WARBIRDS

Unique kits designed for real model makers

Building • Finishing • Flying

Supermarine Spitfire IX

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Thank you for choosing this top quality Warbird Replicas Spitfire IX kit, which we know will bring you many hours of flying pleasure as well as an enjoyable building experience.

From the earliest Warbird kits over two decades ago, through to the present, all of our kits have earnt a solid reputation for straightforward construction and exceptional flying qualities. Our current range covers the models our customers have asked us for, with the latest kits fast establishing themselves as winners.

Our unique total design philosophy produces a near scale model whilst still suitable for everyday use.

As testimony to our achievement, all press reviews have confirmed that our models would make excellent first low wing trainers. However, we consider the greatest compliment comes from fellow modellers, who after buying one Warbird kit tend to keep coming back for more!

Total design

Total design means that we don't just sell you a kit and then leave you to find all the difficult accessories. Each kit includes a range of optional [but strongly recommended] extras including decals, retract packs complete with comprehensive instructions, wheels & wheel wells and pilot & cockpit sets. The latest addition to our accessory range is a custom made, in-cowl exhaust system suitable for most 52 size 4-stroke motors. Exclusive to Warbirds these exhaust systems can further enhance the scale appearance of your finished model.

Create something individual

Feedback we have received over the years has shown us our customers are capable of going much closer to scale and crave more detail, so although all major components are contained within the kit, the covered airframe is very much a blank canvas, ready to accept your own ideas on painting, weathering and scale detailing.

The Osprey series of publications are an excellent resource for detailing, covering a wide range of WWII marques. Mk IX Spitfire ISBN 1-84176-266-0

Warbird Replicas Online

Build tips and advice, covering & painting, video downloads, model gallery, online shop and much more, are all available at the Warbird replicas website - **www.warbirdreplicas.co.uk**

What next?

Do a little research, familiarise yourself with all stages of construction, dry fit components as you progress and you will be well on your way to creating a model that stands out from the usual crowd!

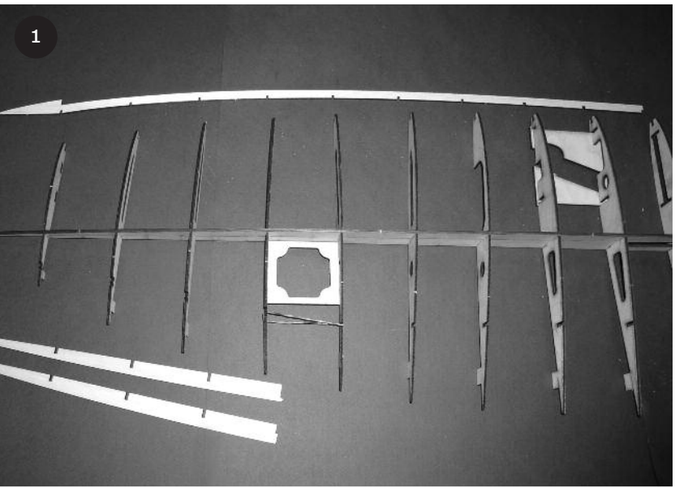
The legendary Supermarine Spitfire, designed by R.J.Mitchell was a direct descendant from the Schneider Trophy winning sea planes from the same factory. With such a distinguished pedigree nothing less than a true thoroughbred could result.

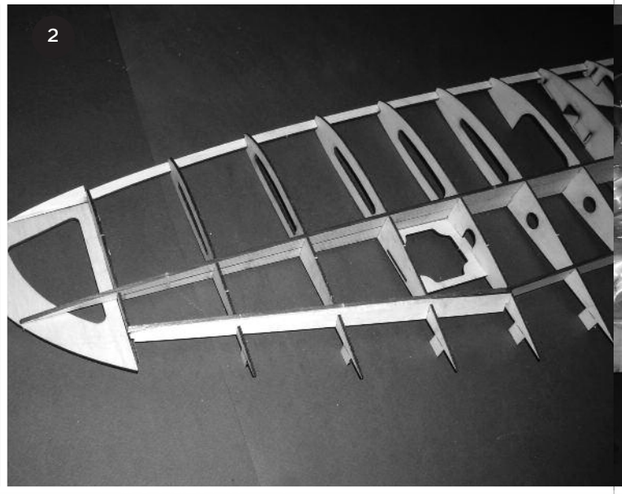
The design was so advanced that it could be developed way beyond that of its contemporaries, the Hurricane and ME109, and was competitive right through to the end of the war. The Spitfire won the hearts of all who flew her, and the respect of those who fought against her in combat.

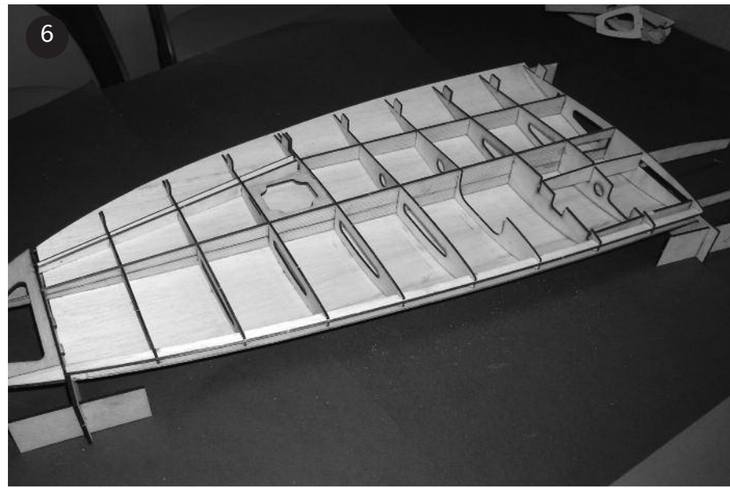
Our model faithfully reproduces the look of a Mk IX Spitfire. The flight characteristics are delightful, it has no real vices, and is a real lady right down to the stall, which incidentally is a non-event. Like the full size, the model has been designed to operate from relatively short grass runways, giving everyone the opportunity to become a Spitfire Ace.

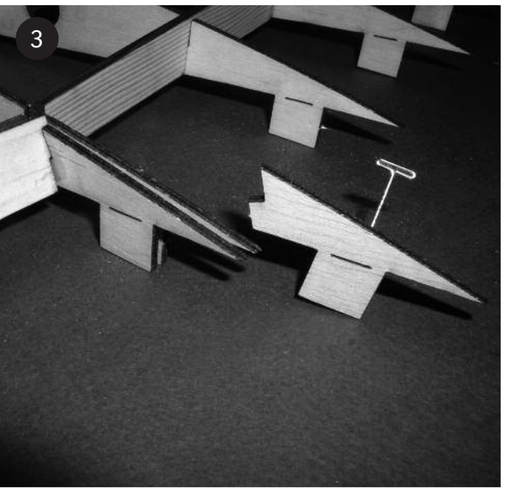
Our British designed and manufactured model was destined from the outset to be a winner, as was the original. Whether you choose IC or electric power, built as intended, you will soon be won over by its impeccable manners and hopefully converting other 'box' flyers to models that look like the aircraft that really made them aviation enthusiasts in the first place.

