed the signal is now in the full stop indication (**Fig. 7**).

Steps 11 and 12 covers the installation of the cable and reels at the base of the tower. The gears on the reel are very well defined and the sprue connections are set on the face of the gears to preserve the gear teeth. The cord provided for the wire cable is waxed and displays no fibers or filaments that regular string would. I strung the cord as per the instructions and as I wound it in place on the drum I used CA glue to secure it in place. With the crank handle and locking latch in place (**Fig. 8**) the semaphore assembly was complete.

Finishing

After masking the clear lenses I primed the semaphore assembly using Krylon Grey Primer and glued a piece of 0.030" plastic sheet to the bottom of the semaphore to provide a more stable base for handling the model (**Fig. 9**).

The instructions call for the semaphore to be painted black but I decided to use Vallejo 862 Black Grey. However since the semaphore arms and the marker panels were painted white and red on their front side and the arms white and black on the reverse side I decided to paint those areas first. Additionally in 1948 the lower spectacle lens was changed from green to yellow; therefore the kit lens (F3) being yellow is not correct for any time period prior to 1948. To correct the lens colour I painted the yellow lens with Vallejo 938 Transparent Blue which changed the yellow lens to green. However the transparent blue dried flat so I gave the lens a coat of Future to get back the glossy glass appearance (**Fig. 10**).

In order to minimize the overspray I masked the area around the arms and marker panels and painted them with Tamiya XF-2 White. I decided to hand-paint the red and black portions using Vallejo 957 Flat Red and Vallejo 950 Black. I carefully painted the red portions of the semaphore arms and marker panels (**Fig. 11**). With my circle template I marked out 5/32" circles on Tamiya tape and carefully cut the circles out and with strips of Tamiya tape masked off the reverse side of the semaphore arms and painted them black. The vertical arm was tricky to access but it was flexible enough to allow me to move it enough to get the tape in place. When the black was dry I carefully removed the tape and touched up

the black where needed (**Fig. 12**). I painted the kerosene lamps fuel tanks Vallejo 859 Black Red and the exhaust vent at the tops of the lamps Vallejo 998 Bronze (**Fig. 13**).

The instructions indicate that a marking is located on the bottom of the marker panel. The decal sheet provides a number of options for this marking and you need to research which track line and what region your semaphore is found. I found pictures of a semaphore in the Eastern part of Germany with the marking N2 which corresponds to one on the decal sheet so that is the one I selected. I applied the decal by floating it in a pool of Future then pressing it down into the future and applying more Future over top. The decal responded well and when dry looks like it was painted on the panel (**Fig. 14**). I then gave the semaphore a coat of Testors Dull Cote then removed the masking from the clear lenses and using Gator glue I installed the coloured lens in the spectacles (**Fig. 15**). Standing at 9 ½" tall and with the striking red and white arms and marker panels the railway semaphore certainly stands out (**Fig. 16**).

Conclusion

The Railway Semaphore is finely detailed kit. Extra care was needed with the delicate parts but the parts fit were excellent and the build yields a nicely detailed railway signal fit for any railroad diorama. This type of a railway semaphore was found in Germany, Austria and Switzerland during WWII and can still be found today on some isolated lines. Overall the MiniArt Railway Semaphore was an enjoyable build and will be the prominent feature in a small diorama I'm working on.

References

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Ron Fellows Corvette C6.R IMSA Tribute Racer

by Chuck Herrmann
IPMS/USA 33111
Albuquerque, NM USA

For a contest theme of '**Oh, Canada**' for my local IPMS/USA chapter (IPMS/Albuquerque Scale Modelers) monthly contest, I decided to finally use some aftermarket decals I have had laying around for several years and a Revell C6.R IMSA Corvette kit.

Ron Fellows, a well-respected Canadian race driver (**Fig. 1**), was involved in the Corvette IMSA/LeMans GT race program from the beginning in 1998. He was one of the test and development drivers, then raced for the team until 2007. Along with the team he was very successful, with victories in all the major endurance races at Daytona, Sebring and LeMans. He won many races in IMSA along with the GT class championship in 2003. He also raced at LeMans nine times, all for Corvette, with class wins in 2001 and 2002 and four second place finishes.

For the 2007 season he began to wind down his career, and he ran a limited number of events for the Corvette team. He was the third driver for the three long-distance races, and competed at the IMSA race at Mosport, Ontario, his home race. He sat out the other races, instead providing technical input and experienced advice to the team from behind the pit wall. He was also very popular with Corvette fans for his promotional work and trackside appearances.

After 2007 Fellows ran sporadic races, mostly NASCAR road course events. He also heads the group that purchased the Mosport road race circuit, now known as Canadian Tire Motorsports Park, and he remains active in managing the track.

To honour his contributions to the Corvette Racing program's success, Chevy produced a special Ron Fellows edition of the C6 street Corvette in white with a red stripe above the fender. This same colour combination was also used twice in

the 2007 IMSA racing season, at the Sebring 12 Hours in March and at the Mosport event in Canada in August. Around that time Speedline Decals released an aftermarket decal sheet to be used along with the Revell C6.R kit. For the 'Oh, **Canada**' theme contest I decided to replicate the Fellows' edition racer. Life got in the way and I was unable to finish it for the theme contest, but I forged ahead and finished it shortly after.

The Kit: (Fig. 2) Revell has released several versions of the C6.R racing Corvette, the one I had in my pile is the initial release (kit # 85-2026) featuring the car as raced in 2005. Over its racing life the car slowly developed but the exterior did not change significantly by the 2007 season. So I decided to build it pretty much as is for this build. I did use different wheels as noted below.

