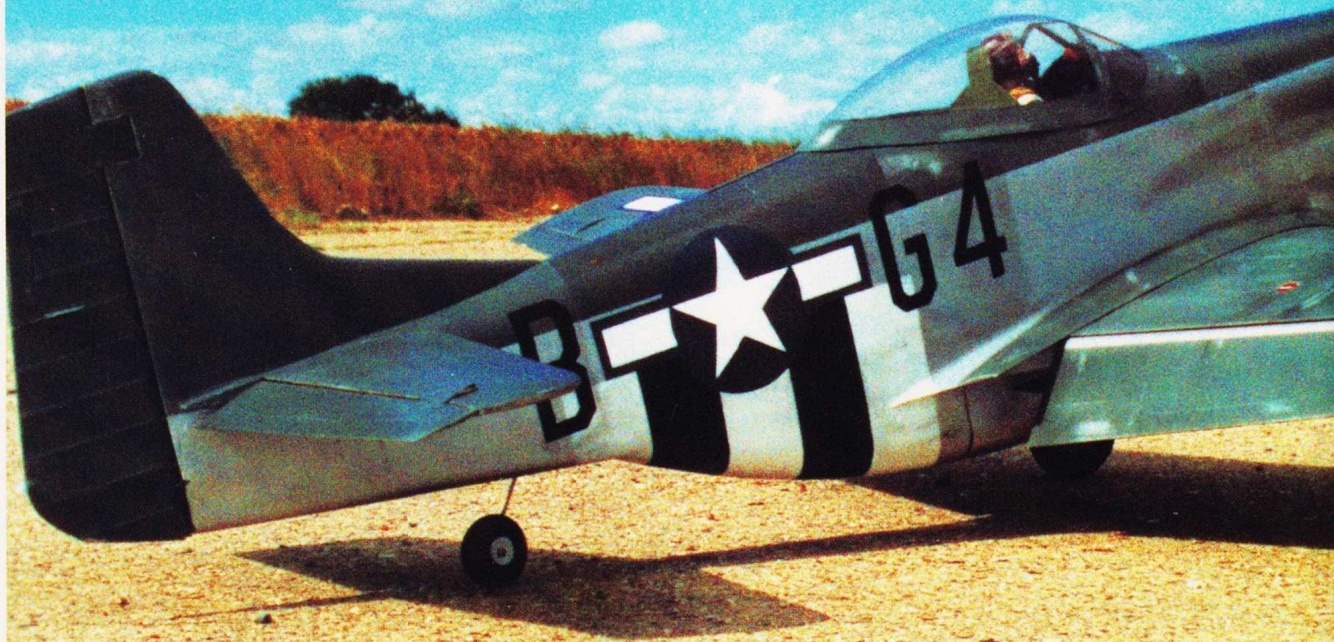


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Photographs:
Simon Delaney

Top Notch



The Editor's P51 on the taxi way at 8th Air Force Station 124, Tibenham, England.

The Editor builds Great Planes' WWII Fighter -and enjoys every minute of it!

Topflite were well known for their range of sport scale WWII fighters which had been available since the early 1970's. The Corsair, Zero, P51 and Bearcat all had a wingspan of 60" and were responsible for many modeller's first experience of scale building and flying. When Great Planes took over Topflite these models were replaced by the 'Gold Edition' range which feature accurate scale outlines, CNC cut parts and sharp laser printed plans. The 'new' Mustang spans 65" and is of fully built up construction with suggested engine sizes of .90 - .120 four strokes or .60 - .90 two strokes. 4 - 6 function radio is required. A superb 58 page A4 instruction manual covers everything from metric conversion tables and a list of suggested tools right through the construction and finishing processes to tips on flying and safety considerations. Fixed or retractable undercarriage options are explained early on, and it makes a pleasant change to find that the builder is not left to guess the retracts installation. All the necessary info and parts are supplied for either version and the instructions cover the fitting of working flaps too.

Open it up!