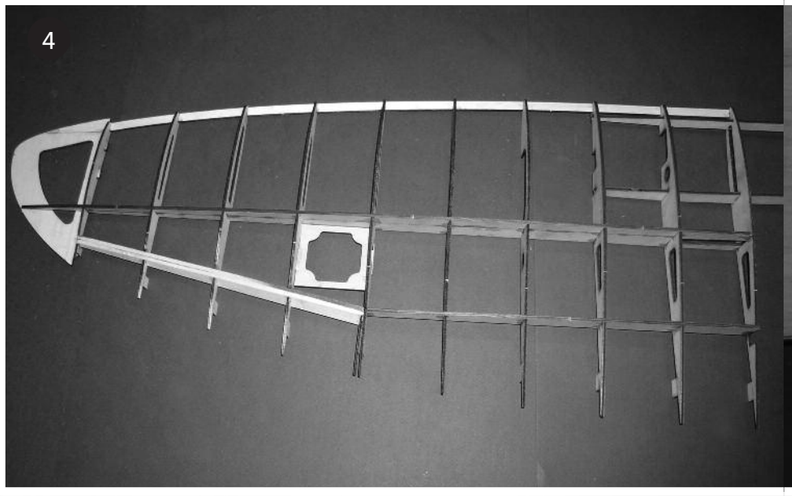
The model shown here is powered by an SC52 4-stroke, a flying weight of only 6lb was achieved

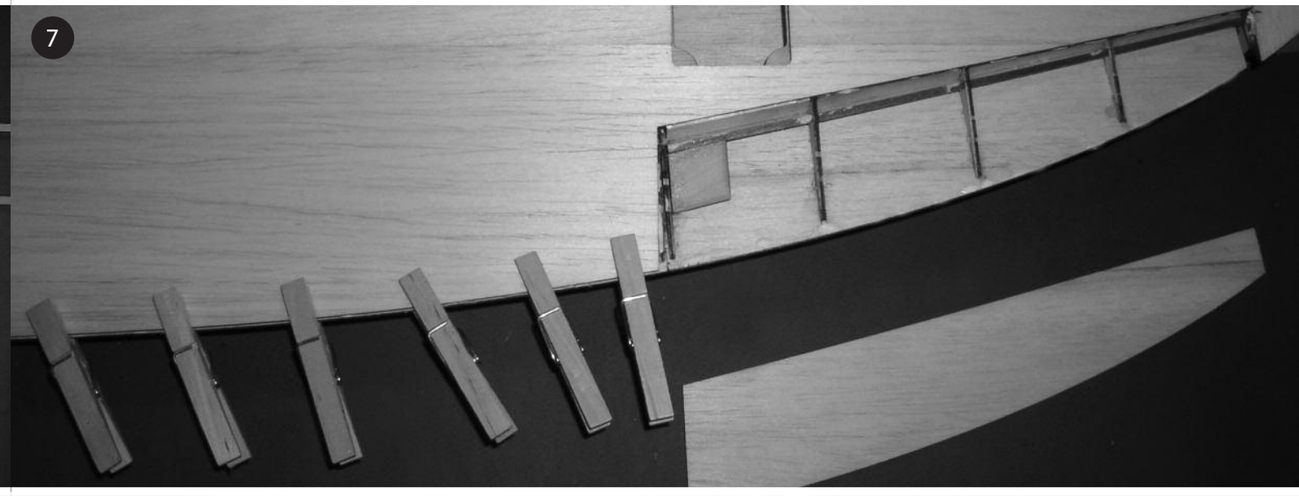












HINTS & TIPS

Aliphatic or PVA glue has been used throughout the construction unless indicated otherwise.

[1] Wrapping some sand paper around a convex shape (like a bottle) will help to not catch the ribs as you sand.

1. Start by slotting all of the ribs onto the lower spar. Don't forget to include the aileron servo plate and the UC plate (but don't glue that till later). Gently add the top spar and sqeeze it flush with the lower spar to clamp the ribs in place. Don't do any gluing yet, just tape things in place if needed.

2. Add the rear wing spars and aileron facings. You will need to support the outer ribs when you push the aileron facings home. The wing tip core can be glued in position.

3. Don't forget to add the little sub-rib which forms the in-board end of the aileron. I have pinned the one from the other side next to it to show you what it looks like. The soft wood aileron facings need to be trimmed down to be flush with the ribs. It is easy to damage the ribs, so slice the worst off with a sharp knife[1]

4. With the structure on a flat surface, add some cyano to the joints. Make sure the room is well ventilated as the fumes can be toxic. Don't glue in the wing joiners or UC plate but make sure that they all fit nicely.

5. Now its time to add the top skin. Start by coating the tops of the ribs and spars with wood glue (PVA). Don't put more than a very thin coat toward the rear end of the ribs, just in case you have to adjust the trailing edge later. The wing skin has a little spanwise slit near the leading edge to help it conform to shape. This stage will have to be left to dry for a few hours[1].

6. Make up the 3 wing jig cradles, then turn the wing upside down and check that the upper skin is securely attached. The wing must sit nicely in the cradles as this ensures the correct washout[2]. Build the other wing up to this level, so that you can do a trial wing join without glue before adding the bottom skins. Add the two front wing joiners with PVA, pressing them hard into the slots so that the undercarriage plate can get under the front "hooks"

7. Note the little ply wood plate glued in the corner of the aileron (flush to the lower rib surface) to provide a hard fixing for the aileron horn. Remember to tack the trailing edge area only lightly with cyano. Add weights and tape down the wing skin where required. If you find that when the wings have dried and joined together the trailing edges do not seem to be symmetrical, just run a knife between the wing skins at the trailing edge and whilst held together in a corrected position, add cyano.

HINTS & TIPS

[1] You then need a collection of weights to press the skin down. I used plastic cups which I filled with water!

[2] It is a good idea to put some thread or string in where your aileron cable will go.

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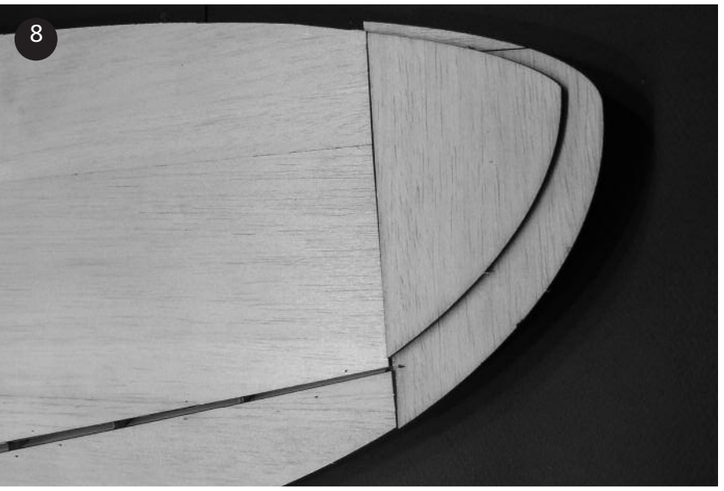