Decals: Speedline released a decal sheet (Fig. 3 and 4) with the markings that were different from the usual race team (Fig. 5). Some of the decals from the kit sheet were also used.

The Build: I decided to build the car as raced at Sebring in 2007. This was the number 3. Fellows co-drove with Jan Magnussen and Johnny O'Connell, who were the regular drivers the rest of the year. They finished the race 8th overall and second in the GT1 class behind the teammates in the more traditional yellow version of their car. (Fig. 6)

Like the entire series of these Corvette IMSA/LeMans racers by Revell, this kit is somewhat simplified, sort of a curbside-plus version. Everything builds up off a flat pan chassis. On the real cars nothing is really visible from underneath as the smooth bottom chassis is designed to maximize aerodynamic air flow.

I sprayed the chassis Testors Semi Gloss Black straight from the rattle can. The suspension is also simplified. There are two one piece moulded assemblies, for the front and rear, that include the suspension mounts and moulded in disc brakes.

I painted the brakes Testors Jet Exhaust and the brake pads flat red. (Fig. 7) Despite the minimal parts count what is visible after completion looks fine.

Wheels/Tires: To make the Fellows version I needed to update the wheels. The kit comes with the wheels for the 2005 version, by 2007 they had updated to the same wheels currently in use. Thanks to advice from several internet sites I decided to go with the wheels and tires from the latest Revell C7.R kit I built earlier this year, since I was able to get a kit from Hobby Lobby cheaper than sourcing aftermarket wheels. And Revell uses the same kit design, utilizing metal axles, on the newer kit so they fit right in Fig. 8.

The wheels were spray painted with Testors Metalizer Lacquer Aluminum Plate (#1451), which never really dried. I had to be careful to clean off the paint that smudged off on the rubber tires as I pushed them over the rims. (Fig. 9)

Engine: (Fig. 10) The engine is only four pieces that mount to a moulded in section on the chassis pan. Once the Intake plenum is mounted most detail is covered up, but again this is pretty much as it is on the real car. I painted the block aluminum with a wash and dry brushing to pick out highlights. The plenum was painted aluminum then covered with four carbon fibre decals from the kit decal sheet. This did not go on easily but after using Micro Sol and letting dry, then trimming the edges it looks good in the finished model.

Interior: This is where Revell put most of the detail for this kit. There is an upper pan to which the interior pieces mount, which ends up glued to the flat chassis bottom. There is a full roll cage, dashboard and instrumentation. (Fig. 11)

I built this up pretty much per the instructions with exception of the paint. Per the instructions (and pretty much per any reference photos I saw) almost everything inside the car was a shade of black. Having recently went that way with my build of the newer C7.R, once done and the body is attached almost nothing is visible through the small window openings. I refer to this as the dreaded black hole effect. So I decided to first paint the upper frame and the rear bulkhead the same Testors Gloss Classic White Lacquer 28131 as I used on the body. Then I painted most of the details flat and semi gloss black and various metallics per the directions.

As shown in Fig. 12 this left enough contrast to allow the details to be seen once everything was built up. There are kit decals for the dash and instruments. The seat features moulded-in seatbelts which I did in red, again to stand out. I did

the window nets in a flat blue-grey. The upper frame also extends out to the engine compartment, where again leaving the white allows the engine detail to be more visible when everything goes together

Body: (Fig. 13) The kit features a basic one piece body with a removable hood (something the first version, the C5.R, strangely did not). The hood is a two piece assembly, the large duct behind the firewall/radiator is separate. To ensure it fit, after the engine was glued in place and the body test fitted I used liquid glue to allow me to snuggle it in and to move the piece around a bit until the proper clearance was achieved.

As noted the body was painted Testors Gloss Classic White Lacquer 28131 straight from the rattle can. I polished out the paint without using any clear coat as I feel this represents a car that has gone through a bit of street or track wear. I highlighted the panel lines with thinned black paint. The black window frames on the body and under the rear window were brush-painted with semi-gloss black paint. (Fig. 14)

One odd feature of the kit was the rear brake light, it comes moulded in one piece in clear red, even though most of it is the housing not the lens. I guess you are supposed to mask off the clear red area? I glued the piece onto the body and painted it so it matched the body shade. Then I painted the small lens silver followed with Tamiya Clear Red.

The clear window pieces attach from the outside. I used a black Sharpie pen for the edge trim. Fit was fine. I also used the Sharpie to edge the headlight and driving light covers which made them stand out. The moulded-in grille was hand painted flat black. (Fig. 15)

The large rear wing and its two mounts were painted semi gloss black.

The actual headlight lenses in the kit are simply round chrome bits which I thought were not the best-looking. But looking at reference photos I remembered that during this era in sportscar racing the GT classes were using yellow-coloured lenses to differentiate them from the faster prototypes than ran with them in the multiclass events. So I painted the chrome with Tamiya clear yellow. (Fig. 16)

Final Assembly: As I have found in many recent Revell kits, the final attachment of body to chassis is rather vague. I put significant amounts of superglue to the approximate points they met up and held it together for about fifteen minutes. A bit squeezed out that I had to clean up but it is still holding. (Fig. 17)

Decals: The Speedline decals went on perfectly! Even though this sheet is probably about ten years old they adhered great. I barely had to use any Solvaset, except the fluorescent red front window shade which required a little plus extra white glue to hold.

Summary: I was happy with the results. There were no major issues with the build. And while basically a white car it really stands out in contrast to the other Team Corvette race cars when displayed together. It is a nice tribute to a fine driver who contributed a great deal to the Corvette Team's success.