The box artwork is excellent and very eye catching. Inside there's loads of good quality balsa sheet and strip together with sheets of pre-cut fuselage formers and wing ribs. Smaller balsa and ply parts are bagged separately and a further bag has all the nuts, bolts and links necessary to complete the model. Canopy, ABS formed cowl, radiator intake, exhaust stacks and gun port mouldings are carefully wrapped in tissue to avoid transit damage and are also compartmented within the box to ensure that they arrive at your building board in perfect condition. There's nothing worse than having to glue parts back together before you can start a model and there was no chance of this happening with this kit.

I resisted the temptation to start gluing things together and pinned the plans temporarily on the model room wall. This allows the whole model to be studied at once and a thorough read through the instructions followed. Each step is accompanied by photos and a box is ticked when the step is completed. The construction sequence is clearly explained and



Kit Review

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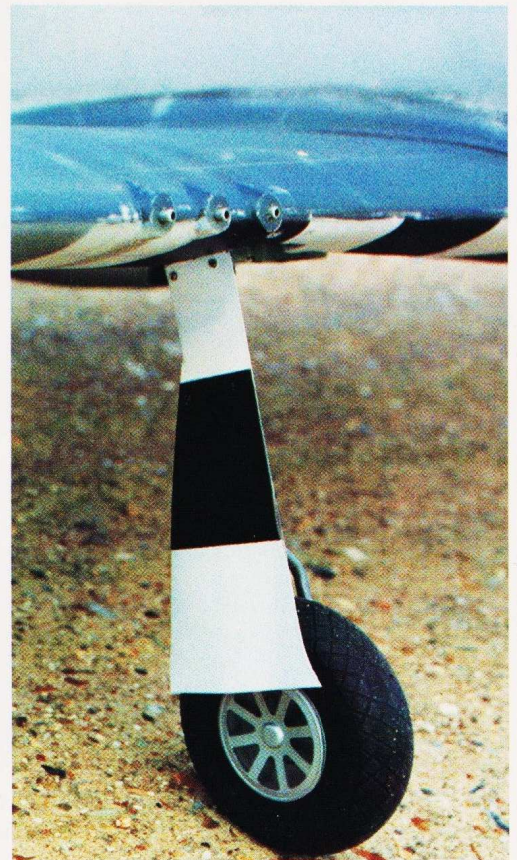


anyone who has made a built up model before should have little trouble in building this model. Not only do the instructions tell you what to do, they tell you why you are doing it, which is very helpful if the builder doesn't understand a particular method or sequence of steps.

I had decided to fit retracts and chose some Rom-Air units which I had picked up at one of the shows some years back. I considered a retracting tail wheel also but felt that the weight, and therefore the wing loading, would be adversely affected if I added too many scale features to a model of this wingspan. For the same reason I decided against drop tanks, inner wheel well doors, sliding canopies and all the other things which are OK on larger models but not on a plane of this size. Further to this, I wanted a model to enjoy on a regular basis which would be simple to operate and maintain. Not being competition minded, I had no constraints as to the scale fidelity, documentation, colour scheme, etc. This model was going to be a fun model and I could already imagine the low passes down the flying field against a backdrop of blue skies and puffy white clouds! In a further effort to save weight I elected to change the suggested layout of a flap servo in each wing and replace it with one servo mounted in the centre section driving push rods to a 90 degree bellcrank in each wing- more of which later. I decided to power the P51 with one of my trusty O.S. 70 Surpass engines which, although smaller than the specified power range, would be sufficient as I had used them before in similar sized models with good results.

The plans showed mylar or pinned type hinges for the control surfaces but I wished to use Robert 'hinge point' scale hinges which really add to the appearance and improve the efficiency of the surface considerably. The main difference to the construction when using these type of hinges is that you need to produce an overhang off the wing, tail or fin sheeting to form a shroud which covers the front of the moving control surface. The flaps however, were shown with this type of hinge, although the hinges weren't included in the kit, so no mod. was needed here. The last major change concerned the cockpit which I felt couldn't be left with a head and shoulder pilot inside that large canopy. My local model shop supplied me with one of the Pica range of vac formed cockpit interiors which are light and easy to fit. As the fuselage is built on a central lite ply crutch which runs along the top of the fuselage side it would have to be cut away to make room for the cockpit mouldings and pilot figure.