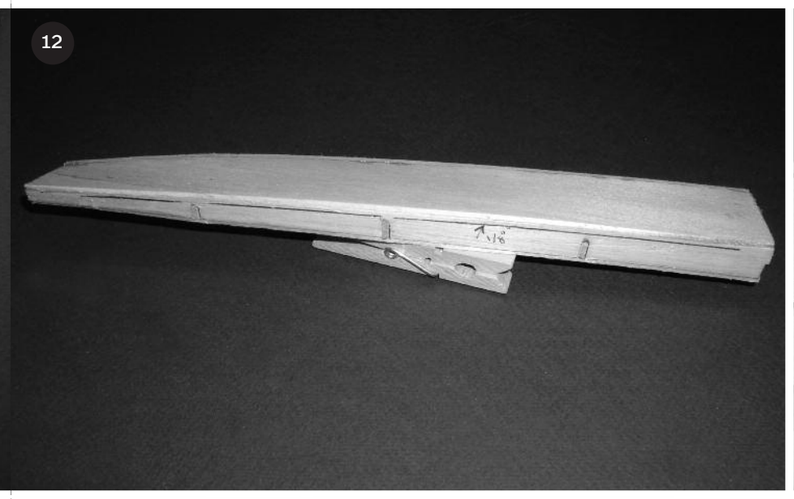

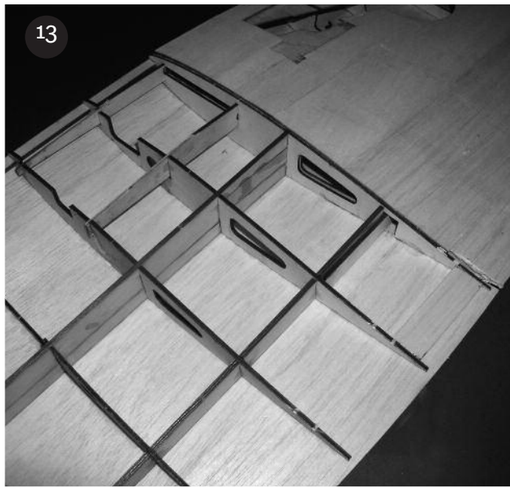

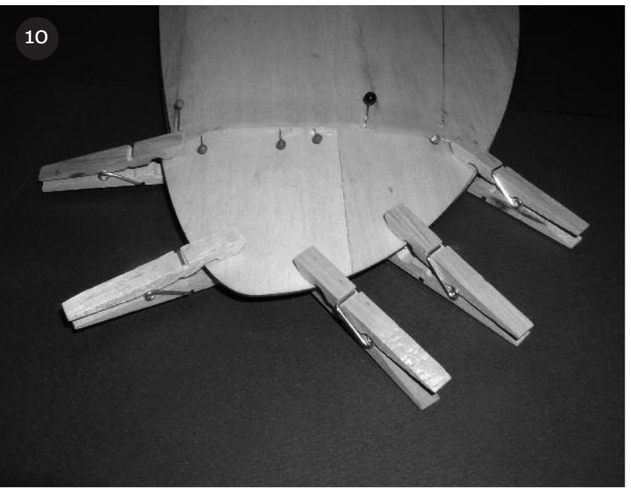

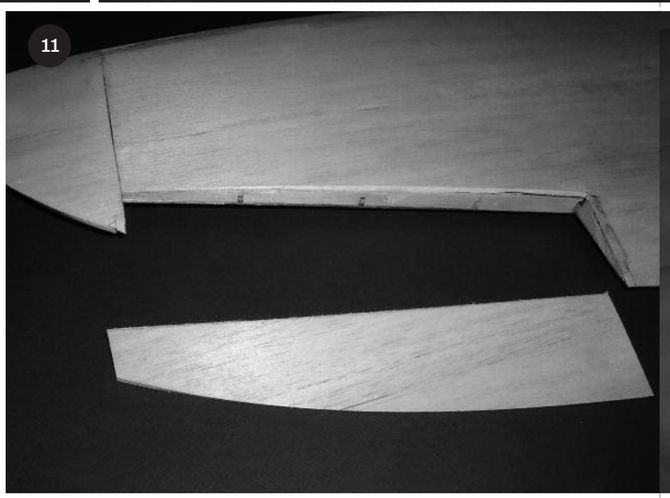

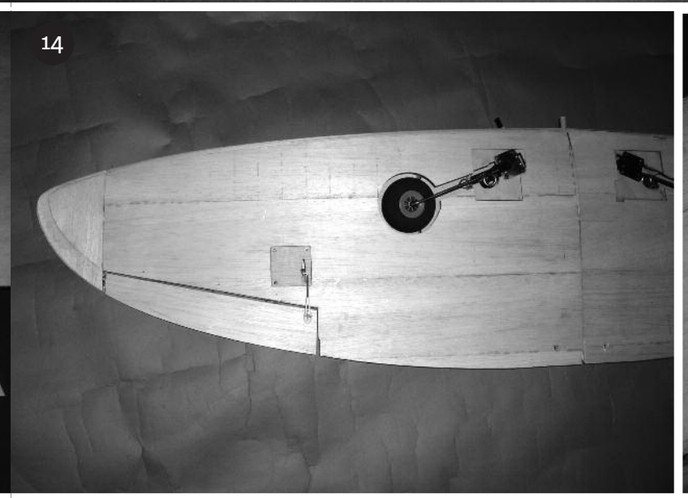

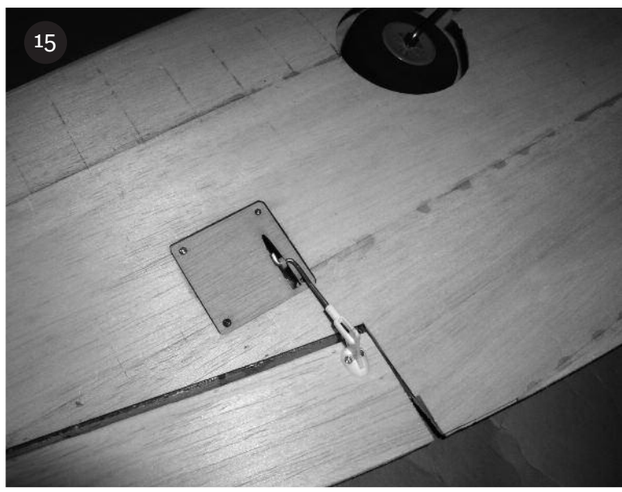

8 Add the lower soft balsa part of the wing tip, which will be sanded to blend in with the wing skin a little later.

9 Glue in place the tip skin supporting rib. If the skin doesn't end that neatly, don't panic! Its only wood and a little scrap added will soon fill the gap.

10 To complete the tip, add the top skin which is made up of two parts that you should first join with cyano. When you turn it over you can see the the overhang of top skin needs to be sanded off.

11 With a junior hack saw blade or razor saw carefully saw through the three ribs that retain the aileron. Then sand both faces flat in preparation for hinging the control surfaces.

12 You will need three mylar hinges for each aileron. The hinge line will be 1/8" (3mm) from the top of the skin. Draw a line and then cut three 20mm long slots with a sharp knife to accommodate the hinges. Replicate the slots onto the wing to match and dry fit the hinges.

13 You can now join the wings together. Pic 13 shows the bottom without skins just to what is happening. You can open up a hole right at the front where the wing dowel fits. The dihedral braces provide the strength, not the root ribs. So if your actual wing joint isn't that tight, it wont make any difference, just fill in with scrap wood. The soft balsa block near the trailing edge is to stop the wing bolts crushing the wing skin.

14 It is very important to study the line of the trailing edge when viewed from behind to check both wings look the same. If they don't, simply open up the trailing edge with a knife as described earlier and adjust. The two leading edge strips (two each wing) have been added and sanded to shape. The electric screwjack retracts have also been fitted with just four screws.