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A 1:72 Drilling rises from the dregs... *

**or, 'How I found modelling satisfaction with spares' box debris'*

by Al Magnus,
C#4579
Regina Scale Modellers,
Regina, Saskatchewan

This article is about leftovers. No, not food leftovers, but kit leftovers. If you are like me, and have been building for numerous years, you have a lot of extra parts laying around. A chance discovery of a picture with a 2 cm MG151/20 Flakdrilling mounted on a Kommandogerät 40 gun director platform, most likely taken toward the end of the Second World War, spurred me to rummage through my parts boxes (yes I have more than one, don't you?!) for the Revell Kommandogerät 40 gun director I knew I had as a leftover from their 1:72 scale 8.8 cm Flak 36 kit. I had built the gun and used the Sd.Anh.52 trailer on another project, leaving this as the last remnant of the kit.

What I was missing to get this off the ground was the 2 cm MG151/20 Flakdrilling. Fortunately CMK makes a resin kit of this gun (kit no. 2059), so I ordered one. The MG151/20 was a standard 20 mm autocannon used by a variety of Luftwaffe aircraft. It was also used as an anti-aircraft gun, in this case as a triple (drilling) installation on a specifically designed mount (Flugabwehrlafette 151 D/B)

I wanted to do more than build the Kommandogerät 40 gun director out-of-the-box. The reference photo clearly showed that the platform's outrigger panels were grates and not solid as comes with the kit, but I had no idea as to how exactly the grating was supported. A web search found a good photo that clearly showed the area in question. With the gun, the platform, a sheet of brass grid from my supplies, and my reference pictures, I was off to the races as they say. To ease painting, the guns and base were constructed separately and joined following painting.

The first item to be addressed was the outrigger panels of the Kommandogerät. As mentioned previously these come molded as solid pieces, so with care I drilled holes on the inside of each panel and trimmed away the excess plastic leaving just the semi-circular rim. A lip was made with thin plastic strip cut such that it was slightly thinner than the rim and glued in place on the inside radius. Another strip was glued along the central edge of the platform. These strips created a small lip to support the brass grid. At three equally spaced places another plastic strip was glued across the opening, bridging the gap between the semi-circular rim and the central body of the platform. Then each spanning strip received a roughly triangular support brace, which were cut from some plastic sheet and sanded to shape. The end result was a set of six T-shaped braces to support the floor.

Before I added the braces I figured it would be a good time to cut the brass mesh, but how to get a good fit over the openings? I settled on tracing the outer outline of the semi-circles onto a piece of thin cardboard. Then the tracings were cut out and the tedious task of trimming them to fit proceeded. Once I had them fitting to my liking I taped them to the brass sheet and cut the brass with a pair of scissors carefully following the edge of the cardboard templates. A test fitting showed the resultant pieces of mesh were not quite the proper size, so they were carefully trimmed to fit. I had to do this a couple of times until I got them to the proper dimensions. After the braces were in place the mesh was placed on top and thin superglue was applied to all of the edges and braces, allowing it to wick along the seams. This resulted in quite a strong structure in the end.

The MG151/20 was built in parallel with the platform. It is a relatively simple kit consisting of about 26 excellently cast resin pieces and a small fret of etched metal that looks to be copper. Bubbles and flash are next to non-existent. The gun was built out-of-the-box and I only had to replace the barrels with thin plastic rod as the kit's versions were slightly warped, which wasn't surprising given their thinness. I drilled out the ends of the barrels and to give the gun some character only a single flash hider was added. The CMK kit provides a set of etched metal ammo belts, which are a bit one-dimensional looking on the fret but not too bad once added to the guns.

Before commencing with painting I placed the guns on the Kommandogerät platform to make sure everything was level.

Painting was straight forward. All paints used were Testors ModelMaster enamels. First everything received a coat of Light Grey as a primer and then some pre-shading was done with Burnt Umber. I decided to paint the base and gun were painted different colours. The base received some Panzer Schwarzgrau and then some shading with the same Panzer Schwarzgrau lightened with Flat White. The gun was painted Panzer Dunkelgelb and then shaded with the Dunkelgelb lightened with Flat White. Gun barrels were painted Flat Black.

Both the base and guns were then coated with some Testors Glosscote shot straight from the can. After letting everything dry for a week or so, pin washes in Flat Black were used to add shadow to the details such as panel lines and bolt heads. A few small chips were added to the edges of the mount and ammo boxes with more Panzer Schwarzgrau using a small piece of sponge. The gun barrels were dry brushed with Silver and then with Panzer Schwarzgrau to break up the starkness of the black. A drybrushing of Panzer Schwarzgrau was applied to the platform and Dunkelgelb to the mount. A light spraying of Afrika Dunkelgrau dirtied the model, and a coat of Golden brand Hard MSA Varnish with UVLS (Matte) dulled the finish.

Overall this was a fun build. The CMK kit didn't prove too onerous and the modifications to the platform were quite easy. In the end I have a rather unique looking gun to add to my German FlaK collection.

Accessories Used:

- Royal Model 1:35 Medium Square Mesh item no. 468

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Sting of the Hornet - A 50th Anniversary CH-124A

Massimo Santarossa puts the sting into Fujimi's 1/72 Sea King

By Massimo Santarossa
IPMS Canada C#6052
Calgary AB

Canada's Sea King

The Royal Canadian Navy (RCN) acquired the first of 41 Sea Kings in 1963, under the designation of CHSS-2. Initially, the helicopter served from the aircraft carrier HMCS Bonaventure and, using the innovative Canadian-designed 'Bear Trap' helicopter haul-down system, from the decks of Canada's smaller destroyer helicopter escort (DDH) ships.

