



HMS 'Blake'

MUCH-REQUESTED CRUISER-HELICOPTER
CARRIER CONVERSION

By Peter Hodges

AS the second world war drew to its close, it became clear that the many warships ordered at an earlier time during hostilities would be surplus to the requirements of a peace-time Royal Navy. Consequently, large numbers of ships were cancelled either before their keels were laid, or during an early stage of their building. The classes affected covered the whole range of warships from projected battleships and aircraft carriers to small ships of all types.

Amongst those cancelled vessels were a number of 6 inch cruisers, of which three hulls were well advanced and were not scrapped. They were subsequently to become HM Ships *Tiger*, *Lion* and *Blake*. Compared with the new generation of post-war units, whose outline is a great departure from that of their forebears, the hulls of these three cruisers, and indeed their general layout looks somewhat dated.

BACKGROUND TO THE SHIPS

The final class of 6 inch cruisers stemmed directly from the original 'Southamptons' which, in 1936, introduced the triple 6 inch gun turret into service. These fine vessels, ordered under the 1933 Estimates, were designed to keep pace with the foreign 6 inch gun cruisers being laid down by most of the major naval powers. An extension of the British ships—the 'Improved Southampton' class—survives in HMS *Belfast*, her only sister-ship HMS *Edinburgh* having been lost in 1942.

The future of *Belfast* herself is uncertain at the time of writing, but it is to be hoped that she will be preserved as a floating museum. In the meantime, she remains as the headquarters ship of the Reserve Fleet in Portsmouth. Had she been available it would have been, perhaps, a nice diplomatic move to send her to her name-port of Belfast during the recent Ulster disturbances.

Between 1939 and 1942 a new group emerged, whose general outline—except for their upright funnels—was much the same. This was the 'Fiji' class, but when the name-ship was sunk in 1941, they became known generally as the 'Colony' class cruisers. Various improvements were included in their design, including a square stern, quite different from the earlier form. Indeed so long established was the previous arrangement that it had become known in general shipping circles as a 'cruiser stern'.

Like the 'Southamptons' the 'Fiji' class were designed to mount 12×6 inch guns in four triple turrets, but as the war progressed 'X' turret was removed and close range AA weapons added in lieu

generally in the form of a pair of quad pom-poms side by side. The decision to thus amend the armament was made when later units of the class were in a very early stage of building, and these were, in fact, built as three-turret ships.

Both the 'Southampton' and the 'Fiji' class had large aircraft hangars abreast the fore funnel and carried Walrus amphibians, launched by a fixed beam catapult sited athwartships between the funnels.

When the next class of 6 inch cruisers following the 'Colonies' was planned, the three turret principle was well established; further, the spotter/reconnaissance aircraft had been made obsolete by the advances made in Radar techniques, so that no hangar facilities were to be provided.

The final group was originally known as the 'Minotaur' Class and was to have comprised about twelve ships, but only six were eventually launched. Three vessels were completed as conventional 'three-turret' ships, *Swiftsure* and *Superb* being commissioned into the Royal Navy, and *Ontario* joining the Royal Canadian Navy. The latter ship joined HMCS *Quebec* (ex-*Uganda*) to give the Dominion a cruiser force for the first time.

Events overtook the other ships, and three hulls remained incomplete for some 9 years after the war, during which time major changes were made in gun mounting design. Eventually it was decided to complete them to an entirely new weapon layout, which will be familiar to the modeller who has completed the Airfix *Tiger* kit.

All three ships ran as conventional cruisers, frequently being employed as flagships, but as the new generation of 'County' class guided missile 'destroyers' came into service, the 'Tiger' class ships, as they had become known, were withdrawn into reserve.

Meanwhile, the need for a new type of vessel—a Command Cruiser—had arisen. This ship was required to have the most flexible capabilities, to include gun fire support for amphibious landings and surface offence/defence; anti-aircraft self-defence by gun and missile; helicopters for A/S work; long range Radars for early warning; and adequate internal accommodation for the administration of a naval force.

To meet these requirements, HMS *Blake* was taken in hand in Portsmouth Dockyard for a complete modernisation. Basically, this involved the removal of the after 6 inch turret and both sided twin 3 inch mountings, and the building of a large flight deck-hangar area extending from the after superstructure to the stern. This arrangement is, in fact, not novel, for the Japanese planned a very similar alteration to their 'Ise' class battleships towards the end of the war in the Pacific, to enable them to carry strike aircraft at the expense of the after main armament.

