

THE STYRENE SHEET



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Teeny tiny tank: the Vickers Mk. VI in 1:72

By Kent McClure

At the outbreak of World War II, Great Britain organized the British Expeditionary Force and dispatched it to France in hopes of stopping the Nazi juggernaut. Elements of the Royal

Armored Corps made up part of that expeditionary force, and it the bulk of the armor deployed to the mainland were variants of the Vickers Mk. VI light tank.

The Mk. VI light tank was the last in a long line of light tanks produced by Vickers Armstrong based on the Carden-Loyd tankettes of the 1920s. This made perfectly good sense since Vickers had purchased the

perfectly good sense since Vickers

A Vickers Mk. VIb under way during fighting in North Africa in 1941. The Mk. VI was also used in the invasion of Madagascar before passing to Home Guard units.

Carden-Loyd concern in 1928. Vickers' vision was to produce a single design that would fulfill the needs of the armored branch of the British Army and be commercially exportable. The result was the two-man Vickers Mk. I in 1929.

The Mk. I set the pattern for all of Vickers' pre-war light tank designs: Horstmann coil spring suspension with twin and single bogies and one or two return rollers, and an engine mounted in the front right side of the chassis, with the driver's position occupying the left side.

In 1930, Vickers introduced the improved Mk. IA, which featured a first for Vickers—a revolving turret. The following year saw the Mk. II, which featured a Rolls Royce powerplant. The Mk II was further modified to the Mk IIA in 1933, to be closely followed by the Mk III in 1934.

Late in 1934 saw the introduction of the six-cylinder Meadows-powered Mk IV. One could almost believe that you were looking at the auto industry, with new models appearing nearly every year, for in 1935 the Mk V was introduced. This departed from the previous designs by becoming Vickers first three-man tank.

Finally, in 1936 came the heaviest and the last of Vickers light tanks, the Mk. VI.

The Mk. VI had four basic variants: the Mk VI, VIA, VIB and VIC. The first three versions were armed with a turret-mounted

Vickers .303-inch water-cooled machine gun and a Vickers 0.5-inch heavy machine gun in a side-byside arrangement. The Mk VIC was upgunned to a BESA 15mm heavy machine gun and a BESA 7.92mm in a similar arrangement. The Mk VI featured an enlarged Mk V turret in order to accommodate a No. 7 wireless set and a hexagonal cupola. It was powered by a

six-cylinder, 88 horsepower water-cooled inline Meadows engine. Top road speed was somewhere around 35 mph.

The Mk. VIA differed from the Mk VI by changing the location of the return rollers, adopting an octagonal shaped cupola, and having two cooling louvers on the radiator. The Mk VIB featured a cylindrical cupola and a one-piece radiator louver.

The Mk. VIC did away with the cupola altogether, replacing it with a simple split hatch that opened to the front and back. The Mk. VIC also replaced the Vickers guns with a 15mm BESA heavy machine gun and a 7.92mm BESA machine gun.

As with all AFVs, the Mk. VI series had its pluses and minuses. On its plus side, the Mk. VI was an easy to maintain, reliable machine that exhibited good road speed. However, wars are not often fought on roads, which revealed one of the minuses to its design—an ineffective cross-country speed. Another of its minuses was its light defensive armor, only 14mm at its maximum.

The Mk VI also had a little quirk. It tended to "reverse steer."

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The Styrene Sheet is a monthly publication of the Silicon Valley Chapter of the International Plastic Model Society (IPMS). Articles and comments should be submitted to Chris Bucholtz, Editor, P.O. Box 361644, Milpitas, CA 95036, or by E-mail at bucholtzc@aol.com. Excerpts may be published only with the written permission of the editor.

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EDITOR'S BRIEF

People keep asking the editor when our club roster will come out. The answer is simple: when we have more than 22 members' answers to our simple poll! Response for the roster have been much less than overwhelming, so this will be our final appeal to you. Provide the following information:

- 1. Name
- 2. Are you an IPMS/USA member
- 3. Your address
- 4. Your phone number
- 5. Your e-mail address
- 6. Other chapter affiliations, if any
- 7. Your modeling interests
- 8. A modeling tip, if you'd like to share

CONTEST CALENDAR

August 11, 2002: IPMS/Central Valley Scale Modelers host their 14th Annual Scale Model Show and Contest at the Holland Elementary School Cafeteria. The theme is "WWII Pacific Theatre Operations 1941-1945." For more information, call Nick Bruno at (559) 229-3675 or Jim Cavin at (559) 584-5796.

September 7, 2002: The IPMS/Reno High Rollers present their Third Annual Model Contest at the Desert Heights Elementary School, 13948 Mt. Bismark in Reno, Nevada. The theme is "The Century Series." For more information, call Doug Summers at (775) 747-5931 or e-mail him at ghpltd@aol.com.

September 14: The Captain Michael King Smith Evergreen Aviation Institute, IPMS/Portland and IPMS/Salem present their Fifth Annual Model Contest and IPMS Region 7 Convention at the Evergreen Aviation Museum, McMinnville, Oregon. For more information, call Tony Roberts at (503) 282-2790 or e-mail him at roundelroberts@msn.com.

October 13, 2002: IPMS/Orange County hosts its annual OrangeCon in Buena Park, California. For information, call Nat Richards at (949) 631-7142 or e-mail him at richa5011@aol.com.

November 2, 2002: The Antelope Valley Group hosts Desert Classic VI and the Region 8 Regional at Antelope Valley College, 3041 W. Avenue K in Lancaster, California. The theme is "The Vietnam War, 1946-1975." For more information, call Bill Kelly at (661) 305-7902 or e-mail him at v1rotate@prodigy.net.

9. A bit of useless trivia about yourself

Send this information (or the answers to as many of the questions as you'd like to answer) to the editor, either by mail or by e-mail, at the address on the back of the newsletter. If we do not get answers from at least half of the membership, it will be determined that there really isn't any demand for a club roster and we'll shelf the whole project.

In other news, several SVSM made it to one contest this month, and several made it to two. SVSM was present in force at IPMS/Santa Rosa's contest, which was very well run and a model of organization. The site in Sebastopol was large, well-lit and easy to find if you had your flyer and map, which the IPMS/Santa Rosa club provided and which we published in the last Styrene Sheet.

The other contest of note was the last show to be held at the Planes of Fame Museum in Chino, California. A contingent went down and competed, with Robin Powell, Jim Priete and Roy Sutherland picking up awards. The reasons for this show being the last at the museum seemed as varied as the people you asked, but the most often heard reason was that the museum was going to start charging an inordinate amount for meeting space. In all, it sounds like a breakdown in communication took place that has knocked Planes of Fame, one of the most interesting places to hold a contest, off the model contest calendar.