With the integration of Canada's three military services in 1968 to form the Canadian Armed Forces (CAF), the new Maritime Command controlled the operation of the Sea Kings. After the Bonaventure was paid off in 1970, they continued flying from Canada's St. Laurent-class destroyers, the Iroquois-class destroyers, the Halifax-class frigates, and the Protecteur-class auxiliary oiler replenishment (AOR) ships of Maritime Command and today's re-born RCN. Although the Sea Kings continued to fly under the operational control of Maritime Command, the CH-124 fleet became part of the 'air force' under the newly-formed Air Command in 1975. In August 2011 Air Command reverted to its historical name to become known as the Royal Canadian Air Force (RCAF).

To align with the new CAF system the CHSS-2 was redesignated CH-124 in 1970. The fleet has received a large number of upgrades over the years (*see Jeff Rankin-Lowe's article later in this issue*) and has deployed on exercises and operations around the world. The helicopter has taken part in several conflicts, including the Gulf War in 2001, and continued to serve on in the RCAF into 2018. After many delays the replacement aircraft, the CH-148 Cyclone, has now taken over the CH-124's roles. Thus, after 55 years of serving Canada the Sea King finally retired from service on 1 December 2018. A number of airframes have been selected for museum display across the country for people to enjoy for many years to come.

Kit and Conversion

I was keen to add a Sea King to my collection of models and chose for the task the 1/72 Fujimi kit (#72073), along with the Belcher Bits conversion (belcherbits.com). There is more than one Fujimi kit out there however, so choose carefully. The best match for a Canadian helicopter is kit #72073, the Royal Navy Flying Tigers boxing. It comes in light grey plastic and features raised rivets (per the real Sea King) and recessed panel lines. The Belcher Bits conversion is designed to allow the modeller to produce a Gulf War Sea King and comes with several resin pieces, aluminum tubing, and some sheet styrene.

It had been my intention to build a standard operational helicopter, but when Model Alliance (now out of business) released their sheet of the 443 Squadron anniversary helicopter, I couldn't let the chance to build this colourful bird pass me by. To round out the build, a set of Eduard photo etch would also be employed.

The Standard Start

As with most aircraft builds, construction commenced with the interior. The CH-124A version of the Sea King has no windows on the right hand (starboard) fuselage, only the one in the sliding door. As such this was closed up using the kit part and some epoxy putty. With not a lot of glass on this helicopter, not much of the interior was going to be visible. However, I could not leave it completely empty lest some penlight-wielding contest judge should want to look inside.

The basic interior was laid out by rearranging the avionics consoles while the crew seats got some additional details using some PE and scratch built parts (**Fig. 1**). The pilots' positions were greatly enhanced by the Eduard bits as this area is very visible under the cockpit windows (**Fig. 2**). The upper part of the cockpit glass was tinted with Tamiya Clear Green. (**Fig. 3**).

The Belcher Bits conversion suggests installing the sonobuoy panel in the belly prior to closing up the fuselage. I felt this was a good way to mis-cut the two halves, so I opted to glue up the fuselage first and then open up the belly. (**Fig. 4**)

Even though much care was taken, this work, along with the gluing of the fuselage parts themselves, resulted in the unavoidable loss of some rivet detail along the aircraft belly. Considering the location, I left things alone as it would not be easily seen, something which I was not able to do on other parts (**Fig. 5**).

To fabricate the sonobuoy launch tubes, two sizes of aluminum tubing were provided in the conversion and they were subsequently cut to size using a high-speed rotary tool cutting bit. Remember to take the appropriate safety precautions and wear eye protection whenever using one of these tools.

The main landing gear was rebuilt using the Eduard set and mounted inside the gear sponsons (**Fig. 6**). Again, the resulting work removed a number of rivets from the tops of these assemblies, except this time I could not just ignore it. I tested a number of techniques in order to restore the lost detail and in the end settled on CA glue. Medium thickness glue, which had been around my work bench for a while and had thickened up even more, was applied using a length of stretched sprue as an applicator (**Fig. 7**). Working carefully and slowly, a drop of CA was placed where each original rivet had been (**Fig. 8**). Allowing the glue to cure naturally (without using a 'kicker') preserved the drop's rounded profile (**Fig. 9**). Today these rivets can be also replaced by after market items from the likes of Archer Fine Transfers.

The Fujimi kit is a bit on the dated side and this is reflected in the fit of some parts. Large gaps were found around the engine intakes as well as the sponson. These were filled in with epoxy putty, this medium being ideal for such jobs as it can be smoothed out with a wet fingertip which makes the final sanding even easier or not necessary at all.

To improve the look of the prominent engine and transmission housing on top of the aircraft, Eduard photo-etched grilles replaced the kit's offerings (**Fig. 10**). Note that only one of these can be attached on the surface of the plastic. The other four must be countersunk and made flush with the surrounding plastic. See **Fig. 11 to 13** for the process I used to achieve this.

With the landing gear attached, all that remained prior to painting was add a few more conversion bits and scratch built items. Since this aircraft did not see duty in the Gulf War, not all the Belcher Bits resin conversion pieces, such as the ALE-37 chaff dispenser, were needed. A check of reference photos will clear this up. Other items, however, needed to be manufactured (**Fig. 14**). The GPS and infrared suppressor mounts were made from drink can aluminum, the tail boom strake is a length of styrene strip, and the wire antenna posts are bits of brass rod. After adding a few more Eduard detail bits, the helicopter was ready for paint (**Fig. 15**).