15 We fitted 12.5g servos onto the lite ply plates simply by roughing them up and hot gluing in position.

HINTS & TIPS

[1] Nipping off the corners of the mylar stops the hinges snagging upon insertion

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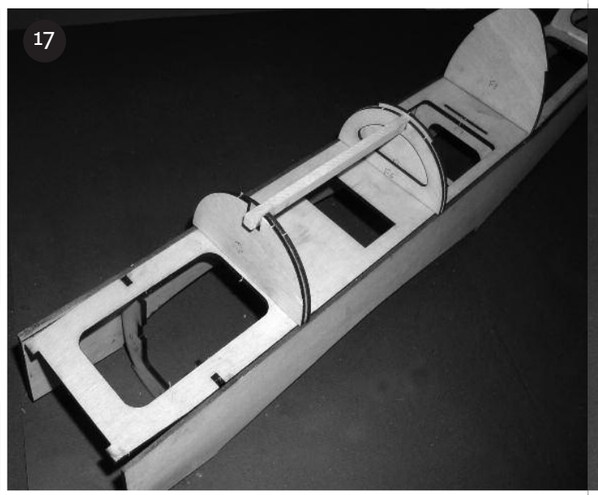

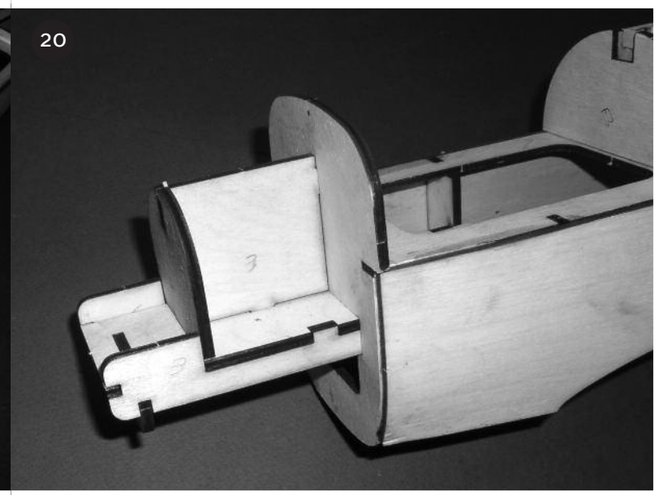

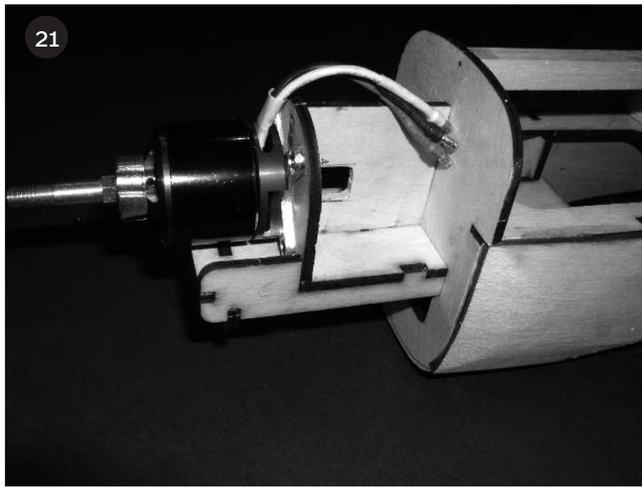

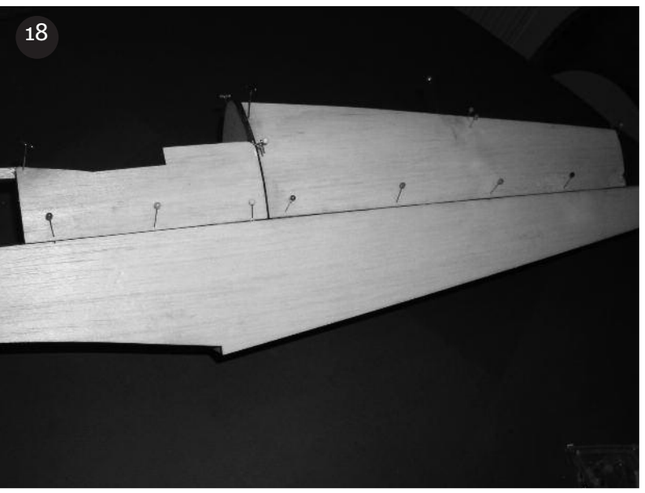

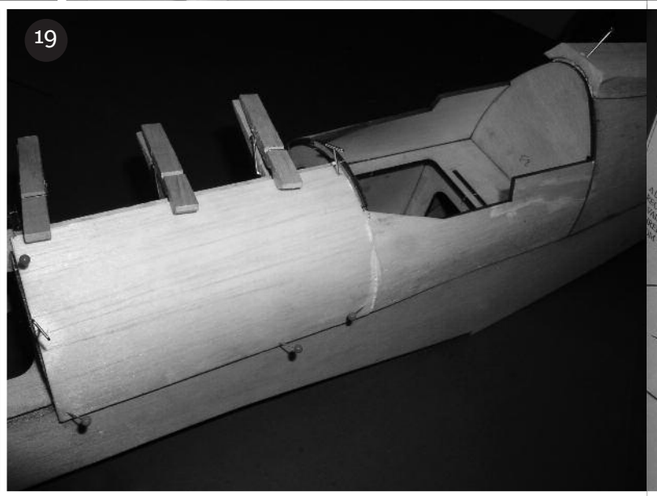

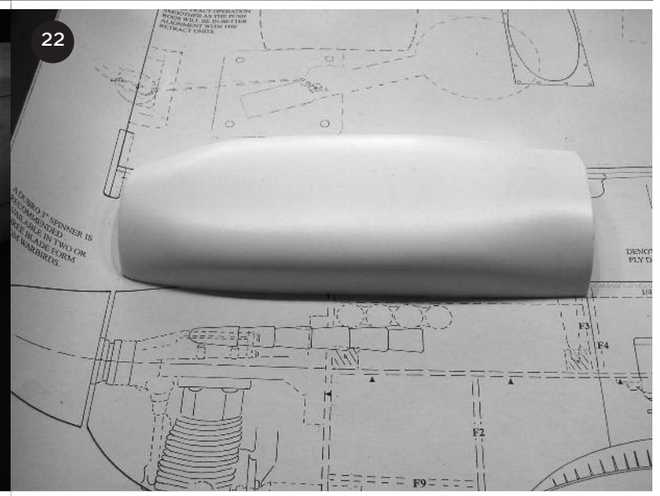

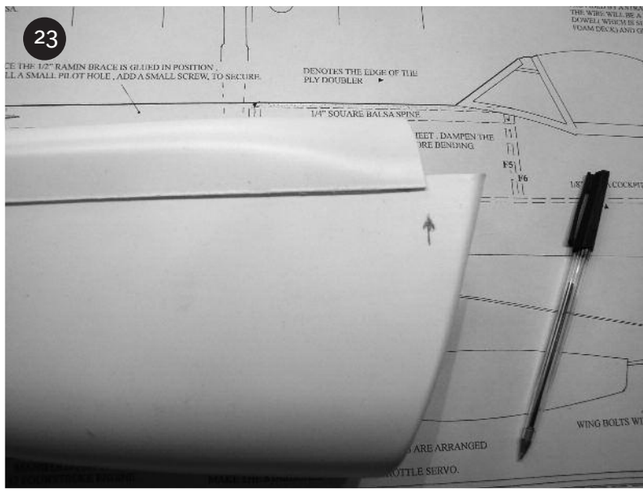

HINTS & TIPS

[1] Or you can use a business card if you don't have a set square

16 Four formers support the rear deck sheeting and the holes in the central crutch are already cut ready to accept the tab at the bottom of each former. When you glue them in place use a set square[1] to ensure that they are at right angles to the central crutch.

17 The front deck has a similar arrangement but this time a square spine runs between the formers to support the balsa sheeting. The formers are in pairs. Note that they appear to be too wide but that is because the fuselage side cheeks have not yet been added.

18 Glue the bottom of the cockpit side and rear decking sheet in place. Note the cockpit side will overhang the fuselage side at this stage. Once glued at the base, dampen the sheet on the outside to help it form a curve. Note the rear spine is higher at the front to allow you to sand in a slight curve to align with the last section of the canopy.

19 Identify the front deck sheeting and dampen the outside with a cloth. After about two minutes it will be easy to curve the sheet to shape. Peg in position and allow to dry before repeating the process for the other side.

20 For the electric version assemble the motor and battery mount by comparing with the side view shown on the plan, then slide in to place. When gluing in F1 it is worth sanding of any black soot from the laser cut edges to allow the glue to get a good grip.