Finally, at the meeting on Friday the editor will have three petitions for changes to the IPMS/USA constitution and bylaws that he would like to see signed by the IPMS/USA members in our club. The first is a no-brainer: it officially makes the Judges' Grand Award at the nationals the George Lee Award. The other two are more arcane: they create a new class of membership, the Cottage Industry Member, which applies to people with small hobby businesses. Currently, there is a class of membership called "Trade Membership," which applies to people "identified with the modeling trade." The original idea of this was to keep someone like the CEO of Testors from becoming IPMS president. Now, it keeps people who work in hobby shops, who write articles on modeling for pay, or who run small hobby-related companies from holding national office or being a Regional Coordinator. These parts of the constitution are routinely ignored, but someday someone will employ these vaguely-worded sections to attack an officer. Worse yet, many who would run for office don't because of the Trade Membership rules.

The proposals on the petition call for the creation of a Cottage Industry Membership and the extension of all rights to Cottage Industry Members. The signatures will help get the proposal on a ballot at the national level so the entire membership will be able to vote for it.

The IPMS/USA e-board has created its own proposal, in a clear case of closing the barn door after the horse has gotten out. It would eliminate the Trade Membership altogether. In reality, it will probably also confuse the electorate and be seen as an attempt to seem as if they are driving policy. Advice: when the time comes, vote for ALL the proposals, then watch IPMS/USA try to reconcile them. We can make IPMS/USA better, but only if we members take charge from certain folks.

—The Editor

This June, you are cordially invited to



The SVSM Pet Show

Any model named for a dog (F-86D Sabre Dog, M41 Walker Bulldog, Sopwith Pup) or a cat (F4F Wildcat, SdKfz 234/2 Puma, H.M.S. Leopard) qualifies. Leash laws will be waived for this contest!

At the June Meeting

Detailing Dynavector's 1:48 two-seat Sea Hornet

By Robin Powell

The Dynavector Sea Hornet kit closely follows the original Hornet release in the layout of the parts and the construction. While the first kit was tooled as an F.3, conversion parts are included to make an F.1. The Sea Hornet kit is tooled as the two

seat FAW.22 while including conversion parts to build the single-seat versions. Instead of the alternative tail group provided in the first kit for the F.1, alternative parts are included to make the single-seat Sea Hornet F.20, these being the short nose and the unfaired exhaust stacks. I elected to build this kit as the two-seater.

Two stout sheets of plastic carry the main parts. These display the fine and delicate sur- Fleet Air Arm. face detail for which

Dynavector has rightfully become well-known. The scribed detail on the engine nacelle mouldings is particularly noteworthy. Initial parts preparation is, as usual with this manufacturer, straightforward and rapid. All the cutting points are clearly marked and can be trusted to result in a seamless fit. A couple of hours is all this task requires.

I know of some who question the accuracy of the internal fittings included, and for those I offer some scrap styrene. I used the metal and plastic cockpit and observer station parts

and found both offices nicely filled. Only seat belt harnesses from the spares box were required. I used sections of cushions from a Cooper Details Spitfire seat along with the associated etched belts to dress mine up. I painted the interior in a dark grey and then gave the details a black wash to pop out some depth before highlighting the various knobs and switches with white and pale grey.

I used the kit's white

metal instrument panel, painting the dials black and then using a needle to scribe faces onto each instrument. I then filled them with Humbrol Clearfix. I find this to be quite effective in bringing metal instrument panels to life.

The kit instructions include some useful tips such as dropping stiffening spars into the fuselage and laying extra straps spanwise inside the wing halves. These are great for beefing up the basic structure and are practices which I have since implemented on other vacforms with equal success. Closing up the fuselage,

I found no misalignment of panel lines across the join and, after bonding them with a bead of Tenax, I cleaned the panel lines across the join by pushing a P-Cutter along them. gine nacelles is simpler than on the single-seaters, as no holes need to be cut for the exhaust stacks, the baffled night-fighter stacks mounting on the outside of each nacelle.

A Sea Hornet NF.21 in flight. A total of 78 of these aircraft were delivered to the

then trimming out a vacformed shroud to fit over the top. This does allow for the open intake at the front of the shroud and convincing openings at the lower rear, though the original spent gas exited through slots in the shroud. This effect can be represented by blending the crests of each metal gill into the shroud where it touches by using a drop of thick superglue and filing it flush once it has set.

I followed the recommendations in fitting the engine nacelles to the lower wing before joining the upper and lower

wings together. As on the Hornet kit, this results in a joint requiring no filling and ensures the correct curve to the lower wing surface. It does, however, make the fitting of a forward wall to the wheel well trickier. The kit includes no moulded parts for this, so if you are one who enjoys staring into wheel wells, this job is up to you.

Preparation of the en-

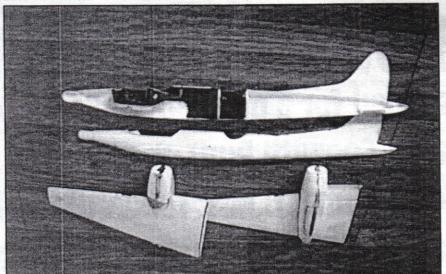
The exhausts are made by

fitting a gill-like metal

casting in position and

The only difficulty I found on the Hornet kit was the fit of the metal radiators and the wing leading edge root at the fuselage. The new kit has

received some re-tooling in this area and now the kit radiators fit just fine. After test fitting everything, I glued the tops onto the wings before cutting open the radiator intakes. Cutting them out to the moulded lines gave the characteristic eyebrow



Robin's Sea Hornet after being cut from the carrier. Dynavector's engineering makes this much easier than the typical vacuform kit.



Robin's model just after painting. Careful masking was required to duplicate the FAA Extra Dark Sea Gray-over-Sky scheme.

dihedral look to the openings and I then fitted the radiator fronts through the inboard ends, taking care not to spread the upper and lower halves apart. The wing thickness now matched the moulded ledge on the fuselage sides. I used a simple jig to hold the wingtips at the right height off the bench and ran Tenax into the joint. A little Gunze Sangyo Mr. Surfacer was all I needed to remove signs of this joint.

The tailplanes required me to cut, sand, glue, align and add

a little filler to blend them into the fuselage. Three points on the model need sharpening up, these being the sharp upper corners on both the nacelle rears where they blend into the upper wing trailing edge surface and where the rear fuselage does a similar act with the tailplane. The instructions recommend gluing solid plastic to the corners and then blending, but I preferred to lay a bead of thick superglue along the corners and dress this to shape. I find that the job is made easier by the hardness of the cured superglue and it is easy to add more if the first application proves insufficient. It also allows any required filling of the rest of these joints to be carried out at the same time.

Having trimmed the clear parts out (a spare set is included), I fixed them in place with 5-minute epoxy. Allowing a bead of this to "squidge" slightly allows the glue to fill any imperfection in the join and the excess is easily trimmed flush once dry using a curved scalpel. This is particularly important on the rear observer's blister where there is little in the way of framing to add to hide the seam later.

days had passed since I started cutting plastic. This kit is just like the Hornet kit in that building it is almost ridiculously easy and I was again surprised how soon I was reaching for the airbrush. I masked off the canopies with Bare-Metal foil and gave the model a light coat of Halfords primer. A few points needed a quick touch up before I applied a coat of Sky. I decided to try Tamiya paint on this model. The Tamiya colours are way off, their Sky being no exception, but it sprays beautifully and it allows washes with enamels later without much fear of damaging the main colour coat. I mixed and mixed until I had some paint that seemed to match my Xtracolor stocks, and gave the model two good coats. I then did the same with the Extra Dark Sea Grey, using automotive plastic masking tape to mark the razor sharp demarcation lines.