The result in *Blake* has produced a vessel which looks ugly and hybrid in the extreme, as is often the case when basic designs are radically altered. The forward part of the ship has been largely unaltered, both the centre line 6 inch mounting and the super-firing 3 inch abaft it being retained. Little alteration is apparent in the area of the waist except that the sided twin 3 inch have been replaced by Seacat launchers. Aft this area, however, the structural changes are very great indeed, and the whole outline has been much altered. Quite apart from the flight deck area, a modern-style mainmast structure has been erected to carry the large warning

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HMS 'Blake' — continued

Radar set which features in a number of other classes.

The 3 inch gun is principally an AA weapon, but the 6 inch, for all its calibre, is a dual purpose gun and can be used with devastating effect in either a surface or an AA engagement. Each turret has its own director and fire control system. The 'sided' directors which originally controlled the beam 3 inch turrets have been linked to Seacat missile launchers to provide close-range AA protection.

Having dealt with the background to the 'Tiger' class cruisers, we can now proceed with the rebuild of the Airfix *Tiger* kit. Several parts from the *Devonshire* kit can be used, but these are not strictly necessary, and may be made from scrap.

The work can be broadly divided into three stages:

- (i) The construction of the new Flight-deck/Hangar area with its integral main mast.
- (ii) The assembly of the Airfix kit components forward of the waist.
- (iii) The final 'super-detailing' of the model.

PRELIMINARY STEPS

Parts 1 and 2: Cement the hull halves together, removing the projecting lugs (which represent fairleads) on the quarterdeck area, and the moulded lower booms on the ships side abreast the main superstructure area.

Part 3: Remove the bollards on the quarter-deck; cut off and retain the liferaft stowages (three to port and six to starboard); cut away the after main deck from abaft the beam 3 inch guns, and file flush with the quarter-deck; file away the deckhouse abaft the after funnel and also the raised parts of the 5 inch gundecks to deck level; file the two 'stretcher' shaped mouldings outboard of the dinghy positions abreast the fore funnel into a square shape of 3 mm side; plug all deck holes except those for 'A' turret and 'Q' (the forward 3 inch); drill the portholes in the main superstructure as shown on the scale drawing; cement the modified deck into position on the hull halves. Fig 1 in the drawing shows the appearance of the quarter deck when these modifications have been carried out.

FLIGHT DECK AREA

This area is most interesting in shape. Firstly, both hangar and flight deck are at maximum beam width. The flight deck edges then run parallel until they reach the quarters where they curve slightly. Meanwhile the quarterdeck beneath tapers sharply towards the narrow stern, so that the rebuilt ship's side between this deck and the flight deck becomes gradually more concave as it approaches the typical aircraft carrier-style flare at the quarters.

I had ambitious ideas of 'framing' up this and plating the frames to follow prototype practice. It soon became clear, however, that this would prove to be very difficult to engineer in 1:600 scale, and I abandoned the scheme in favour of a solid balsa block.

As can be seen from the drawing, there are unusual planes of intersection created by the curve of the flight deck, and the fact that it overhangs the stern. The 'scimitar blade' shape, widening as it draws aft, would be difficult to cut and fit were it to be made from sheet plastic; when the whole structure is built from a balsa block, this plane takes care of itself.

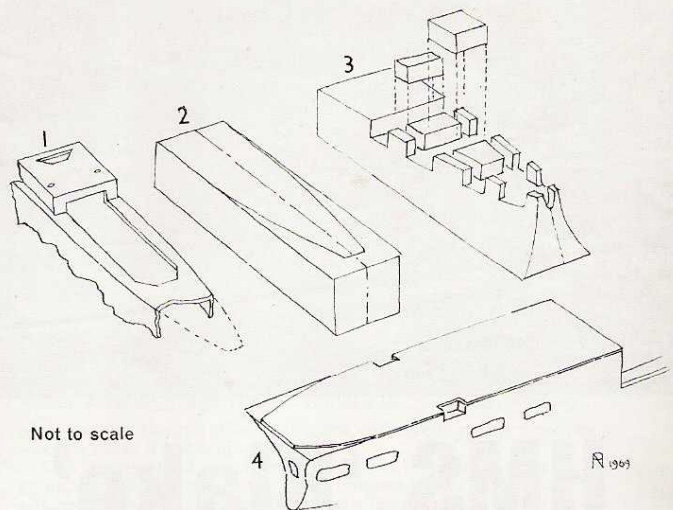
A balsa block 112 mm × 32 mm × 8 mm thick is required. Mark off a centre line right round it, to follow the centre line of the hull and hold it firmly in position on the quarter deck, butting its forward edge hard up to the old 3 inch gundeck. Run a pencil round the contour of the quarter deck to mark the underside of the block (Fig 2) and chamfer the overhang of the flight deck above the stern.