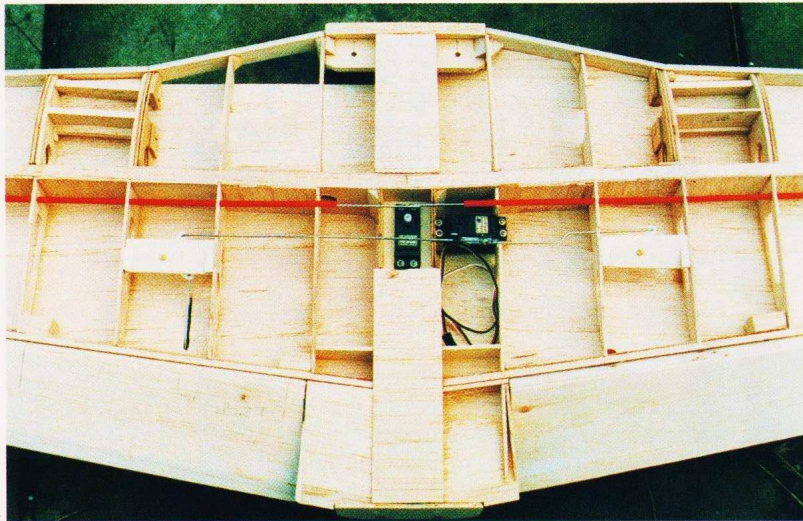
This could only be accomplished after the main assembly had been completed so I marked out the area to be removed. Also, one of the interlocking formers (F7) which carry the pre-cut servo tray is positioned in the intended cockpit area. This was cut away before assembly but retained the locating tabs to keep its shape. See photo. The servo tray had to be moved and was easily remedied as it can be reduced in length to fit in between formers F3 and F5, in other words, one bay forward. This is bound to benefit the balance point and as there was nothing in that bay anyway it seemed a better place to locate the bulk of the radio weight. With these adjustments made on the plan, noted in the instruction book and sorted in my head I got started with the construction.



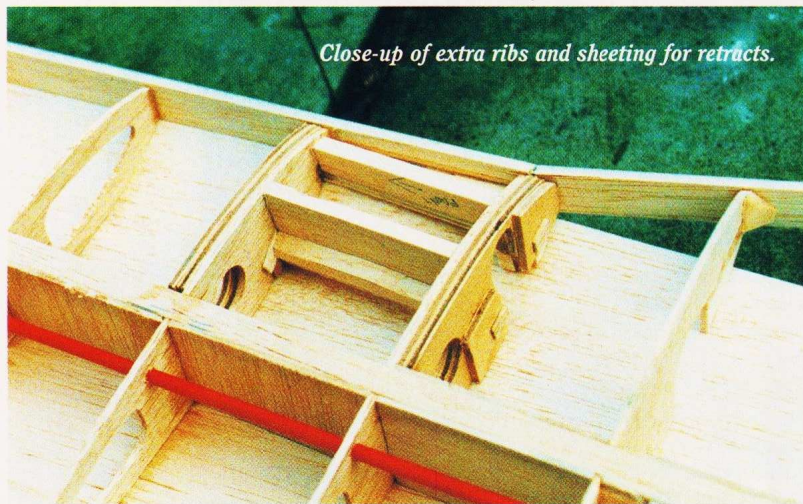
Close-up of undercarriage leg detail and gun fairings.

Tail end first

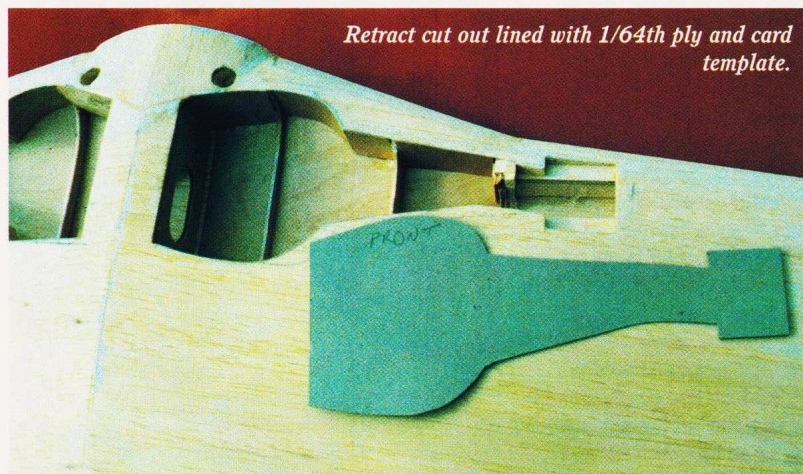
The tailplane and fin are built first. This gives you a feel for the type of construction used throughout the kit and were



Basic wing structure with bottom sheeting in place. Modified ribs for retracts and added flap bellcranks as described in the text.