After removing the masking I found some areas over the engine exhaust where the masking was not quite straight and I had suffered a little bleed-under. After some more masking and more Sky, it looked good. This kind of touch up is easily done with Tamiya paint because of the speed of drying and the thinness and opacity of each coat.

After allowing a day for the paint to dry good and hard, I washed the panel lines with charcoal enamel. As the panel lines are so cleanly executed on this kit, a light wash is all that



The first production NF.21 in its original aluminum lacquer finish. The Sea Hornet was the Royal I was ready for some paint. Not many Navy's standard carrier-based night fighter until 1954.

is required for the model to develop real shape. The exercise of rubbing off the excess actually burnished the *Tamiya* paint to a satin finish so that only a light coat of Future was needed to give a good decal ready surface.

The kit decals are great. Printed by Fantasy Printshop, they once again proved that very thin decals can give you an opaque white. The big D-type roundels positively glowed on the dark grey mainplanes. The serials and squadron markings were all pinsharp and everything was in good

e white. The ype roundels ely glowed on k grey main. The serials addron mark-vere all pinand every
Finished and resting on the "tarmac" in Robin's backyard, the Dynavector Sea Hornet captures the graceful lines of the original. Sadly, no Sea Hornets survive today.

register. The kit provides one option for the FAW.22 and two for F.20s. Having removed the canopy masking, I added windscreen framing from pre-painted decal strip.

The undercarriage parts are identical to those in the *Hornet* kit and look just as good in this one. However, I did jig the assembled main legs with more of a forward rake by adding plastic stock to the rear uprights to more closely match the stance of the real thing. The tailwheel is okay, but does lack the anti-shimmy tyre shape.

The A-frame arrestor hook is a metal casting which fits

externally on the lower fuselage. I added a pitot tube from brass wire fitted in a drilled hole. The propeller blades, spinners and backplates are again the same as the *Hornet* kit, cleverly handed to avoid mixing the parts of the counter rotating assemblies. The kit decal sheet provides stencils for the blades but I saw no sign of them in my pictures of the original so I left these off.

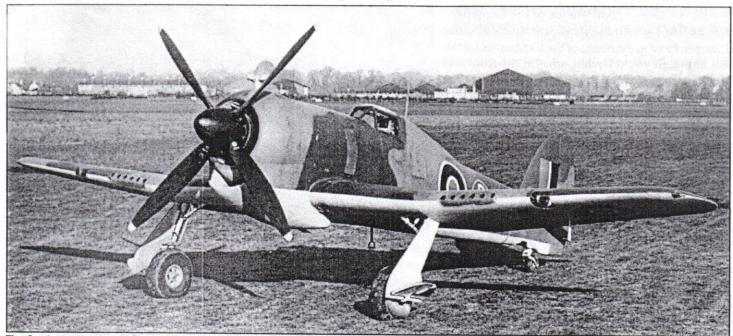
My references seem to show *Sea Hornets* in a very flat finish, so after re-masking the clear parts I gave the model a coat of *Humbrol* Matt Kote, after which I sprayed fine lines of Satin

Kote over the panel lines on the wing and wing fold areas. This gives an extra depth effect without actually changing the colour. A little weathering and the model was complete.

This really is an easy build. There is nothing complex to do to make a fine replica of this wonderful aeroplane and you can spend all your time adding detail rather than fixing fits and joints. A series of these models can be made as easily as, say, a series of Hasegawa Phantoms. I intend to add a Hornet F.1 and a prototype Sea Hornet F.20 to the two I now have built. These kits really are vacforms that build themselves without fuss or drama, resulting in delicate, detailed and accurate models. My thanks go to Dynavector for supplying this very fine kit.



The well-done decals and the rear of the nacelle are shown off in this shot. Also apparent is Robin's subtle panel line wash.



The Centaurus-powered Tornado in 1942 after a re-design of the cowling and exhaust system. The plane was scrapped in the spring of 1944.

Kit-bashing the benighted Hawker Tornado in 1:72

By Mark Schynert

The Hawker Typhoon and Tornado were twins in their development, sharing most airframe features initially and being distinguished primarily by their engines. The Typhoon was fortunate enough to get the Napier Sabre, a troublesome 24-cylinder liquid-cooled engine with tremendous potential that eventually got the bugs pounded out of it and gave good service, both with the Typhoon and its later sibling, the Tempest V. The Tornado drew another troublesome 24-cylinder liquidcooled engine with enormous potential, the Rolls-Royce Vulture, but Rolls-Royce didn't have the engineering personnel to debug the Vulture, continue the development of their very successful Merlin series, and also complete the development of their even better Griffon. Add to this the Air Ministry's desire to minimize the number of engine types in production, and the dismal performance of the Vulture as the engine for the Avro Manchester, and it then comes as no surprise that Vulture production was cancelled just about the time the first (and only) production Tornado rolled off the assembly line.

The ironic thing is that the Vulture may simply have been the kind of engine that was all wrong for a heavily laden twinengined bomber, yet just fine for a fighter. Certainly, it performed flawlessly in the *Tornado* prototypes and one production example. In any event, Hawker and the Air Ministry were left with a supply of *Tornado* components and no engine to go with them.

Before the Vulture was cancelled, the Air Ministry had ordered a third prototype *Tornado*, to be powered by yet another engine with immense potential, the Bristol Centaurus, an 18-cylinder sleeve-valve radial. Using a standard *Tornado* aft fuselage and wings, combined with a new forward fuselage to take the Centaurus, this prototype, HG 641, first flew in October of 1941. It was good enough that a preproduction order for six aircraft was placed a few months later. Meanwhile, HG 641's engine installation was completely redesigned, generating a significant increase in per-

formance when it flew again in November of 1942. However, by this time, everyone had come to realize that the limiting factor in *Typhoon* development was the very thick wing; the *Typhoon* II design, later to become the *Tempest*, had a completely redesigned, much thinner aerofoil. The *Tornado's* wing, identical to the *Typhoon's*, was obsolete. The pre-production order was cancelled, and the sole Centaurus *Tornado* spent the rest of its service life as an engine test-bed, serving to pave the way for the *Tempest* II and *Sea Fury*.

Of all of Hawker's WWII and immediate post-war fighters, the Centaurus *Tornado* has long been my favorite, just acing out the *Sea Fury*. I didn't expect to have a chance to model it, but I hadn't counted on *Maintrack* putting out a 1:72 conversion kit. The base kit is supposed to be the *Airfix Typhoon*, of all things, as *Maintrack* supplies only the fuselage (a block of resin weighing at least four ounces), resin propeller, and vacuformed canopy/fairing. However, the *Airfix* kit is ancient, offering little more than perhaps correctly-shaped wings and tail planes, and I'm not even sure about that. I got rid of my *Airfix* kit quite a while ago.