When this has been done, remark the centre line on the chamfered end of the block, and then mark the outline of the flared quarters on it.

Starting from the quarters and working forward, sand away the balsa, deeply concave aft, and gradually easing to a flat surface beneath the hangar area. Leave the complete block slightly oversize at this stage; it will be further sanded down in due course. I used very fine glass paper, wrapped around a small water-colour brush to get the contour right, and the roughing out operation is over quite quickly.

Next, mark out a series of parallel lines on the underside of the balsa, spaced to correspond to the quarterdeck openings, taking

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Above: Constructional drawings show stern changes. (1) Preliminary modifications to quarter-deck. (2) Balsa block with quarter-deck outline. (3) Quarter-deck with stern chamfer and slotted areas. (4) Flight-Deck—plastic sheet in position on parallel balsa block.

Right: Key to 1:600 scale drawings: (A) Side elevation, with long range Radar aerial on mainmast in sea-stowed position. Normally stowed athwartships in harbour. (B) Plan. Notice main radio aerial connection on centre line of structure abaft after funnel. Dots on Flight Deck lining represent landing lights. (C) Side elevation of starboard superstructure, showing life-raft stowage arrangements. (D) Rear elevation, with pendant number. Number on ship's side should be spaced 6 mm forward of lower booms. (E) Side elevation of foremast, with simplified lattice formation. (F) Front elevation of foremast showing additional aeriels. Key to scrap sketches: (G) Mainmast, showing twin stays to yardarms and height-finding radar. (H) Flight Control position. (I) After funnel with yardarm. (J) Fo'c'sle area, showing additional fittings and collapsed bipod legs on 'Q' gundeck. (K) Hangar top, with access into foot of mainmast. (L) Bridge with whip aeriels and extra lockers on flanking deck. (M) Rear of main superstructure with access ladders and pylon on port side. (N) General arrangement of mainmast.

the dimensions directly from the side elevation of the scale drawing. When this is done, file or cut out slots of the correct width and depth, and then cut out the unwanted balsa to give an open effect aft and 'walk-ways' to port and starboard further forward. Fig 3 shows the progress so far. Finally, fill in the forward centre section in the area of the old 'X' gun position as shown above Fig 3.

At this stage, paint the existing quarter deck in 'wood' colour; give the slots in the balsa block two coats of sanding sealer and when dry, paint all the internal vertical surfaces white. When satisfied with the internal paintwork, stick the balsa block to the quarter deck (I used Evostick) aligning its centre line accurately to the hull. Notice at this point in construction, that the flight deck is still parallel throughout its complete length.

Now, cut a piece of thin plastic sheet to cover the complete area of the flight and hangar decks, again taking the dimensions directly from the drawing. Don't forget to cut out the two shelter pockets to port and starboard just abaft the hangar. Mark a centre line on this, align it to the centre line on top of the balsa block, and cement it in position (Fig 4). If the excess balsa at the quarters is now smoothed away vertically to conform with the contour of the plastic sheet flight deck, the 'scimitar' shape plane of intersection will develop.