Flying Colours

To tie all the various building mediums together and prepare the model for its final colour scheme, the whole unit was primed with Tamiya Super Fine Grey primer (**Fig. 16**). The overall colour of CAF Sea Kings is semi-gloss Grey FS 26173, for which Model Alliance lists Humbrol 27 as one of their recommendations. This shade is too dark in my opinion, thus Model Master AMC Grey (FS 36173) was used instead. The only other colours sprayed on the model were the black panels around the exhausts and radome (**Fig. 17 and 18**), and Gunship Gray (FS 36118) for the sponson floatation bags (**Fig. 19**). The rotor blades were dealt with next. The hubs were painted (**Fig. 20**) with Alclad and a black wash. The tail

rotor was painted white followed by the application of red stripes on the blade tips. The main rotors were painted Gull Gray on top and black on the bottom, with the rotor tip warning stripes in Yellow FS 33538.

Model Master Gloss Lacquer was sprayed on the model in several light coats in preparation for the decals. The aircraft I was trying to depict was a special anniversary scheme, and as such would be kept fairly clean, as least by military standards. I chose therefore not to weather the model heavily, limiting myself only to highlighting the engine panels with Payne's Grey water colour. When dry, another coat of gloss was applied.

Hornet Stripes

The Model Alliance Group decals are very comprehensive and very well printed, reacting nicely to MicroSet and MicroSol. There are in excess of 200 individual markings on the sheet, turning the decalling process into a three-evening affair. The large hornet and tail stripe decals, however, did prove a bit difficult. It took several applications of MicroSol to get them to settle down over the rivet detail. In the end I resorted to the careful use of Solvaset, a solution Model Alliance does not recommend. It all worked in the end, resulting in a very colourful airframe (**Fig. 22 and 23**).

It would look odd to have a glossy paint job on a military aircraft, at least one that wasn't a trainer. By the same token, however, this was a special paint scheme so it did need to look sharp. A compromise was reached by giving the model a sealant coat of Vallejo Model Air Satin. This knocked down the gloss coat but still left the model shiny enough.

Last Little Bits

As is usually the case, the build was finished off with the addition of the final small details that would never have survived the painting process. This included more PE details, like the rear view mirrors, blade aerials, and wire antenna. For the latter, black quilting thread was used. The tail rotor was glued in place but, wisely, the main rotor was not. This would allow for easier transport to contests and such.

Conclusion

The size of the completed model is quite impressive, even in 1:72 scale. This was an enjoyable build overall. The Fujimi kit goes together well with no mis-fitting parts, though a little filler was needed here and there. The fact that the box comes with parts for more than one version makes it a good value. The one drawback is it suffers from is overly large rivets for its scale. Here perhaps the Revell kit would be better, though it is a bit harder to come by. As for Canadian content, the Belcher Bits pieces add to the look of the model and the Model Alliance decals really make the helicopter stand out on parade.

Aftermarket Items Used:

- ◆ Belcher Bits BL-1 CH-124A Conversion
- ◆ Model Alliance Group decals. Sheet MAS-729019 - CH-124 Sea King, 443 Sqn: Canadian Armed Forces 60th Anniversary Scheme
- ◆ Eduard 72256 Photo Etch set for Sikorsky SH-3H Sea King
- ◆ MV Lenses

Paint:

- ◆ Model Master: AMC Gray FS 36173, Light Gull Gray FS 36440, Gunship Gray FS 36118, Flat Black, Flat White, Gloss White, Gloss Guards Red, Yellow FS 33538, Clear Gloss Lacquer
- ◆ Tamiya: Super Fine Grey Primer, Clear Green
- ◆ Model Air: Clear Satin Varnish
- ◆ Alclad: Duralumin, Jet Exhaust, Aluminum
- ◆ Watercolours: Payne's Grey, Black

References:

- ◆ IPMS Canada RT: Vol.23 No.4
- ◆ Patrick Martin, Canadian Military Aircraft: Finish and Markings 1968-2004.

A few notes about Canadian Sea Kings

by Jeff Rankin-Lowe,
London ON

History of Canada's Sea Kings

On 26 September 1962, the Canadian Treasury Board authorized the purchase of eight Sea Kings and one operational flight and tactics trainer (OFTT) for the Royal Canadian Navy (RCN) as the initial purchase of a planned fleet of 36 helicopters, spare engines, and all related support equipment. The Sea Kings were to replace the Sikorsky HO4S-3 and would be the RCN's first all-weather, night/day Anti-Submarine Warfare (ASW) search and attack helicopter. The first four Sea Kings for the RCN were contracted with United Aircraft of Canada Ltd (UACL), now known as Pratt & Whitney Canada Ltd (P&WC), but were manufactured and assembled by its parent company, Sikorsky Aircraft Division of United Aircraft Corporation (now United Technologies), in Stratford, Connecticut. The four completed helicopters were accepted there and ferried to Canada by RCN crews. The airframes for the remaining 37 Sea Kings (the total having subsequently been increased by five, for a total of 41 aircraft) were manufactured by Sikorsky and shipped as kits to their Canadian subsidiary for final assembly and the installation of government- and contractor-furnished equipment. They were then test-flown and accepted into the RCN or, after unification, CAF service. The first RCN Sea King was accepted on 24 May 1963. Subsequent Treasury Board authorities were approved for the new total of 41 helicopters, as follows:

The general specification for the design and construction of Sea Kings for the U.S. Navy (USN) was SD-24G, dated 15 September 1953. The USN's detail specification was SER 61663, while the Canadian detailed specification was (CSER) 61663. The first nine Sea Kings were procured in accordance with Sikorsky Specification CSER 61663 Revision 2, dated 3 March 1964. As each succeeding batch was purchased, a specification addendum was issued that, when combined with the basic specification, represents the configuration of each batch as follows:

Specification	Serials	Quantity
CSER 61663 Rev 2:	4001 to 4009	(9)
CSER 61663 Rev 2 plus Addendum 1:	4010 to 4015	(6)
CSER 61663 Rev 2 plus Addendum 2:	4016 to 4024	(9)
CSER 61663 Rev 2 plus Addendum 3:	4025 to 4036	(12)
CSER 61663 Rev 2 plus Addendum 4:	4037 to 4041	(5)

RCN crew training began in the U.S. in 1963. Helicopter Squadron 50 (HS 50) became operational on the Sea King in December 1964, initially land-based at HMCS Shearwater (across the harbour from Halifax, NS) and at sea from HMCS Bonaventure. Despite having already been redesignated as SH-3 from HSS-2 in the United States, the initial RCN designation was CHSS-2 and this remained until 14 August 1970, at which time the new CAF designation, CH-124, was adopted. The message to Shearwater directing the redesignation was dated 27 July 1970. The original RCN serials were from 4001 to 4041 and these, too, were changed with the survivors being reserialled from 12401 to 12441, taking effect on 14 August 1970. The last Canadian Sea King was accepted into service on 3 May 1969, which means that all of them initially wore serial numbers in the original RCN range. The RCN's Sea Kings differed from their USN counterparts by having Canadian mission avionics, winch-down/deck-traversing equipment (described in detail below), and a powered tail pylon folding system. The Canadian Sea Kings' primary role was that of ASW (Anti-Submarine Warfare, the detection and destruction of enemy submarines), for which it employed its ASW avionics suite and up to four Mk 46 torpedoes. CAF Sea Kings also had a secondary Search and Rescue (SAR) role and this assumed much greater importance at CFB Shearwater in 1992. Following the loss of a 442 Squadron CH-113A, 11311, on 30 April 1992, one of 413 Squadron's

Labradors was transferred to Comox. This, in turn, put greater emphasis on the standby SAR role for Shearwater's Sea Kings in support of 413 Squadron's operations at CFB Greenwood.

History of the Beartrap

Canada was an early innovator with the helicopter in the anti-submarine role. As early as 23 January 1943, the suggestion had been made to complete some of the frigates then under construction as anti-submarine helicopter carriers. The RCN's first helicopter squadron, HS 50, was formed on 4 July 1955 to operate the HO4S-3 from HMCS Bonaventure, but serious thought was being given to operating from smaller ships. Trials were conducted with an HO4S-3 from the frigate HMCS Buckingham in 1956. These were followed in 1957 with an HO4S-3 from HMCS Ottawa, one of the RCN's new DDE destroyer escorts. The success of these trials, coupled with the Navy's desire for a larger and more capable helicopter, led to Canadian interest in the USN's new HSS-2 Sea King, then under development. As described above, the RCN's Sea Kings were initially operated from an aircraft carrier, but the service was intent on operating them from destroyers. Another series of trials were conducted from HMCS Assiniboine in 1964 with particular attention paid to developing safe operational techniques, hangar design, and flight deck operations (HMCS Assiniboine was the RCN's first DDE with a helicopter platform and hangar.) The severe rolling of the narrow-hulled destroyers in the stormy North Atlantic made it clear that some sort of system had to be developed to assist pilots trying to set down on the ships. At the same time, new helicopter-capable DDH destroyers were being built, seven DDEs were being converted to DDHs with flight decks and hangars, the Sea King units were being built up with a heavy emphasis on training, and the necessary landing system was being developed. Popularly known as the "beartrap", the Helicopter Haul-down Rapid Securing Device (HHRSD) — the USN calls it Recovery Assist Secure Traverse (RAST) — was developed and built by Fairey Aviation in Dartmouth, Nova Scotia. Now manufactured by Indal Technologies of Mississauga, ON, part of Curtiss-Wright Defense Solutions, it has been adopted by navies around the world.

How the Beartrap works

The helicopter first lowers a "messenger cable" which is then used to haul up a cable to the aircraft. It, in turn, is attached to a probe below the helicopter near its centre of gravity. Once attached, it is tensioned by a winch to about 800 pounds of 'down-pull' on the aircraft. The pilot hovers over the deck landing spot, maintaining a slight upward pull against the winch until ready to land. The Landing Signal Officer (LSO), who is also a fully-qualified Sea King pilot, controls the winch and, working in close coordination with the helicopter pilot, the Sea King is winched down to the deck. As well as helping to achieve a positive landing in the desired location, the cable is also a securing device, holding the helicopter on the deck despite the sea state at the time. A square, box-like device (the actual 'beartrap' part of the system) is installed on the deck with movable bars and this traps the probe to firmly anchor the helicopter to the flight deck. Another probe is lowered from the Sea King's tail (located just ahead of the tailwheel) that fits into a slotted rail on the aft end of the flight deck and this prevents the helicopter's tail from swinging in unsteady deck conditions. Once secured in this way, the CH-124 can be refuelled and rearmed, or moved from the flight deck to the hangar.

Canadian Sea Kings have automated folding main rotors and tail pylon. As well as reducing the storage space required in the hangar, this reduces the number of people who must work on the flight deck, which is both a manpower savings and a safety consideration. Clearances are very tight on the flight deck and in the hangar, so to assist with moving the helicopters, the 'beartrap' box can be moved along a slot in the deck. The tail probe also moves in this slot and the Sea King can be moved solely by the LSO working from the console. The *St. Laurent*-class destroyer escorts, commissioned in 1956 and 1957, were refitted between 1963 and 1966 to become DDH's and take one Sea King, with a hangar and flight deck replacing a twin 3-inch gun turret and an anti-submarine mortar. The *Mackenzie*-, *Restigouche*-, and Improved *Restigouche*-class ships of the late 1950's/early 1960's could not accommodate helicopters. Both *Annapolis*-class frigates, commissioned in 1964, could take one Sea King, and the four *Tribal*-class destroyers, commissioned in 1972 and 1973, could each take two aircraft.