What I did have was an Aviation Usk car-door Typhoon, a partially parted-out Heller Hawker Tempest, and an Obscureco Tempest cockpit set. The Av Usk kit is early-MPM quality, including the same dark brown, really hard styrene. It would be a rough build in its own right, though it's got some nice engraved detail and the shape is pretty good, once you get past the flash and the fissures that pass for seams. The small parts are less than exciting, but usable with clean up. Fortunately, most of the small parts are the same in the Heller Tempest, or else are replaced by the Obscureco set. Unfortunately, the prior parting out of the Tempest meant that the landing gear legs for that kit were long gone, which left me to either scratch-build them, rely on the Av Usk pieces, or adapt a pair from a parted-out Frog Tempest. I decided to give the Av Usk pieces a go.

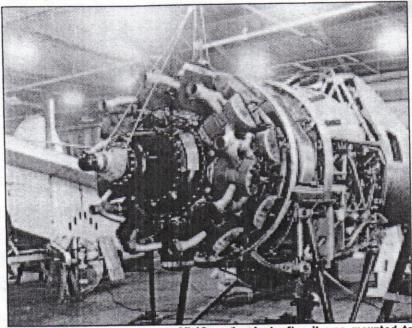
The best reference I've seen on the Tornado is in Wings of

Fame #19, with some good photos of the Centaurus prototype. The Typhoon and Tempest Story, by Thomas and Shores, has a great photo of the Centaurus installation, although you'd have to saw off the front end of the resin fuselage and engage in a lot of scratch-building to take full benefit of this.

The resin pieces needed a fair amount of clean-up; the mold lines wandered over the fuselage, as if the mold had been pieced together before pouring the resin. Additionally, there were a couple of small voids. I filled the voids with superglue and sanded them smooth. Likewise, I sanded out the mold lines. The ventral surface of the cowling was also slightly asymmetric, requiring some gentle sanding to reshape. The prop had mold lines, two crevices, flash, and a lump or two at the blade tips; this was very delicate work to correct, because I was scared to death that I'd break off one or more of the brittle-looking blades. All went well, though. Clean up on this was followed by a coat of black paint, then it was set aside.

As I was involved in the clean-up of the resin defects, I realized that the cockpit area provided was really tiny. Obscureco provided a lot of components that were simply not going to fit; I concluded that I could install the seat, stick and maybe the rudder pedals, but I'd have to scratch-build sidewall detail, for which there was hardly any room, and I'd have to come up with an alternative for the instrument panel; cutting the Obscureco piece into little bits didn't appeal at all. Instead, I cut the Av Usk panel in three and wedged it into place. The top of the Av Usk armor plate was cut off and attached behind the cockpit hole, with the turnover brace. I also painted the hole with British interior grey green, the standard for early-war Hawker fighters. I left the rest of the cockpit work for a little later.

The Av Usk tail planes went on with almost no modification. I did have to cut away some of the plastic to get it to match the



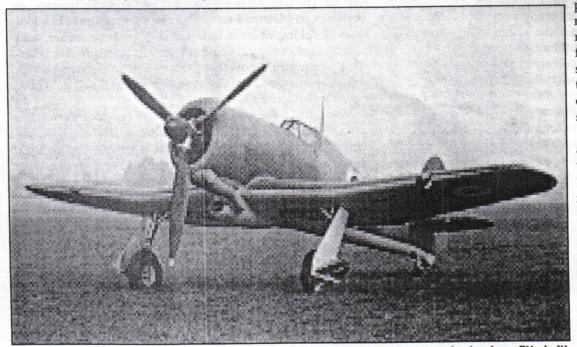
A 2120-horsepower Centaurus CE.4S engine just after it was mounted to Tornado HG 641.

resin receiving surfaces, but there wasn't much thickness problem, and the seams were easy to fill and sand out. I dry-fitted one of the *Av Usk* wings together, and held it up to the resin fuselage's wing root. The wing was way too thick. Or, more accurately, the root was a lot smaller in depth than the wing. Which is closer to correct (if either?) I don't know, but I do know I wanted the wing and the root to match. So began the wing modification marathon.

I glued the top and bottom of the port Av Usk wing together. This kit's subject was late enough in the production run that it had 4 20mm cannon instead of the 12 .303 machine guns of the first run of *Typhoons* and putative *Tornados*. HG 641 (of course) had the 12 .303s. So I filled the leading edge indentations intended to take the cannon barrels, and also ground off the small bulge on the top surface of the wing that covered

part of the cannon mechanism. The underside cannon shell ejector slots got filled, too. There were also some seam problems with the leading and trailing edges that I filled and sanded out as well.

The landing gear door arrangement of HG641 is weird. It shares with the *Typhoon* prototypes (but not any of the *Tornados*) "daisy-cutter" auxiliary doors attached directly to the lower end of the main doors, so that they are parallel to the ground when the gear is extended. Not only do these have to be scratchbuilt, but the wheel wells have to be reshaped to take this into account.



A view of the Centaurus-powered Tornado as it originally appeared. The Centaurus engine has been fitted with a conventional front exhaust collector ring and a combined fairing for the carburetor intakes and oil cooler.

After making the daisy-cutter doors out of sheet styrene, I used then as templates to cut the auxiliary doors from the *Av Usk* kit to act as an anchor and guide for filling the root edge of the wells to conform to the different dimensions. I placed the guide and glued it in, then filled with superglue and microballoons to build it up until it was even with the lower surface of the wing.

I now began to sand away the bottom of the inner section of the port wing. Making sure the top fit on each test fit, I kept sanding for quite a while, eventually sanding through the underwing plastic just ahead of the landing gear well at about the point that the thickness of the wing finally matched the wing root. I filled this blemish and sanded it out, though I had to retouch it four more times because the plastic in that area was now so thin. Then I rescribed everything that had been obliterated, relying on the pattern of the other wing.

The starboard wing only took a fraction of the time the port wing did, probably because I was familiar with the process now. Another problem presented itself, though. The starboard wing root on the resin fuselage was not symmetrical with the port one, meaning that, absent modification, a wing attached to this root would have several degrees of forward sweep, something not true of the other wing root. I filed the aft root on the fuselage down, eliminating the potential sweep.

I soon got both wings on with superglue, managing to align them to each other and the wing roots well enough that it didn't look wrong to me, but the dihedral sure looked wrong. The *Av Usk* wings were cranked too much. The outer panels had dihedral simply not evident in drawings and photos of the *Typhoon*, although the relationship between the fuselage and the inner panels looked about right. In fact, one wing seemed to have a touch more dihedral in the outboard panel than the other (thanks to Robin Powell for pointing it out), a subtle defect with the *Av Usk* kit.

The solution was to cut through the bottom of the wing with a razor saw so the wing could be bent down at the crank to flatten the angle a bit. I identified the correct location for these cuts and lined up a piece of Dymo tape to act as a guide for my Zona saw.