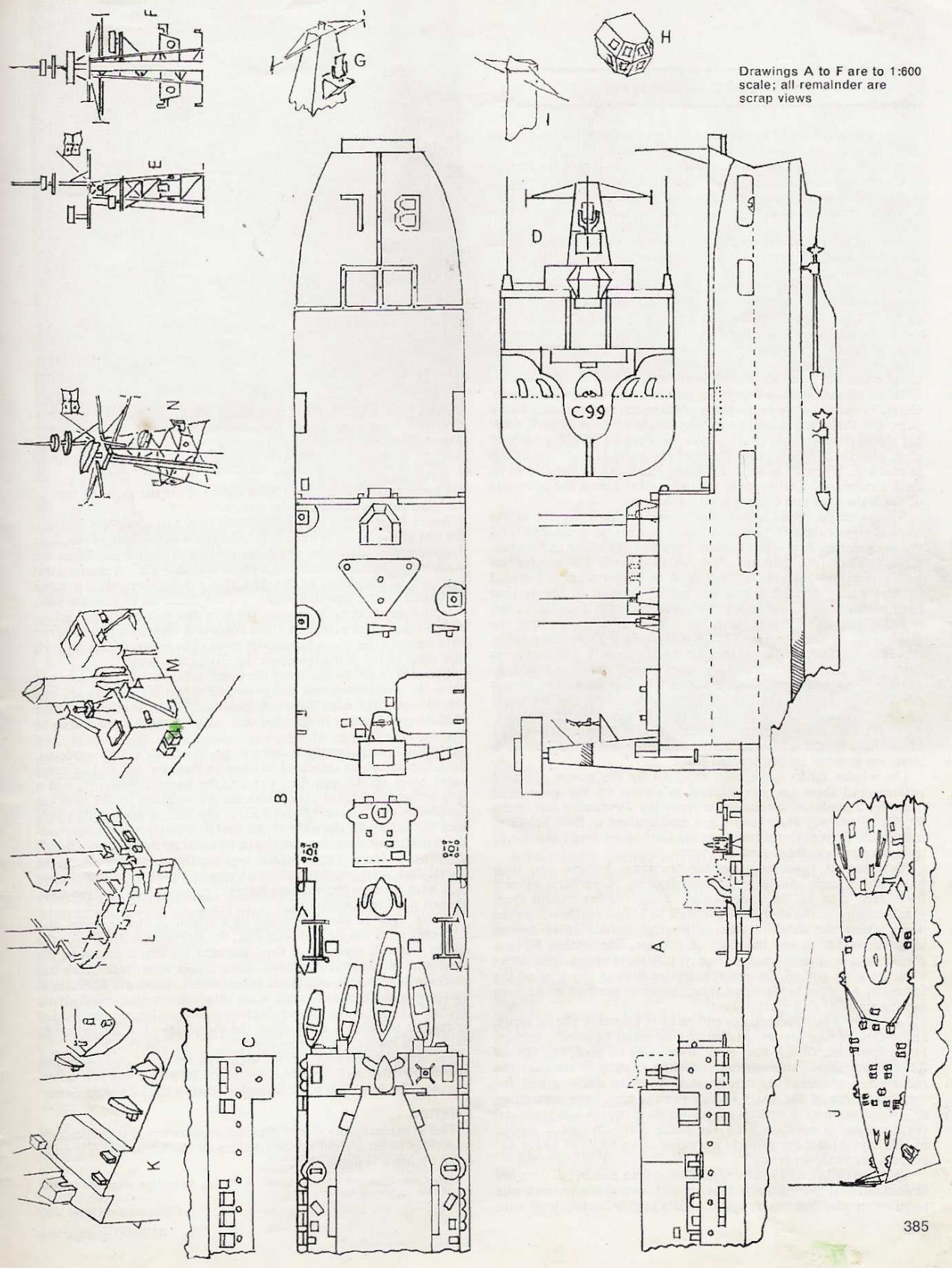
The hangar can now be built up. I constructed this from sheet plastic, but it, too, can be made from a solid balsa block if desired. Notice that the forward bulkheads are angled, and that the main mast is set into them, with only a proportion of the mast projecting forward on to the old 3 inch gun deck. Even if balsa is used for the hangar, it would be best to 'plate-in' the angled front faces with plastic sheet.

The mainmast I again made from sheet plastic. There is a projection on its after face carrying a Radar aerial—part 29 of the *Devonshire* kit—and the mast is topped by the large Early Warning

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Drawings A to F are to 1:600 scale; all remainder are scrap views



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Radar which is part 32 of the same kit; on the port side of the mast there is an access into it from the hangar deck.

A small platform projects from the port angled face of the hangar.

On the top of the hangar deck there are several fittings including a triangular shaped platform carrying gun-direction instruments, and four whip aerials, one of which is mounted on a prism-shaped Flight Control position. I made this from a built-up block of sheet plastic but obechi would do as well. Don't try to use balsa, because the wood tends to break up when one tries to achieve the multi-surface shape.

There are two hangar doors which open upwards roller-shutter fashion into trunks on the hangar roof. They are bordered by a sort of 'door-frame' and if the hangar is made from sheet plastic it is, of course, possible to have the doors in the open position. Naturally, this would make it necessary to include some details within, but a good compromise is to have one door slightly raised which is the usual condition when an aircraft is about to land on.

When all this work is complete, go back to the flight-deck area. Carefully cut out slots in the balsa to make the pockets on the deck edge, and then plate them in with tiny scraps of sheet balsa. Undercut the overhanging structure above the stern to accept a piece of sheet plastic cut to the exact shape of the quarters and cement this in position. When all is done, the balsa block can be reduced to its final dimensions. Lastly, build up the pocket across the after end of the flight deck and cement it into position.

All the major rebuilding is now complete, and the rest of the work is largely concerned with detail. Add the four whip aerials on the hangar, together with the main yard and the offset gaff. Amidships, immediately abaft the after funnel there is a new structure with several small lockers on its deck. A Seacat launcher is mounted to port and starboard. These are usually stowed in the vertical position, with the centre boss (which represents the directing aerial) pointing upwards. Seacat launchers are available in either the *Devonshire* or the *Fearless* kit. If you don't wish to cannibalise these kits, use the parts as patterns for making up your own launchers from scrap.