CH-124 Major Upgrades

Along with ongoing regular and routine minor modifications and improvements, several major programmes have been undertaken to upgrade and improve the Sea Kings over their 50+ years of service.

The Sea King Improvement Programme (1975-76)

The Sea King Improvement Programme (SKIP) was carried out in 1975 and 1976. It included:

- ◆ the replacement of the 1250-shp General Electric T58-GE-8B engines with 1350-shp T58-GE-8F models
- ◆ strengthening of the main gear box (transmission)
- ◆ increasing the structural capability of the main fuselage (by retrofitting a Sikorsky kit developed by the USN)
- ◆ installing blade de-icing systems on the main and tail rotors (which have since been removed)
- ◆ installing a crash-worthy fuel system
- ◆ improving the winch-down/deck-traversing system and hangar floor tie-downs to accommodate the increased authorized all-up weight, which went from 19,100 to 20,500 pounds
- ◆ installation of an AN/APS-503 radar
- ◆ AN/APQ-501 radar altimeter warning system
- ◆ improved TACAN (Tactical Air Navigation)
- ◆ Distance Measuring Equipment indicator (Collins model 339D-1)
- ◆ On-Top Position Indicator (OTPI)
- ◆ crash position indicator (CPI) (This is seen as a large pie-shaped International Orange-painted device installed on the starboard side of the tail boom)
- ◆ IFF transponder encrypting system
- ◆ crew seats strengthened for improved crash-resistance
- ◆ human engineering improvements were made to the Tactical Coordinator (TACCO) and Airborne Electronic Sensor Operator (AES Op) positions

Those Sea Kings that underwent SKIP were redesignated as CH-124A. (RCN serials **4002**, **4015**, **4027** and CAF serial **12432** were lost before the SKIP program started)

The Sea King Modernization Programme (1977-78)

The Sea King Modernization Programme (SKMP) followed in 1977 and 1978 and was applied to all aircraft still in the operational fleet. It included the installation of:

- ◆ AN/AQS-502 sonar
- ◆ bathythermograph recorder
- ◆ AN/AQH-5 training recorder system
- ◆ additional ID5044 ground speed and drift indicator at the TACCO's position
- ◆ Mk 58 marine marker/sonobuoy launching facility
- ◆ Mk 25 marine marker launching facility
- ◆ signal underwater sound (SUS) launching facility
- ◆ pilot stores control system
- ◆ TACCO stores control system
- ◆ C7821/A airborne torpedo presetter

Completion of SKMP did not result in a change of the CH-124A designation because all aircraft in the fleet were still to the same standard.

The Sea King Omnibus Modification Programme (1981-84) (SKOMP)

The Sea King Omnibus Modification Programme (SKOMP) was carried out between 1981 and 1984. This included the installation of:

- ◆ AN/ARR-52A sonobuoy receiving set (control unit, indicator panel, control panel, and receiver select panel)
- ◆ two 9D20900-1 sonobuoy antennae
- ◆ MD5040U modulator/demodulator (modem)sonobuoy control panel
- ◆ portable sonobuoy storage box (capacity of 12)
- ◆ permanent sonobuoy storage rack (capacity six)
- ◆ modification of the pilot/copilot AN/AIC-14 receiver selector panel
- ◆ automatic direction finder (ADF) selector panel
- ◆ AN/ARC-511 VHF AM radio with AT 1108 UHF FM antenna
- ◆ AN/ARC-513 VHF FM radio with AS 5103 VHF FM antenna.

Again, no change of designation resulted and the fleet was still comprised of CH-124A's.

Sea King Wire Replacement Programme and Depot-Level Inspection and Repair Programmes (1984-89)

Following approximately twenty years' service, the condition of the structure and wiring had deteriorated to the point that third-line (depot-level) maintenance was needed. The Sea King Wire Replacement Programme and Depot-Level Inspection and Repair Programmes (SKWRP/DLIR) were contracted to IMP. The work was arranged to meet the limit of having no more than seven Sea Kings in-house at IMP at any one time.

The entire CH-124A fleet went through this initial DLIR and a follow-on DLIR programme was later begun, with a maximum of three helicopters permitted in-house at any one time. Approximately five helicopters were put through the DLIR per year. The follow-on DLIR was similar to the first with some minor inspection requirement changes and new component replacements.

The initial SKWRP/DLIR and the Follow-on DLIR were carried out between 1984 and 1989. As of May 1993, all active CH-124A's had been through the DLIR and 24 had completed the Follow-on DLIR. Once more, as SKOMP affected the entire fleet, the work did not result in a change of the CH-124A designation.