Close-up of extra ribs and sheeting for retracts.



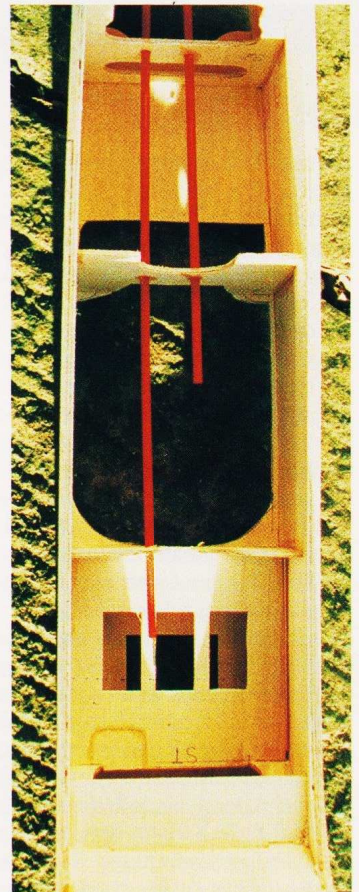
Retract cut out lined with 1/64th ply and card template.

very quick to produce, taking only one evening to complete. Both components have ribs which are pinned over the plan. Leading and trailing edges are added followed by the top surface sheeting. When dry, the piece is removed from the board and the small jiggling tabs which support the ribs are sanded off. The other sheeting is glued in place followed by the block tip pieces. As I wished to add scale balance horns to the elevators these were cut out before the final sheeting was

fixed. The rudder is built from a central balsa core with half ribs glued to each side. A pre-cut leading edge is fitted and the whole piece is sanded to shape. I cut out the trim tab which would be refitted later and covered the rudder in Solartex.

Inverted building

The wings are built 'upside down' over the plan which is a little confusing at first but once you can visualise the structure over the plan it's very easy. The handy thing about building with the bottom surface uppermost is the fact that you can fit the retracts without removing the wing panels from the board. Spars are pinned to the board, ribs are fitted in place with all the jiggling tabs touching the board, leading and trailing edges are added followed by the other spars. Aileron control tubes are fed through pre-drilled holes in each rib and the aileron bellcranks are glued in place. Each panel took about an hour and a half to produce and everything fitted exactly. Next, the undercarriage fittings need to be added. Ply doublers are supplied for either fixed or retracting wheels and if fixed gear is chosen the builder simply glues the doublers in place followed by the hardwood block which takes the pre-formed wire leg. As I was fitting retracts I glued the alternative doublers in place with the ply mounting bearers. I had to file away the ribs/doublers slightly to get the correct width for my chosen units and I also used the spare doublers which I would otherwise discard to further increase the gluing area of the bearers. The wing panels are joined using the lite ply braces and two large balsa jig blocks. The under wing radiator assembly is glued in place now and this further strengthens the structure. The front wing bolt plate is added and the wing is ready for sheeting. I modified the flap system by installing two bellcranks in place of the suggested servos. These fitted in the same place as the servos would have done and the servo mounted in the centre section next to the aileron servo. This set-up eliminated the need for hatches in the underneath of the wing panels and the associated Y-lead. Balsa skins were made up and sanded smooth before fitting. Following the instructions, the bottom skins were applied first and when dry, the jiggling tabs were removed from the tops of the ribs and the top sheeting added. Tip blocks were added and the whole wing was given a good sanding and set to one side.