21 Temporarily mount the motor of your choice with two small self tapping screws as you may need to move it slightly if it does not align with the centre of your cowl. Note that the slot shown behind the mount may be needed to accommodate the extended motor shaft on certain types of motor.

22 Now its time to create the cowling. Start by trimming the cowl to length and removing the crinkled flanges to match the drawing. Try to remove the least possible amount of plastic as you can always take a little more but cant really add it back on.

23 Match the bottom part of the cowl to the top and tape them together so that you can make a mark on both sides that duplicate the plan. The plastic can be cut with tin snips or even heavy duty scissors. A razor saw also works really well and gives you plenty of time.

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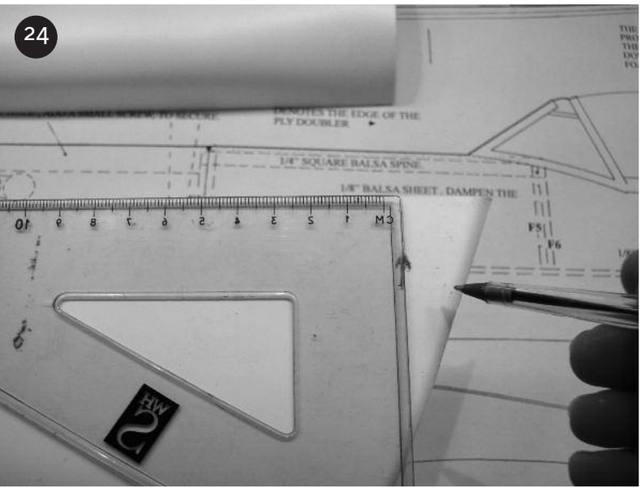

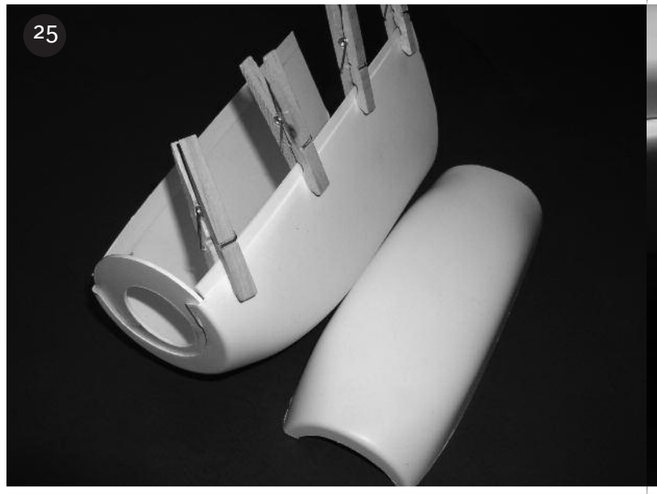

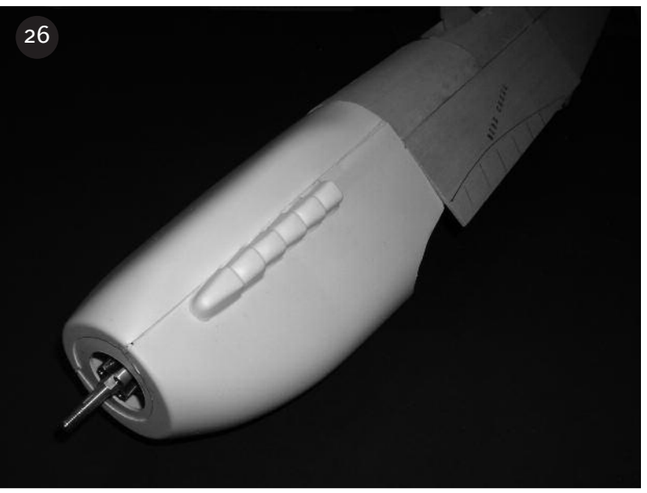

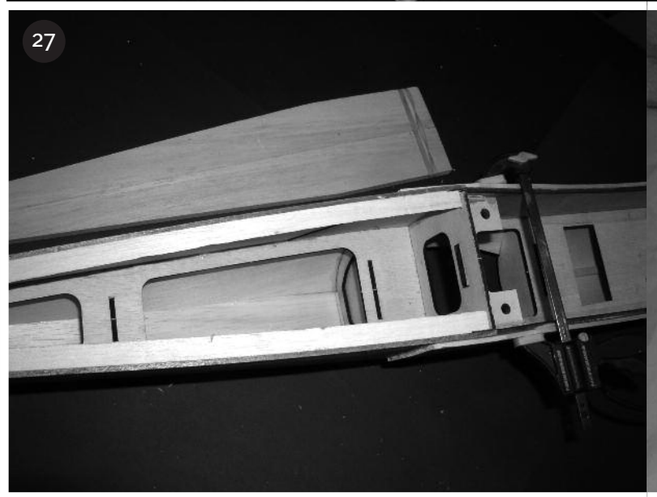

HINTS & TIPS

[1] The best glue for this plastic is solvent weld available for hardware shops· Plastic modellers glue also works well.

24 It is important that the vertical edge is at right angles to the aircraft centre line so use a square to mark the line you want to cut.

25 Using strips of 10mm wide scrap plastic sheet glue a flange behind the edge of the lower cowl part[1]. The nose reinforcement ring can also be glued to the lower cowl. You need to trim the two cowl parts to make sure that the upper and lower cowl parts form a uniform ring around the reinforcing circle.

26 Join the top cowl to the bottom.You can also trim and fit the exhaust stacks in the correct position as shown on the plan. Once the cowl is trimmed to fit, you can butt the balsa side cheeks up against them and glue them in place. The wing seat area removed as shown to match the fuselage sides. The rear most end of the cheeks need to be sanded to blend into the fuselage.

27 Turn the fuselage upside down and fit the wing bolt plate then add the little triangular supports on top to stop it from pulling out. Add the triangular balsa fillets to the lowest edge of the fuselage sides. These will eventually form round corners when you sand down the outside edges. Join the two soft balsa pieces that form the rear fuselage base but don't glue them on till you have installed the nylon pushrods. Trial fit the wing and do the bolts up finger tight.

28 Slacken off the bolts until you can just slide the plywood wing fairing base between the fuselage and wing. The ply base must be positioned to align with the inside edge of the fuselage side doubler. Run some glue between the fuselage and the top of the plywood. Cut little slots from the bottom up through the 1/2" triangular stock as shown on the plan to help it bend round the curve. Then glue in position. Add the two triangular concave formers at the rear of the fairing

29 Add the balsa top skin. A good tip here is to dampen the middle (not where the glue goes) of the balsa sheet on the inside. This will make the balsa bend naturally[1]. I also cut a little step in the 1/2" triangular to allow the sheet to sit on it but still be flush (you can just see this on the previous picture). The top skin will overlap but can be trimmed off the next day when dry.

30 Add the rear upper wing skin and finally add the rear wing fillet plywood base underneath. If you have a few gaps, don't worry, simply add a few scraps of balsa to fill in where required. Remember the wood will be covered. When the entire wing fairing is complete and dry remove the fuselage and sand the fairings horizontally from below until they barely overlap the ply base plates .