Gulf War Modifications (1991)

A total of eight Sea Kings were modified for Operation FRICTION, the official name for the Canadian military participation in the 1991 Gulf War. This was an initial batch of six aircraft, followed later by two more. One of the first six, **12426**, was kept at Shearwater for additional testing and operational trials, much of which was carried out while the other five were en route to the Middle East. The Gulf-deployed aircraft were: **12404**, **12410**, **12412**, **12413**, and **12417**. The additional two were **12405** and **12438**, reportedly converted in case the deployment was extended and they had to rotate aircraft out of the theatre. The designation CH-124C was initially proposed, but higher authorities decided that the modifications were not extensive enough to warrant the change. The "Gulf mods" were later referred to as "surveillance mods" as these helicopters were used primarily by HS 423 (based in Shearwater NS) and also by HS 443 (based in Pat Bay, Victoria BC), which usually had two on hand) for such roles as anti-drug-smuggling, fisheries inspections, environmental patrols, etc

Because of the extent of the modifications to the avionics systems to meet the naval surface surveillance requirements and because the submarine threat posed by Iraq was assessed as non-existent, the ASW capabilities of the Sea Kings were removed. A FLIR system and a GPS receiver were installed to enhance surveillance and positioning capabilities

To increase survivability, these Sea Kings were equipped with:

- ◆ AN/APR-39 radar warning receiver (RWR)
- ◆ laser warning receiver (LWR)
- ◆ AN/AAR-47 passive missile-approach warning system
- ◆ AN/ALQ-144 IR jammer

- ◆ AN/ALE-39 chaff dispenser
- ◆ M130 flare dispenser
- ◆ armoured crew seats
- ◆ a 5.56 mm C9 machine gun (the Canadian version of the FN 'Minimi') in the cargo door.

Aircrew cooling vests and a radar cooling modification were also provided. To meet the need for improved capabilities in the utility role, provision was made for three additional passenger seats or a three-place litter (casualty stretcher) kit.

The CH-124B (1989)

The designation CH-124B was approved on 23 February 1989 for six Sea Kings modified to prepare the fleet for the introduction of the then-New Shipboard Aircraft (NSA), for which the EH101 was subsequently selected. The ASW version of the EH101 was designated CH-148 Petrel and an initial requirement for fifty was stated. The order was cut twice and then cancelled outright, along with that of the search and rescue version, the CH-149 Chimo, in November 1993. *(A SAR version of the EH101 was later procured and designated the CH-149 Cormorant; a variant of the Sikorsky S-92 became the CH-148 Cyclone and is now phased in to replace the CH-124 fleet. Ed.)*

The authorization for the CH-124B designation stipulated that it was not to be used until the helicopters were modified. Treasury Board approval for the programme was granted in the spring of 1989.

The CH-124B's stated purpose was to enable Sea King aircrew, maintenance personnel, and naval operations personnel to develop tactics and gain experience in passive acoustics and ship/helicopter operating procedures prior to the initial operational capability (IOC) of the CH-148. The CH-124B's operational role was to conduct ASW in support of CANTASS (CANadian Towed Array Sonar System-equipped ships, being tactically employed in the prosecution of contacts detected by CANTASS-equipped ships, the tactical plot compilation, and in general operational support such as SAR, Vertical Replenishment (acting as an supply helicopter), and transport of personnel.

Simply stated, the major difference between the CH-124A and CH-124B is that the former has active ASW avionics while the latter has passive. A prototype installation of the majority of the HELTAS (HELicopter Towed-Array System) equipment was made in **12411**, which was assigned to CFB Shearwater's Helicopter Operational Test and Evaluation Facility (HOTEF). That Sea King was lost at sea on 19 September 1989. The HELTAS Project was approved by the Programme Control Board on 1 December 1988. A contract was signed on 30 March 1990 with IMP Group for the procurement and installation of a large portion of the new equipment.

The first CH-124A, aircraft **12424**, was received by IMP on 23 October 1991 and was delivered to HOTEF on 12 June 1992 for use by that unit in operational test and evaluation (OT&E). The sixth and final CH-124B, **12437**, began conversion in October 1992 and was delivered in March 1993.

Modifications were as follows:

Removal of:

- ◆ AN/AQS-502 airborne dipping sonar system
- ◆ AN/ARR-52 sonobuoy receivers
- ◆ AN/ASN-501 tactical navigation system (TNS)

Installation of:

- ◆ CDC AN/UYS-504(4) acoustic processor
- ◆ Teledyne AN/ASN-123C TNS
- ◆ CAE AN/ASQ-504 advanced integrated MAD system (AIMS)
- ◆ two AN/ARR-75 sonobuoy receiver units
- ◆ AN/ARC-164 UHF transceiver (for DICASS operations)
- ◆ Datatape M14E tape recorder/reproducer (mission fit only)

- ◆ Airpax TD-5062/AS time code generator
- ◆ RO-32 MAD chart recorder
- ◆ stowage rack for twenty A-size sonobuoys
- ◆ radar-mounted, permanent magnet compensation apparatus to reduce radar magnetic interference with the AIMS
- ◆ relocation of the OTPI control panel to the front cockpit
- ◆ provision of a tactical information transfer capability from the acoustic processor to the TACNAV system
- ◆ magnetic degaussing of the main rotor blades

The six 'B' models were the only active CAF Sea Kings that were not designated CH-124A. The CH-124Bs are: **12401**, **12424**, **12430**, **12434**, **12437**, and **12441**. They embarked on CANTASS-fitted ships of the City class, Improved St. Laurent class, and Annapolis class with deployment schedules linked to the operational programmes of those CANTASS ships operating in the Atlantic. Tactical employment of the CH-124B for CANTASS support was reactive in nature and flying rates varied with the frequency of CANTASS contact generation.

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Chapter issues	CML@ipmscanada.com
RT	RT@ipmscanada.com
beaverTales	box626@ipmscanada.com
Webpage	box626@ipmscanada.com
Facebook	www.facebook.com/CanadaIPMS
Other topics	box626@ipmscanada.com

For those who prefer a more traditional method you can also reach us by postal mail at:

**IPMS CANADA
BOX 626, STN B
OTTAWA ON K1P 5P7
CANADA**