Proceeding gently, I sawed through the bottom half of the wings and up through most of the leading edge of the top wing, the depth of the cut dictated by the thickness of the wing and the hard Czech plastic. I then shot glue into each cut in turn and held it to the correct dihedral until the superglue had solidified. Though I rescribed the area, the subsequent sanding wiped out most of this, so I now had rather a lot of rescribing to do, although the cut lines themselves neatly fell along panel lines.

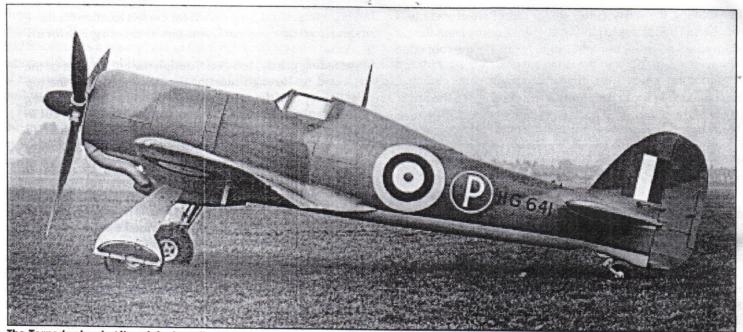
And suddenly, the worst was over. The rescribing was neither tedious nor difficult, as I combined the use of a *Bare Metal* scribing tool with Dymo tape guidelines for most of it. I did free-hand scribe a few small details. This dealt with, I detailed the wheel wells with .020 x .030 *Evergreen* styrene strip, using the *Academy Typhoon* as a guide. This was slow work, but not particularly difficult, requiring fifteen pieces of strip for each well, some of them only about 1mm on a side. The trick was to put the long spanwise strips in first, then the small bits to fill in with the chord-wise strips. In retrospect, .010 x .020 strip might have been a better scale match, though it would have been still harder to work with it. I also drilled a hole to take the *Heller* tail wheel.

The *Heller* main gear doors and the scratchbuilt daisycutters were now mated, and hinges added; although these pieces were not going to go on for quite a while, they needed to be given the same underside paint treatment as the airframe, so I decided to airbrush them at the same time.

It was now time to prime the aircraft. I rarely prime any more, but I needed to here for three reasons. First, the beige resin presented a dramatic contrast with the dark brown styrene. Second, the vast areas of fill with superglue and microballoons were hard to vet for scratches or defects without a uniform light color. Third, the entire underside of the



The Tornado achieved a top speed of 402 mph, but the thick wing employed didn't allow it room for improvement, just as in the case of its stablemate, the Typhoon.



The Tornado showing its original cowling design. This arrangement, although aerodynamically clean, demonstrated unacceptable vibration problems when it was test flown on Oct. 23, 1941.

Tornado was yellow, befitting a prototype of unusual shape (as in, AA gunners, don't shoot at me!) and thus needed a white undercoat. My choice of primer was Tamiya acrylic white, because it gives very good coverage, and would be compatible with Tamiya acrylic yellow as the underside color.

The white undercoat went on, and revealed some defects, including a number of tiny pits in the resin under the engine. These were too tiny to easily resolve with superglue, so I applied *Dr. Microtools* putty to them and sanded out the area. Some of the other defects were more substantial, especially around wing and stabilizer roots; these were attacked with superglue and microballoons.

Once this episode of seam eradication was done, I applied another primer coat. Next, I painted the wheel wells and the insides of the main gear doors with *Humbrol* Aluminium. Masking the wells off, I then moved directly to the yellow underside color. It took two coats, with a few more defects surfacing between coats, but I had a yellow underside only a blind AA gunner could fail to see.

The Tornado did not have tail wheel doors, though the wheel did retract. With that in mind, I drilled out the tailwheel well with my Dremel and a 1/8" cutting tool, then painted the recess aluminum. I attempted to drill the 12.303 gun ports (six per wing leading edge), but despite my best effort to get spacing and alignment right, they looked completely out of alignment, so I filled the whole bunch with superglue, sanded them smooth, and resolved the problem later by using decals for the gun ports.

It was now time to add the *Obscureco* components, which I had previously painted according to the instructions. The seat went in first; I concluded there was no point putting anything on the sidewalls; the seat hardly fit as it was. I added the stick and the gun sight next. I concluded the rudder pedals would be invisible, not to mention they wouldn't fit, so I passed on them.

Before painting the topside colors, I attached the vacuform canopy, as this is solid aft of the "car door" area and needs to blended in. I coated it with Future acrylic floor coating first.

Once dry, I attached it using Alene's Jewel-It fabric-gem adhesive. After that cured, I blended the edges aft of the car door into the fuselage using superglue and microballoons. I masked off the part of the canopy that was to remain clear, and added the antenna on top of the overturn structure.

The top scheme was the classic early RAF pattern of Dark Earth and Dark Green. I started with an overall coat of *Polly Scale* Dark Green, then masked off the areas to remain green, and shot *Polly Scale* Dark Earth. Apart from the time spent masking, this was very quick work. I added some dark washes behind the cowling gills, in the ventral waste gate, and in the main wheel wells.

An overall coat of Future prepped the airframe for decals. The conversion comes with no decals, but the *Av Usk* decals are nice, and fill the bill except for the circle-P markings (I got them from an *Almark* sheet), the serial (I pieced this together) and a very narrow band around the aft fuselage. Because of its contrast to the yellow underside and the other known colors, I believe this band was Sky, so that's what I used. I also used strips of decal to outline the framing for the cockpit canopy, and black dots to simulate the .303 gun ports in the wings. The decals were applied, and then overcoated with Future and with a coat of *Polly Scale* flat.

Next up was the landing gear. I used *Heller Tempest* wheels (four spokes instead of the correct five, but I was in a mood to compromise at this point) attached to the *Av Usk* wheel legs, with the retraction arms coming (slightly modified) from an *Airwaves* photo-etch set for the English Electric *Lightning*. The landing gear doors went on next, followed by the tail wheel, propeller, landing step and pitot. The very last step was to paint on the wing tip navigation lights and the yellow tips for the propellers. I decided not to add the landing lamps in each wing.

This is a classic example of a project that looked a lot tougher than it actually was. Even after making a number of mistakes, I was able to recover every time. So I guess the moral, if there is one, is to take a chance or two in this hobby; you might surprise yourself.

Too light, too small, too slow: Vickers Mk. VI

Continued from page 1

That is to say, that if you tried to steer it downhill on engine overrun (disengaging the drive to one of the tracks by way of the steering clutch), the weight of the tank swung the free

trackround towards the one still engaged. This resulted in the tank going the opposite direction of where you wanted it to go. As a result, drivers had to always steer with the engine pulling.

By 1940s standards, the Mk VI was already past its prime, the armor being far too light. But that did not stop its deployment in the British Army, mainly in the reconnaissance role. In service with the BEF in France, there were more than twice as many Mk. VIs as the next make of armor (342 Mk. VI variants versus 150 Cruiser tanks). In Egypt, The Mk. VI fought against Rommel's Afrika Korps. A few were even converted to mobile artillery observation posts. Some Mk. VIs found their way to Persia and Malta. In fact, it was one of the Maltabased Mk. VICs that

sand-colored tank that had dark brown lines running all over it to give the impression of dried, cracked mud.