HINTS & TIPS

[1] Use the plastic film from the kit to stop the glue getting on the wing

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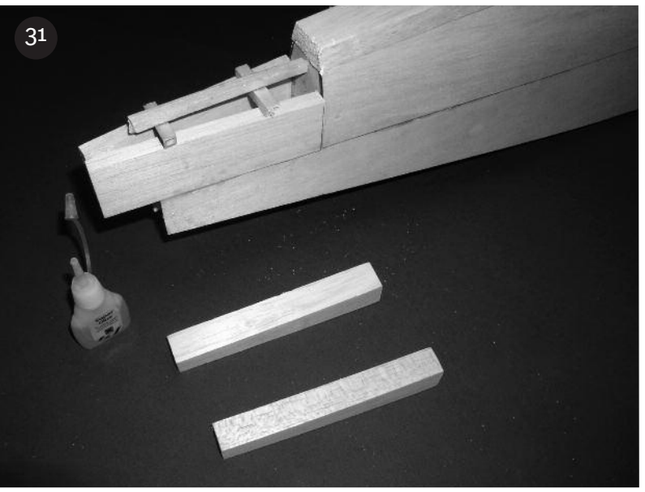
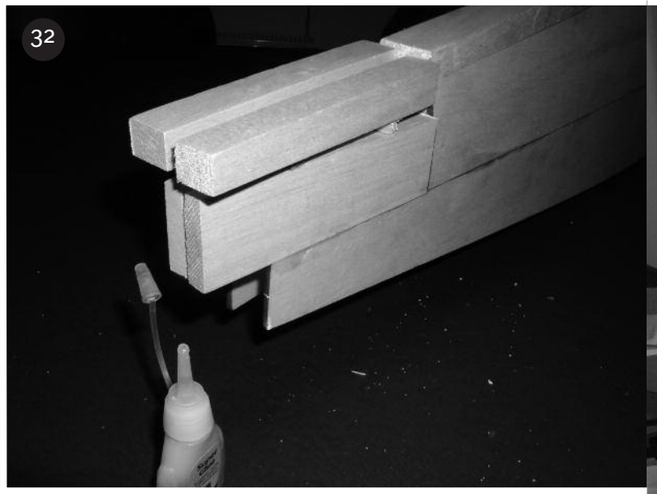
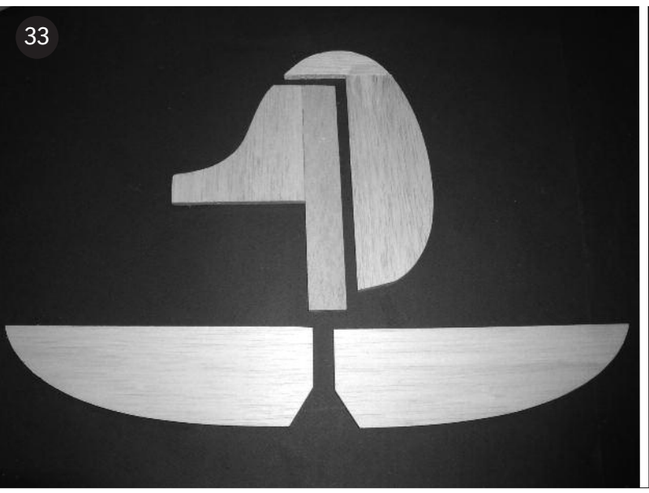






31 Fit the tail plane support blocks and the small triangular blocks the form the bottom of the rear fuselage (not shown here). Note that they will sit either side of the fin base when the vertical fin is slid into position. Then create a little frame as shown from 1/4” scrap balsa. This duplicates the space that will be occupied by the fin and tail plane.

32 Glue the tapered soft balsa fin blocks in place and when dry sand them into a streamlined wedge shape which will form a continuous shape from the rear deck. When you feel you have created a continuous fillet to give a smoothing effect around the fin, cut them away from the temporary frame. Remove the 1/4 scrap frame and clean of any lumps of glue so that the tail mount is flat and ready for the tail surfaces.

33 The tail parts are all pre cut from 1/4’’ balsa sheet and with a quick glance at the plan should be self explanatory. It is a good idea to dry fit the elevator joiner while the two elevator parts are lying on a flat surface. That way they will not be twisted relative to each other.

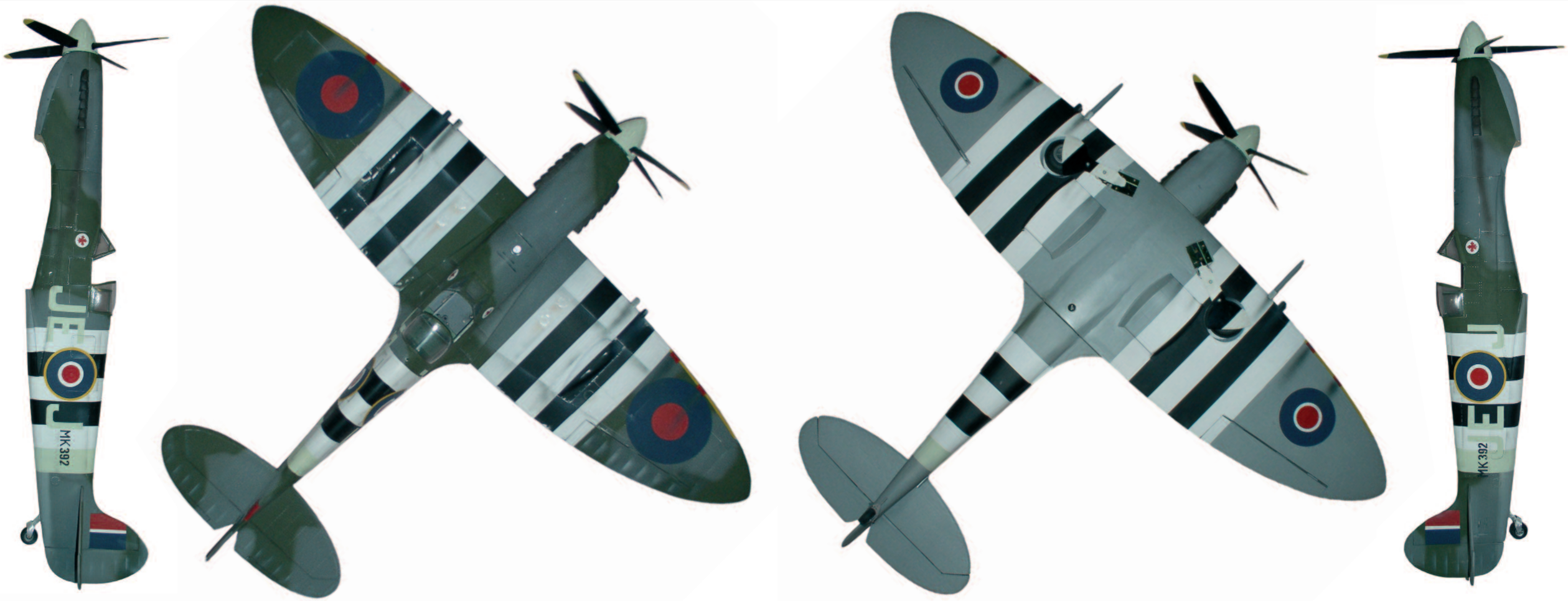
34 Drill four small holes (about 1/16”) in all four corners of the cowl where the battery hatch will be, this will stop the cowl splitting at stress points.
I removed the hatch with a razor saw, but you can also use a junior hacksaw blade or a dremel disc. It is worth taking your time here to get a neat joint. Using the 10mm wide plastic strip provided glue two side flanges to the hatch and one at the front.

35 You can now do a dry fit with all of the tail surfaces with the wing bolted on properly check the model from behind to see if the tail is correctly aligned with the wing. If it is not quite correct you can sand a little of the tail mount top away to tilt the tail plane one way or the other. Once everything looks symmetrical, remove the tail surfaces and sand all of the edges round. You may wish to cover the model before finally gluing them in position. It is also easier to fit the control runs now while the tail is off.

HINTS & TIPS

1 Keeping these controls as rigid and slop free as possible will produce more positive flight response

WARBIRDS



For a tough, cost effective covering that paints beautifully and is reasonably simple to do, we suggest the brown paper method, cheap and thin paper is best, about the consistency of christmas wrapping.