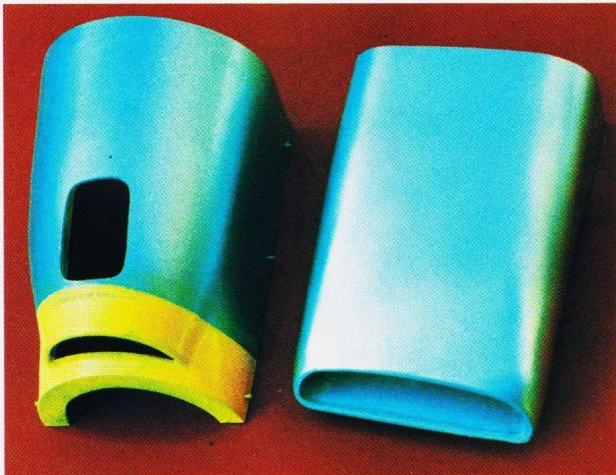
View of the fuselage through the wing opening showing cut out in crutch for the cockpit and servo tray in new position.



Kit Review

Fuselage

Each side is made up from several pre-cut pieces which interlock to form a large, strong component. Balsa and ply doublers are added and these pieces have pre-cut notches which self-jig the fuselage assembly. The fuselage is built upside down over the plan so a central lite ply crutch is pinned down and the fuselage sides are glued in place. The formers drop effortlessly into place and the ply servo tray is installed. I moved this one bay forward to give more room for the cockpit area and it was a simple job to reduce its length but still retain a locating tongue to hold it in place. The tailwheel assembly was made up as per the instructions and no problems were encountered. Pre-cut radiator keels were glued in place and the bottom sheeting added. The whole assembly was removed from the plan and given a light sand. All glue joints were reinforced from the inside as well as the area for the cockpit cut out of the crutch. This piece was over four inches long and didn't affect the strength of the fuselage at all. Side thrust for the engine is set by the crutch and down thrust is determined by a pattern shown on the plan which the



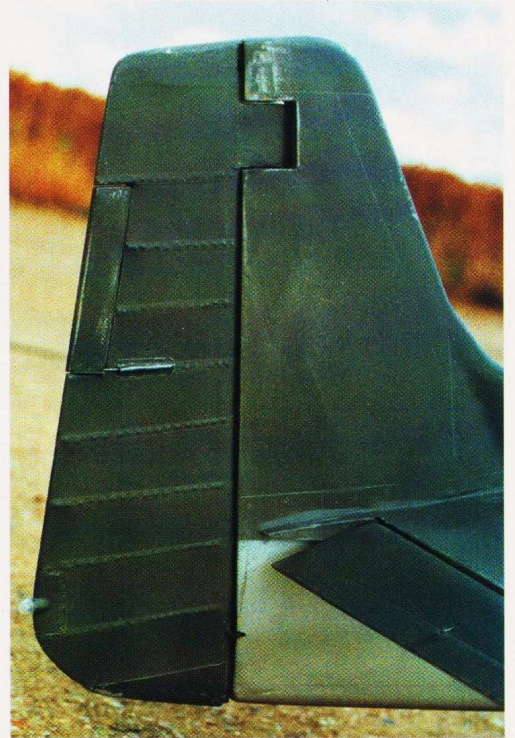
Quality of the thick ABS parts was excellent, Radiator and under cowl shown.

builder transfers onto ply or card. The engine bulkhead parts of F1A and F1B were supplied from 1/8th lite ply and were clearly unsuitable for the job. These went straight into the spares box and a 'proper' F1 was made from 1/4" birch ply using the original part as a template. I strongly recommend that anyone building this model does the same, especially if you intend to use the suggested powerplants of .90-.120 size engines! The new F1 was epoxied in place followed by various pieces of block which form the underneath of the nose.