So how does the Mk. VI stack up against its contemporaries? Well, the following chart should give you enough clinical data to judge for yourself:

Up until a few years ago, there was no injection-molded kit of any version of the Vickers Mk. VI available. But then a new company based in Great Britain called *J.B. Models* introduced their kit in 1:76 (the true modeler's!). This gem of a little kit allows you to produce either the A, B or C version. There are two things that strike you as soon as you pick up the box. First, it is very light. In fact you might even wonder if quality control screwed up and forgot to put anything inside of it. Second is the price; it's under \$7. This is a nice bonus considering that *Fujimi* is asking a double digit figure for their small scale armor kits and a new *Revell* model is in the \$10 range.

The kit includes two sprues of light grey plastic holding 33 pieces. The plastic that J.B. uses is fairly good—not brittle, but

not so soft that it fuzzes when you are working with it.

The instruction sheet is a fairly simple affair. The front page gives you a brief history and some specs on the vehicle and, surprisingly, it's in a text font that is large enough that you can



first got me interested A Vickers Mk. VIC on aerodrome defense duty in England, 1941. The Mk. VIC had 7.92 in this tank. It was a and 15mm BESA machine guns and larger, improved tracks and suspension.

read it without eye strain. The inside portion of the instructions is the actual assembly step. This consists of three major blocks with exploded diagrams showing where everything goes. The variantspecific parts are marked with a "question mark in a box" symbol indicating that you have to make a decision. The last page of the instruction is the color scheme and markings information—two BEF vehicles from 1940 and a 3rd Battalion Royal Tank Regiment vehicle based at Lydd in 1938. J.B. utilizes a single set of drawings with callouts to indicate where the markings should go, while a matrix tells you which decalgoes for which tank.

The actual construction of the kit is fairly straightforward. The hull itself is four parts: top, bottom and two sides. These went to-

gether well with the barest use of Milliput (my favorite filler) to fill in any seams. Add to that you choice of engine louver and a taillight assembly and you've finished the first assembly stage.

The turret is a single piece with a separate baseplate, your choice of weapons and the appropriate gun mantlets, your choice of cupolas/hatches, a radio antenna, a small searchlight, smoke dischargers and a strange triangular bump that the smoke dischargers sit on. These bumps gave me the most trouble, since there are no location marks to indicate exactly where on the turrets they should go. I had to look at whatever photos and drawings that I had on hand to give it a good educated guess. They also strike me as being a bit oversized, but I can live with it.

The guns were drilled out and so was the searchlight. My original intention was to put a *MV* lens in it or one of my 1:43 headlight/marker lights. During the painting phase, I totally forgot about it, only to remember the day before the contest.

I was too tired to go searching for the right part, so out came some silver paint and Krystal Klear.

The finally assembly stage consists of all the remaining fiddly bits: fenders, storage boxes, etc. Oh, yes, and the two track assemblies. Because the running gear is rather delicate and the fact that the track itself has a distinctive sag to it, J.B. Models molded it as a

single entity. The only thing that you have to add is the two torsion arms to the bogies. This might bother some purists, but it's quite common to see the tracks and bogies molded as a single unit in resin and white metal kits. So for me, there was no heartburn.

Once completed, the model was given a quick bath in lukewarm soapy water to prep it for painting. The paints of choice were a combination of old Polly S and their newer Polly Scale brethren. One of the biggest pluses to the old Polly S

paints was that it was formulated in such a manner that it was very hand-brushable and left virtually no streak marks. True, it did need a little extra attention to airbrush, but it was workable. From what I hear, the new Polly Scale stuff is a great deal amenable airbrushing. However, its hand-brushability leaves something to be desired. What I used to be able to cover in a single coat of Polly Snow takes four or five coats of Polly Scale, and it tends to leave some brush marks.

I was able to gleam quite a bit of information on BEF markings from the Squadron publication "Blitzkrieg." Based on what I read, I dehicle from the East Riding 1939; all but six were lost.

Yeomanry, mainly because it didn't have fancy unit markings. The color scheme that I chose was the two tone G3 Khaki Green/G4 Dark Green scheme that was the BEF's Standard camouflage. I used Polly Scale RLM 83 Light Green and Polly Scale RLM 73 Green to replicate the basic colors. After the basic scheme reached a level of coverage that I liked, I set the model aside for 24 hours. I then applied a wash of flat black to the entire thing and let it dry for another 24 hours. A series of lighter-colored drybrushing ensued until I was satisfied with

Contemporaries of the Mk VI

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Vehicle (country)	Max Armor	Speed (mph)	Range (miles)	Armament	
Mk VI (UK)	14mm	35	130	15in HMG, 1303in MG	17
Renault R.35 (Fr)	45mm	12.5	87	1-37 mm, 1-7.5 mm MG	
Hotchkiss H.35 (Fr)	34mm	17.5	81	1-37 mm, 1-7.5 mm MG	
Hotchkiss H.39 (Fr)	40mm	22.5	93	1-37 mm, 1-7.5 mm MG	
7TP (Poland)	40mm	20	100	1-37 mm, 2-7.92 mm MG	
T-26 (USSR)	25mm	17.5	140	1-45 mm, 1-7.92 mm MG	
M2A3 (USA)	25.4mm	37	70	1-37 mm, 430in MG	
M3 (USA)	51mm	36	60	1-27 mm, 2 to 4 .30in MG	
Pz IB (Germany)	15mm	25	125	2-7.92 mm MG	
Pz II (Germany)	30mm	25	90	1-20 mm, 1-7.92 mm MG	
L6/40 (It)	30mm	26	125	1-20mm, 1-8 mm MG	
Type 95 light (Jp)	12mm	28	155	1-37mm, 2-6.5 mm MG	

the results.

I then applied what few decals were appropriate to my vehicle. This mainly consisted of a white square on the lower front and rear hull as well as on the side of the hull near the rear. This white square was an Army identification insignia adopted by the BEF. One tidbit that I picked up from the book was that most of the tankers felt that this identification marking was too tempting of a target for German gunners. As a result, the tankers would take some of France's finest mud

> and smear it over the squares as soon as possible. I duplicated this by smearing some red mud-colored paint over the decal after it had dried. The vehicle was further weathered with some pastels. The final touch was to add a canvas roll in the rear storage

How does this kit scale out? The prototype vehicle measures out to 12' 11 1/2" (4.04 m) long, 6' 9" (2.08 m) wide and 7' 3 1/2" (2.26 m) high. That calculates out to 2.05" (53.2mm), 1.07" (27.4 mm) and 1.15" (29.7mm), respectively. Using both normal and metric rulers, plus the trustworthy Mark I eyeball, I measured the kit out to 2.06" (53mm), 1.06" (28mm) and 1.12" (29mm). As far as I'm concerned, that's close

enough. It also underscores another plus for doing smallscale armor. Unless the manufacturer really botches up his measurements, most kits are easily in the "close enough range" to be acceptable.