Cut each panel oversize, and coat the matt side with PVA glue[1]. Let the paper 'grow' for about 30 seconds and then lay it on the surface to be covered, smoothing with your hands. Using a medium hot iron, iron from the centre out towards the edges. As PVA is heat reactive, this step of the process is a lot like film covering. You will find it will go round quite convex shapes. Continue until all the surfaces are covered.

Allow 12 hours to dry then give it a coat of diluted non-shrinking dope [dilute with 30% cellulose thinners] followed by a light sanding with flour grade wet and dry.

You will need acrylic aerosols of white primer, grey primer, and matt black[2]. These types of paint go on very dry and are reasonably durable in their own right[3]

The white primer is for all of the underside and the invasion stripe areas [see plan] on the top surface. When dry, mask off the invasion stripe areas[4] and then grey primer the remainder of the upper surfaces.

HINTS & TIPS

[1] Dilute the PVA glue by about 10-15% with water

[2] Halfords [the car store] acrylic primers are excellent for this purpose

[3] Paint adds unwanted weight - always use the minimum amount possible

[4] The invasion stripes are approx 10" wide on each wing and fuselage

The grey primer covers really well and should be used as the primer for the areas that will ultimately be green or grey.

We used Humbrol enamels for the remaining colours. The Green is "Dark Green" No 116, the two greys being "Ocean Grey" No 106 and "Medium Sea Grey" No 165 underneath.

Although the cans are very small[1], the colour is very accurate, and it does mean that should you need to touch up your plane in the future, colours will match. We would expect to use two tins of each colour if airbrushing.

Now pull the masking off of the invasion stripe area and using two inch masking tape spray on the black stripes with the remaining aerosol.

Once the main colours are dry, lightly rub off any dust with a sheet of plain paper, and add the decals[2]. You can add panel lines with an indelible felt tip pen and the impression of wear with a dry brush of silver. Pastel chalks are very effective for shading and have the advantage of being removable should you make a mistake.

Finally, fuel proof the whole plane[3].

HINTS & TIPS

[1] Thinning the enamel using cellulose thinners will cover more area with less weight. Consistency of creamy milk is ideal if airbrushing

[2] You will find that one drip of liquid soap in a saucer will provide a good lubricant to the surface while you position each decal

[3] Although a satin finish is what we want, gloss fuel proofer is the most resistant, which we use in very vulnerable areas. Be warned, some dedicated fuel proofers can curl up the edges of decals

WARBIRDS

The 4 bladed prop shown is for static use only.

TEST PILOT BRIEFING

Control throws

Elevator & aileron - 3/4" each way

Rudder 1 1/2" each way

Centre of gravity

The centre of gravity as shown on the plan is between 85-95mm back from the rear of F2

Projected all up weight

5.5 - 6lb

Important safety advice

Please take time to fully read through the safety notes regarding the operation and flying of model aircraft in general, at the back of this manual

The prototype has been flying for some time now, and so as long as your model has been constructed sensibly there is no reason to feel apprehensive at this stage. From our experience most incidents come from poor preparation.

You might need some ballast to get the balance point that far forward. The weight is easiest to place in the tank bay, but make sure it's going to stay there. Do not attempt to fly your Spitfire with a rearward C of G, it will be tolerant to a point, but why tempt fate?

We would really recommend making the test flights without the cowl, unless you have a well run in motor and have made a number of consistent static runs. Remember to add some temporary weight to compensate for the missing cowl. The advantage is that you can monitor the motor much easier, and there is no danger of overheating while you trim out the airframe.

If a model gets in trouble on take off it will always flick left because of prop torque. We recommend that you aim your take off just right of the eye of the wind and on the test flight, wind in 1/8" of right trim.

Because the Spitfire has such powerful elevators, they must be treated with a little respect. The model is very friendly but bullying it will not be rewarded.

Hold in full up elevator to keep the tail down. Then as she starts rolling ease off the up and allow her to gather speed. Once she is bowling along with her tail up, ease in a little up and allow her to climb out at a shallow angle. Speed is your safety margin during the take off so let her pick up as much as possible before 'unsticking'.

Ignore all comments from the club experts, telling you that Spitfires are tricky to fly. This model is delightful, and once trimmed, will fly very slowly, so there is no need to come in like an express train. Be gentle with her and she will pretty well fly herself.

As a final note. If you have managed to add too much filler/glue/paint and your own additional strength (ie surplus weight). Don't panic. Sure, it won't fly quite as nice as it should have, if you had built it as we have designed it. But it does have a very sophisticated high lift wing which will tolerate a fair amount of extra weight.

PRE FLIGHT CHECKLIST

Check a few of the potential problem areas, to minimise the chance of an incident.

- Batteries checked before flight and range check complete?
- Flats filed on the top and bottom of the legs to prevent twisting?
- Fuel tube keepers on the clevises?
- Battery to receiver connecter taped or better - lock wired?
- Engine running slightly rich but consistent?
- Wheels retract without snagging?
- Hinges pinned?

Safety notes and warnings relating to model aircraft

Before building the model it is important that you read the instructions right through to the end. The work which you have to carry out is important and must be done carefully. The model will only be strong and fly well if you complete your tasks competently - so please work slowly and accurately. You have acquired a kit which can be assembled into a fully working RC model when fitted out with suitable accessories. However, we, as manufacturers, have no control over the way you build and operate your RC model aircraft, nor how you install, operate and maintain the associated components, and for this reason we are obliged to deny all liability for loss, damage or costs which are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way.
Unless otherwise prescribed by binding law, the obligation of the company to pay compensation, regardless of the legal argument employed, is excluded. This includes personal injury, death, damage to buildings, damage due to loss of business or turnover, interruption of business or other direct or indirect consequent damage whose root cause was the operation of the model. The model is built and flown at the sole and express responsibility of the operator. The only way to avoid injury to persons and damage to property is to handle and operate the model with the greatest care and consideration at all times. Before you fly the model for the first time you must check whether your private third party liability insurance policy covers you for operating model aircraft of this type. If you are not sure, take out a special policy designed to cover modelling risks. These safety notes must be kept in a safe place. If you ever dispose of the model, be sure to pass them on to the new owner.

Be sure to read right through the instructions covering assembly and operation of your model before you attempt to operate it for the first time. These safety notes are an integral part of the instructions. Powered model aircraft are very demanding and potentially dangerous machines, and call for a high level of technical knowledge and skill from the operator, together with a responsible attitude. Powered model aircraft are not suitable for young persons under 18 years of age. Young people should only be permitted to operate this model under the instruction and supervision of an adult who is aware of the hazards involved in this activity. The operator of the model must be in full possession of his or her bodily and mental faculties. As with car driving, operating a model aircraft under the influence of alcohol or drugs is not permissible under any circumstances. Radio-controlled model aircraft may only be employed for the purpose intended by the manufacturer. They must never be used as man-carrying machines. We do not condone this model's use in any way except as a model aircraft. A radio-controlled model aircraft can only work properly and fulfil your expectations if it is built very carefully and in accordance with the building instructions. Do not make any modifications of any kind to the design features or materials. If you wish to avoid injuring people and damaging property it is essential to be careful and painstaking at all stages of building and operating your model. Model flying is a skill which has to be learned. We suggest that you ask for help from an experienced model flyer, or join a model club or flight training school. Your local model shop and specialist magazines are excellent sources of information.

• Adhesives and paints contain solvents which may be hazardous to health under certain circumstances. Read and observe the notes and warnings supplied by the manufacturer of these materials

• Check your RC system regularly as its components eventually wear and need to be replaced or repaired. Read and observe the instructions and recommendations provided by the manufacturer of your radio control system and accessory components. Radio interference caused by unknown sources can occur at any time without warning. If this should happen, your model will be uncontrollable and completely unpredictable. Never leave your radio control system unguarded, as other people might pick it up and try to use it. You alone are responsible for the safe operation of your radio-controlled model and motor.