The wing was mounted on the fuselage, checked for position and the retaining bolt holes drilled. I replaced the American style 20-1/4" plastic bolts with ones which I could easily obtain from my local model shop. Instead of tapping the 1/4" ply wing bolt plate I used captive nuts. It seems odd that Great Planes supply birch ply for the wing fixing plate but feel two bits of 1/8th lite ply are sufficient to hold the engine on. Before the top deck of the fuselage is built the tailplane and fin are attached. These had already been glass clothed and sanded ready for painting and, following the assembly of the elevator pushrod, were epoxied in place. The elevators were made up and trial fitted. The lower rear fuselage sheet was next to come out of the box and then the top formers were cyanoed in place. F6, which forms the instrument panel, follows the age old trend seen in so many kits of gluing this

part at a completely unscale-like angle. I've never understood the reason for this and so I modified the shape until it fitted vertically. With the stringers in place to give some strength to the exposed formers, the engine and mount was aligned. Blind nuts were epoxied to the rear of the firewall and the top sheeting added. The classic shape of the P51 was emerging rapidly which definitely kept the interest level high, although this was never really in doubt with this kit as everything went together so well. The top cowl was made from

Scale detail added to the rudder included moulded tail light, trim tab and linkage rod in fairing.



A true fighter from all angles.

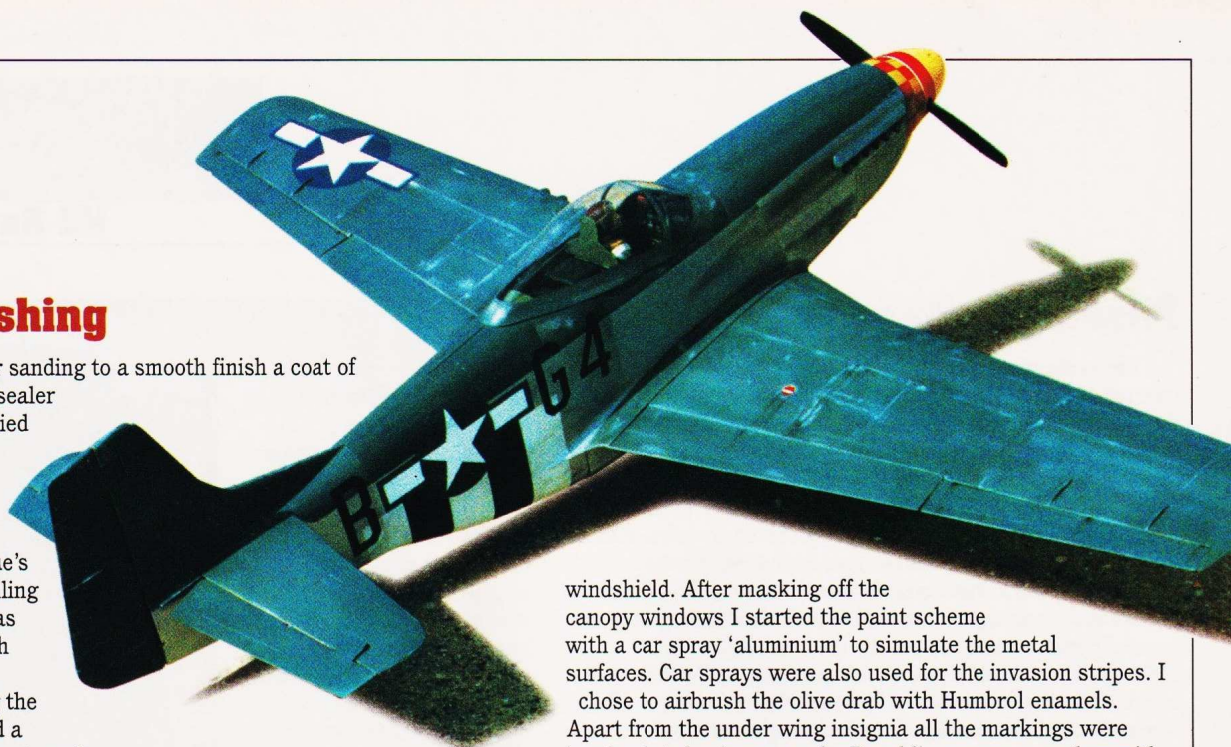
balsa block with the bottom part supplied in the shape of a very tough ABS moulding. With the cowl screwed in place on wooden mounting blocks and protected by masking tape the balsa was sanded to shape.