I ended up with a cute little piece of armor to add to my collection. The kit was such a pleasant one to build that I will probably buy two more to make a North African -B version and a Maltese based -C. Hopefully, all of the other J.B. Models are just as sweet.



cided to do the kit as a ve- A Mk. VIB on the Bovington training area. 550 Mk. VIs went to France in

Improving Pitroad's already awesome Akashi

By Sami Arim

In the late 1930s, the Japanese Navy finally responded to a problem that its officers had been discussing for a long time: the need for a repair ship that could travel where it was needed and provide basic support at the many far-flung

locations that were envisioned as Japanese bases in the future.

The answer to this was only partially solved when the *Akashi* was ordered. At the time, *Akashi* was the only newly built repair ship deemed necessary. Her keel was laid down in Sasebo dockyard in 1937, she was launched June 29, 1938, and she was completed on July 31, 1939. In the same year, she was admitted into the Union Fleet.

Akashi resembled contemporary British submarine depot ships, but was diesel-engined, with two exhaust stacks, and was flush-decked, with a much lower profile. At about 10,000 tons, she was 507 feet long at the waterline, with a beam of 67 feet. For main armament, she had two 127mm (5-inch) antiaircraft guns. The fore stack was for her repair facilities only. Five large cranes were arranged fore and aft to transfer repair parts and to aid in replenishment. She had "universal class" ability as

a repair ship at the time, with a machine shop, assembly plant and other shops for castings, forging, welding, copper working and woodworking. She was also equipped with a tool room and a blueprint room. In March 1944, she was sunk by U.S. forces at Palau.

Repair ships of WWII have been some of the missing heroes

of the war in kit form. Thanks to the resin cottage industry, some of these warships are finally available. For example, the Vestal, the U.S. repair ship which was next to battleship Arizona at Pearl Harbor, is available in 1:700 and 1:350 in resin.

About 12 years ago, around the time Japanese resin kits

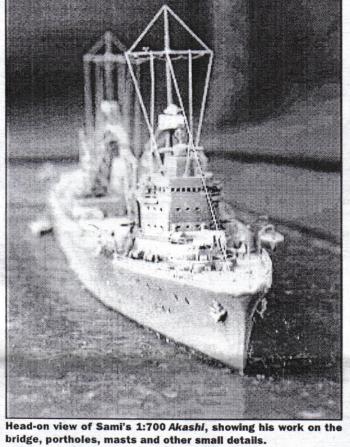
started to appear here in the States, Waveline produced a resin kit of Akashi in 1:700. Idon't know the quality of the kit, because it never made it to the U.S. By the time Pacific Front Hobbies started importing the resin kits from Japan, the Akashi kit was out of production. The main reason for this was that the parent company of Waveline, Skywave/Pitroad, decided to develop an injected molded kit of the Akashi.

The Pitroad kit of Akashi in 1:700 should be regarded as one of the best warship kits available. It is wonderfully detailed, simple to assemble and straightforward. The only decision I had to make was to choose which photoetched parts would replace all those cranes on the deck. Tom's Modelworks and Gold Medal Models both have very detailed sets for IJN auxiliary ship kits. I used both sets for different parts.

To start my improvements to the model, I cut off the molded bridge windows and 17m

pinnace's windows and replaced them with photo-etch framing. After the model was completed, I filled the empty photoetched frames with Micro Krystal Klear to achieve the realistic window glass look. I re-drilled all the portholes and at the end filled them with Micro Krystal Klear as well.

I cut off the 12.7 mm gun barrels and replaced them with



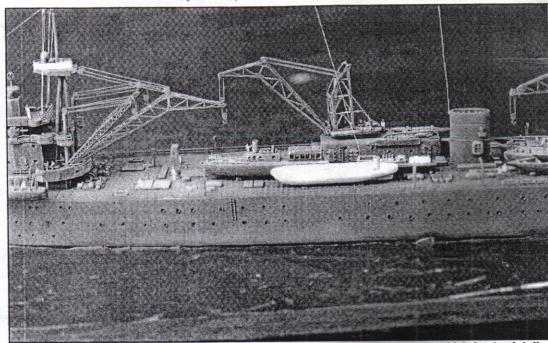
The real Akashi underway, with her cranes and booms stowed. Note the two widely-spaced funnels; one served her repair facilities.

fine brass tubing. All the boat davits were replaced with brass wire and completed with photoetched rigging. I tossed away all the plastic masts and fabricated new masts with brass rod. I also fabricated fore and aft flag posts with thin brass rod.

I cut off two ship's boat's funnels and replaced them with fine brass tubing and left them unpainted to give them the realistic brass look. I further improved a couple of parts with brass rods. All the cranes, fittings, crane rigging, hooks, railings, yardarms, radars and a couple other details were replaced with photoetched parts. The flag came from Duane Fowler's set.

Weathering was done in a particular order to achieve what I wanted. Once I painted the model and waited for few days for the paint to dry, I sprayed the whole model with Future floor polish. I waited another couple of days for the Future to dry and applied a black wash with turpentine to give the model an overall dirty look. With glossy, water-based Future under it, the turpentine flows really nicely on the model and won't attack the Future.

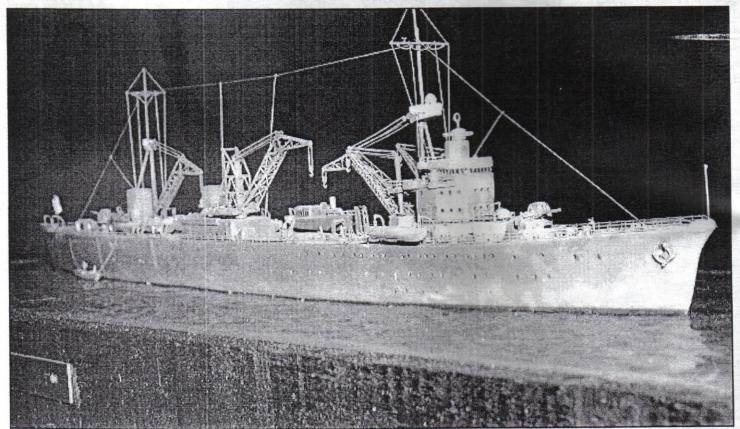
Turpentine takes a long time to dry, so I had to be patient for a week. This point is the best time to apply rust streaks with



This detail shot shows the intricate cranes, made from photoetched brass, and the ship's boats, detailed using brass amd mounted on scratchbuilt davits made from brass wire.

pastels, because the turpentine will help you apply very small amounts on this small-scale model. I feathered the pastel rust application with a wash of Windex thinned with water to keep the weathering in control. It is very easy to overdo the weathering in this scale. As a final coat I applied a mix of future with *Tamiya* flat base.

Akashi might not have the gracious lines of a battleship or a heavy cruiser, but she definitely has her own eye appeal. I like to look at my model on the shelf very much.



An overall view of Sami's Akashi. This model won several contest awards and was Model of the Month at an SVSM meeting earlier this year.