• Model motors are usually started with the help of an electric starter which should be fitted with the appropriate adaptor where necessary. With fixed-wing models an alternative is to use a "chicken stick". Take care that the glowplug clip and the glow lead cannot get tangled in the propeller or other rotating parts.

• Model engines generate a lot of heat. The motor and silencer in particular become very hot when running, and stay at a high temperature for quite a while. Remove all unused fuel from the fuel tank and motor after every session. Never run an internal combustion engine in an enclosed space such as a cellar, garage etc. Model motors produce lethal carbon monoxide gas just like full-size engines. It is important that you are able to stop your motor at any time. This is achieved by adjusting the throttle so that the barrel closes completely when you move the throttle stick and trim to their end-points. If this does not work, pinch the fuel feed line between your fingers or pull it off the carburettor.

• Many model motors are very noisy, producing a sound level much higher than 85dB, which implies that you should wear ear defenders. Never run a motor without the silencer fitted.

• Whenever you are working on the motor, make sure that you are on a safe surface and cannot slip. Get used to holding the model securely

• If you start your motor when the model is standing on loose or sandy ground, the propeller will suck up sand and dust and hurl it around, and it could easily get in your eyes. Wear protective goggles at such times.

• Model fuels are volatile and highly inflammable. Keep them well away from open flames, excessive heat, all possible sources of sparks and anything else which could result in a fire. Do not smoke in the immediate vicinity of fuel or fuel vapours. Model fuels are toxic; do not allow them to come into contact with your eyes or mouth. Fuel should always be stored in clearly marked containers, out of the reach of children

• Propellers and other rotating parts which are powered by a motor represent a permanent hazard and present a real risk of injury. Don't touch them with any part of your body. Keep well clear of the rotational plane of the propeller, you never know when some part may come loose and fly off at high speed, hitting you or anybody else in the vicinity. Never touch the revolving propeller with any object. Take care with loose clothing such as scarves, loose shirts etc. Clothing can easily be sucked into the area of the propeller and then get tangled in the blades.

• Take particular care when carrying the model with the motor running. Hold the rotating parts well away from you!

• Don't operate your model from public roads, school playgrounds, public parks or sports grounds etc. Keep a safe distance from residential areas: at least 1.5km "as the crow flies". Always keep well clear of high-tension overhead cables. The best solution is to join a model flying club and use the approved flying site.

• If there are passers-by or spectators at your flying site, make sure that they are aware of the dangers inherent in your activity, and insist that they keep a safe distance away (at least 10m). Watch the model constantly while it is in the air and ensure that you are always in full control of the model. Never fly directly over or towards people

• Take-off and landing strips should be kept free of unauthorised people and movable obstacles, particularly when a model is using the strip

• Radio-controlled models should only be flown in "normal" weather conditions. Extreme temperatures can lead to changes in battery capacity, material characteristics and other unwanted effects

If you take reasonable care, model flying is a highly creative, instructive, enjoyable and relaxing pastime.

Pre-flight checks

• If you are a relative beginner to model flying, we recommend that you enlist an experienced model pilot to help you check and test-fly the model.

• It is fundamentally essential to set the Centre of Gravity (CG) and control surface travels correctly. Adjust the model until they are exactly correct.

• Ensure that the channel you intend to use is not already in use by other modellers. Never fly the model if you are not certain that your channel is free.

• Before you fly the model check that the radio control system is working reliably, and that all connections are secure. Check the radio control system works correctly at full range before every flight: switch on the transmitter and the receiving system, but leave the transmitter aerial collapsed. Walk away from the model, and check that all the control surfaces work smoothly and immediately at an appropriate distance, and deflect in the correct "sense" (direction) relative to the stick movements. Repeat the checks with the motor running, while a friend holds the model firmly for you.

The batteries must be charged and the range of the radio control system must be checked before you operate the model. In particular, the radio control system batteries must be fully charged before each session. Every time you intend to operate your model, and after each flight, check carefully that it and everything attached to it (e.g. propeller, linkages, control surfaces etc.) is in good condition and undamaged. If you find a fault, do not fly the model until you have corrected it.

• Be sure to keep an adequate supply of fuel in the tank. Don't continue to fly the model until the tank is empty.

• Clean the model carefully after every flight, and remove any dirt from the propeller. Clean the model and RC components using suitable cleaning agents only.

• All model flyers should behave in such a way that the danger to people and property is minimised. Never act in any way which will disturb other flyers and jeopardise safe, orderly flying at the site. In legal terms our models are classed as aircraft, and as such are subject to legal regulations and restrictions which must be observed.

• If the model is not to be run for a considerable time it is important to clean and re-lubricate all the moving parts

WARBIRDS

Warbird Replicas, rediscover the pleasure of model making...

Whether you're a new or experienced builder, the current line-up of top quality kits from Warbird Replicas will give you the unique feeling of building and then flying something you have created. To make construction quick and easy, kits feature laser-cut plywood parts and hand picked pre-cut balsa. Cowl, canopies, scoops and exhaust stacks included in most kits. Unlike many other manufacturers every component has been included for its durability, performance and suitability not cost alone.

Recommended accessories available for all kits

Exhausts

2 stroke in-cowl silencer .40-.53 – £14.99

4 stroke in-cowl silencer .52 – £19.99

Retracts

Mechanical Retract Pack – £49.95

Includes 1 pair of mechanical retracts plus undercarriage legs, vacuum formed wheel wells, retract servo and invaluable instruction sheet.

Pneumatic Air Retract Pack – £109.95

Includes 1 pair of pneumatic air retracts plus undercarriage legs, vacuum formed wheel wells and invaluable instruction sheet.

Servos

SuperTec retract servo S136GH (with accessories) – £21.50 each

Miscellaneous

Pilot & cockpit set – £9.95

Books

Scale Aircraft, Models for Everyday Flying *by Gordon Whitehead* - £18.00

Kit Postage

Mainland UK- £9.95

Overseas - contact us for international rates

Lavochkin LA7

GBP £119.95 inc VAT

Specifications
Kit difficulty rating ●●●●●
Wingspan: 1450mm [57"]
Radio: 4-5 channel
Motor: 40-46 2st or equivalent 4 stroke
Weight: 6lb approx

ME109

GBP £119.95 inc VAT

Specifications
Kit difficulty rating ●●●●●
Wingspan: 1400mm [55"]
Radio: 4-5 channel
Motor: 40-46 2st or equivalent 4 stroke
Weight: 6lb approx

Mustang P51B

GBP £149.95 inc VAT

Specifications
Kit difficulty rating ●●●●●
Wingspan: 1425mm [56"]
Radio: 4-5 channel
Motor: 40-46 2st or equivalent 4 stroke
Weight: 6lb approx

Optional extras:
Malcolm Hood style canopy [as shown above] – £4.95

Hurricane

GBP £129.95 inc VAT

Specifications
Kit difficulty rating ●●●●●
Wingspan: 1550mm [61"]
Radio: 4-5 channel
Motor: 53-60 2st or equivalent 4 stroke
Weight: 8.5lb approx

Optional extras:
Scale Robart wheels for above – £12.95

WARBIRDS

To purchase any kit or accessory please visit our website at **www.warbirdreplicas.co.uk**
Alternatively contact: Warbird Replicas, 17 Curzon Way, Chelmsford, Essex CM2 6PF England
Email info@warbirdreplicas.co.uk Telephone +44 [0]1245-284791 (9am-7pm only please)

Designed & manufactured in the UK