Wing fairings were next of the list and the method was thoroughly explained in the excellent instruction book. 1/32" ply bases are supplied already cut to the required shape and these were taped to the fuselage sides. 1/16" balsa sheet was used to make up the fairing and with the addition of some filler, created the necessary contours with very little effort. The ABS radiator scoop has to be cut to an exact fit but needed little trimming to get a good match to the rear fuselage. The flaps were cut off the wings and faced with balsa strips. Using some Perma-Grit tools helped to speed up the finishing process here and, because of my wish to modify the control surfaces using Robart hinge points, I had to add a piece of 1/16" sheet to the leading edge of each aileron to allow for the modified shape to be sanded in. A similar addition to the front of each elevator was required too. Although the instructions give several pages of information regarding the finishing process when using heat shrink film, I decided to use glass cloth and epoxy on my model.

Markings chosen were that of the 362nd Fighter Squadron, 357th Fighter group based at Leiston, Suffolk 1944.

Finishing

After sanding to a smooth finish a coat of sanding sealer was applied and sanded smooth. Chemie Technique's self levelling epoxy was used with one coat adhering the cloth and a further coat used to fill the weave. After cutting away the ply crutch to allow a slightly more elaborate cockpit to be fitted I painted the vac formed Pica instrument panel and side pieces. Plastic card was used for the head rest and radio shelf. A 'Pete's Pilots' WWII US pilot was purchased not long after I bought the kit (two years ago) so I was very pleased to finally paint and install him in his rightful place! I used R/C Modeller's Glue to hold the canopy on and used green filler to fair in the



windshield. After masking off the canopy windows I started the paint scheme with a car spray 'aluminium' to simulate the metal surfaces. Car sprays were also used for the invasion stripes. I chose to airbrush the olive drab with Humbrol enamels. Apart from the under wing insignia all the markings were hand painted using enamels. Panel lines were scored on with a piece of 16swg wire and a straight edge. These scores and some gentle sanding with 800 grade paper revealed the silver paint underneath and created a reasonably 'weathered' appearance. Further 'dirtying up' was achieved by using some chalks applied with a finger to give exhaust stains, etc. Undercarriage doors were made from litho plate glued with contact adhesive to 1mm ply instead of the ones supplied in the kit.

Switch on and Go!

Well, not quite- I still had to install the radio and engine! An O.S. 70 Surpass was mounted inverted on a J. Perkins nylon mount. (The one supplied in the kit would only fit a two stroke engine.) A Kavan 8oz fuel tank fitted neatly into the tank bay with the rubber bung and pipes fitting through a 1" hole cut in F1. A Dubro Ultra Fueler and a Mick Reeves Dustbin silencer fitted on the firewall with a short piece of bendy pipe connecting the silencer to the engine. The receiver switch was mounted vertically on F3 which enabled me to have a push/pull wire exiting between the wing leading edge/ fuselage break.

Flying took place after a frustrating week when the weather was bad. Ultimately I made the first flight in low light so no photos were publishable. I'll get some for the next issue of RCSI. The model flew exactly as I knew it would- like a real fighter- and had enough power to perform scale like manoeuvres, although you couldn't say it was overpowered. The large flap area definitely slows the model down considerably and a reserve of power must be kept in hand.

In conclusion, the model is one of the best I've ever made- and I've made a few over the years! All the awkward parts of this kind of model are eliminated in the design leaving you to enjoy the building and flying. I have to really nit-pick to find any faults with the P51, but the inclusion of a spinner and fuel tank would have made the kit really complete instead of having them as extras. I'd swap them for the engine mount that wasn't any use for the engines sizes specified for the model! The lite ply F1 part has already been mentioned and that was the only point when the kit materials were anything less than perfect. Otherwise it was just a great few months aeromodelling!. Totally recommended.

SCALE



PRODUCT DOSSIER: Aircraft Specifications

Kit Name:	P51D Mustang
Manufacturer:	Topflite
Construction:	Balsa ply wings and fuselage
Wingspan:	65"
Weight:	9½ lbs.
Retracts:	Rom Air Series 2000
Engine:	OS 70 Surpass
Prop:	14x7 Graupner
Finish:	Glass Cloth & Epoxy
Paint:	Humbrol Enamels Sprayed
Fuel Proofer:	Tufcote
Glow plug:	OS No. 8
Wheels:	Robart Scale
Pilot:	Pete's Pilot 117th USAF