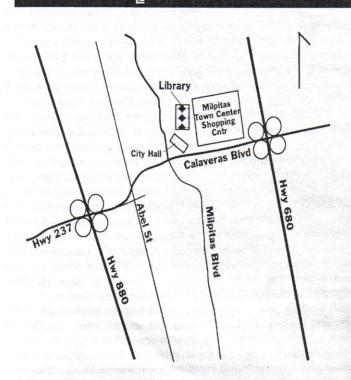
MAYMINUTES

At the May meeting, we were again reminded that June will be our "Pet Show" contest, with all dog or cat-themed named subjects being eligible to win.

In model talk... First-time visitor Joe Bauer brought in a Quickskins resin model of the Ford Probe GT that won at Laguna Seca in 1995. The model is a prototype for a coming prodution version of this kit. Eric McClure says that building his Tamiya 1:35 Jeep was remarkably easy, but now his building has slowed down because he's having trouble deciding what to put in it, how to arm it and other detail details. Eric may soon have a Sherman to join forces with his jeep, judging from the Cheasapeake Model Designs turret he brought in. The turret represents an post-war/Korean War-era tank, and it comes with a metal barrel. Sami Arim is a whiz with the pen, as his drawings of the Italian warships Pola and Vittorio Venato show; his pen also helped him create the original art for some amazing 1:1250 photoetched parts for steamships and sailing ships. Robin Powell is also out to sea, building Skywave's O-Class destroyer and outfitting it with an assortment of brass bits from White Ensign. One P-61 Black Widow wasn't enough for Mike Burton; he's got a second DML kit finished as a P-61B, finished in a glossy black scheme as "Lady in the Dark." Mike achieved his nice finish using Tamiya paints. John Heck is engaging in some conjecture, contemplating what his Collect Aire A-12 Avenger would have loked like had the plane ever been built. John says the kit is very nice and very expensive. Frank Babbitt used the Monogram kit to build a 1:72 A-10 Thunderbolt II as it would have appeared in the 1970s. Frank rescribed all the panel lines and finished the plane in the JAWS scheme using Gunze Sangyo paints. Roy Sutherland was so inspired by seeing his name in the credits of "Attack of the Clones" that he actually finished a model-Hasegawa's 1:72 Fw 190A-8, finished as an A-7 Rammjager and outfitted with EagleCal decals and Roy's own new set of Cooper Details resin/metal landing gear. Roy's also done some more work on his 1:48 Airfix Spitfire 24, adding the proper dihedral in addition to several of his own new resin bits. Also coming from Roy are new wheels for Eduard's 1:72 and 1:48 Albatros D.V, 1:32 Bf 109E wheels and other Cooper Details goodies. Braulio Escoto's collection of Moffett Field-related subjects includes his 1:72 P-3C Orion, "City of Sunnyvale," whose markings came from a SuperScale sheet, and a Heller F-8J Crusader. Braulio also used the Hasegawa kit to build the EP-3 involved in the collision with a Chinese F.8 last year. Gabriel Lee found that the instructions to his Italeri S-37 Berkut had decal drawings that didn't match the actual decals! Gabriel worked around that to finish his surprisingly large Russian fighter. Gabriel is also converting an AFV Club Scimitar into a Scorpion 90. Steve Travis' '34 Ford coupe includes a crushedvelvet Faux Fabric interior, wheels from a '32 "Phantom Vickie" kit, and details by Model Car Garage and Decal Master. The paint is aluma yellow over white primer for a shade Steve calls "Nuclear Banana." The model even has a Jack-In-the-Box antena ball, made from the top of a straight pin! Ron Wergin's precocious son has built a trio of Gundam models from the Bandai kits. The gun tank is his favorite of the three 1:144 kits. He's also built Hasegawa's 1:72 Panzer IV Wirbelwind, and he airbrushed it himself without any help

from his dad! His dad, Ron Wergin, may have just been too busy, anyhow—Ron was hard at work on an Airfix Fiat G.50 he's nicknamed "Lou's Limosine." Ron also showed his two new Hurricanes, a Mk. I from the Airfix kit and a Mk. II nightfighter from the Smer kit. Ron's Revell Panzer IV suffered battle damage thanks to a too-hot lamp, although his Fujimi 1:76 Tiger I escaped a similar fate. Ron's also working on a Revell Panzerauschblitzen 2000; he says the kit has shown that his carpet loves individual track links! Terry Newbern is taking a Games Workshop small-scale Kettenkraftrad and customizing it into an imaginary police tricycle with a boxed back end. He's also working on some Space Marines Rhinos from Citadel, which look nothing like the instructions, Terry says. Chris Bucholtz finished his Midway F4F-4 Wildcat (last month's cover story) built from the Hasegawa kit just in time for the 60th aniversary of the battle. His other projects are much earlier along in their construction. His Misterkit/Hasegawa Macchi C.202 has its wings on and is awaiting additional work on its wheel bays. His Pegasus Curtiss F9C-2 is ready for its hard parts, the scratchbuilt landing gear, struts, rigging and trapeze hook assembly, and his twin P-47Ds—one in 1:48 and the other in 1:72 from Hasegawa—are making slow progress The larger of the two is destined to be a gift for its pilot, Col. Joe Laughlin, the commander of the 362nd Fighter Group during World War II. Kent McClure's Monogram Space Taxi has probably had more attention lavished on it than any other example of this kit in its long history. Kent built cockpit controls, added graffiti inside the cargo hold, and installed lights to let the craft's users know when the spacecraft was pressurized and depressurized. Kent is also toiling away on Doyusha's 1:43 kit of Craig Breedlove's record-setter "Spirit of America," which he says is a "bastard." Among the problems are decals that are "just awful," Kent says. The real car now resides in Chicago's Museum of Science and Industry. Greg Plummer had a lot of fun with AMTech's Ta 183. He says the model has a very tight fit and posed no problems during its construction. Postoria Aguirre built an Aston-Martin that had gone to the dogs-actually it was one of a tiny number of Aston-Martin DB.5s modified by designer David Braun into a station wagon, to provide space for Braun's puppies and/or polo gear! The 1:43 kit was done by Provence-Moulage; P.A. was particularly impressed with the wire wheels. He also brought in a Paragon-Berkely kit from 1955 of General Motors' experimental turbine car; it was Paragon-Berkeley's only kit! Cliff Kranz has Cromwell's conversion for the late version of the FAMO; Cliff plans to build three of the Tamiya 1:35 FAMOs to represent all three versions of the German heavy half-track. Cliff is also using Monogram's 1:48 P-51D Mustang to build a replica of Jack Rousch's Mustang, which is painted as World War II ace "Bud" Anderson's "Old Crow." Cliff is adding a second seat to the cockpit to make his model a more perfect reflection of the original. And the Model of the Month goes to... Jim Lewis for his Tamiya M41A1 Walker Bulldog. Jim says the kit starts out as a toy, but with a lot of detail work, it can be built into a very nice representation of this light tank. Jim spent 16 hours alone building a new gun mantlet out of tissue, something he vows to never do again!

Mílpítas, until further notice!



Next meeting:

7:00 p.m.,
Friday,
June 21
at the Milpitas

at the Milpitas
Public Library
40 N. Milpitas Blvd.

For more information, call the editor at (408) 723-3995

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