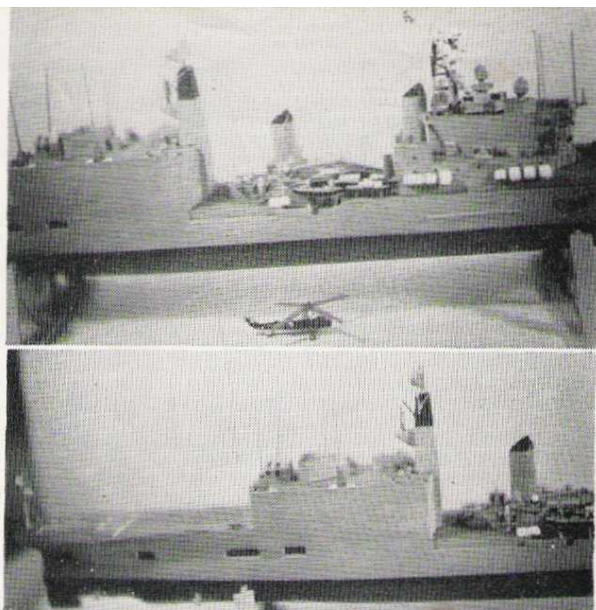
There have been several revisions in the boat deck. The largest motor boat (part 13) is set slightly off the centre line, and is flanked by two smaller boats. Only one of these is provided in the *Tiger* kit, (part 15) so another needs to be filed up from scrap. A Fast Motor Boat (part 14) is set outboard on the starboard side. All these boats are lowered by the original crane.

The whaler davits have been replaced by the power operated pattern, and these are repositioned as shown on the main scale drawing. The davits are available from the *Devonshire* kit, (parts 50, 51, 56 and 57) They need slight modification to their height to make them fit. Again you could use the *Devonshire* davits as patterns to make new ones from stretched sprue.

Both funnels have large up-take trunkings leading into their bases which again can be seen in the drawing. A yardarm extends from each side of the after funnel. Long ladders extend from platforms projecting over the boat deck to higher platforms on the decks where the dinghies were originally stowed. These are no longer carried here, and the space on the port side is taken up by a small pylon structure. Another pair of ladders connects these decks with the after end of the main superstructure at the foot of the foremast. All these ladders and their platforms are best made from narrow strips of thin plastic sheet.

I made up a new foremast complete from extended plastic sprue, but modellers who are less particular may prefer to use the existing kit components. In any case part 50 can still be used, but cut off the athwart ships yardarms and set them slightly lower than the radar aerial platform. As can be seen from the drawing and the sketches, some of the spars in this general area have supporting struts and some have vertical aerials on their tips. A large 'cheese' shaped aerial is positioned on the radar platform and a second smaller aerial platform projects outwards at an angle of about 45° beneath the yardarm array.

Abaft the main aerial is a topmast fitted with a number of complex devices, all best made from plastic scrap. Lower down on each side two further platforms carry small aerials approximately level with



Above: Two close views of the midship changes, Wessex helicopter, and new flight-deck/hangar structure on the author's model. Compare with heading picture of actual ship on page 383.

the fore-funnel. A square section trunking on the forward face of the mast carries cabling to the aerials.

Apart from a pair located on each side, just abaft the whalers, the rest of the life rafts have been positioned on the side of the main superstructure above the gangways leading to the foc'sle. Some are double stowages and some single; note that they are not symmetrical side-to-side. Each side, on the deck above them, there are a number of lockers, and a launcher with a curved shield on its inboard side.

Whilst working on this area, 'plate-in' the rear of the projecting bridge wings with scraps of sheet balsa and cement a plastic sprue strut beneath the wings to support them. The forward item on each side close to the struts represent the navigation lamp.

Three whip aerials rise from the upper bridge level. The outboard units are carried on small wedge shaped supports; the forward one can be cemented onto the existing projection on the forward face of the upper bridge; In front of this 'whip' cement a short stub to represent the D/F aerial.

Little additional work is needed on the fo'c'sle and gundecks. Both turrets can be cemented in place as they are, but add an extra hatch cover on 'Q' gun deck beneath the barrels. Similarly, add a tiny rectangle of sheet plastic outside the moulded screen door on the port angled face of 'Q' gun deck to represent a wooden dumping area for stores. In the area of the breakwater there are some projecting cylindrical trunkings and an extra pair of roller-fairleads abreast the cable holders. The moulded lugs on the ships side along the foc'sle deck represent fairleads and should be given a tiny 'V' shaped nick with a razor blade. Twin booms are stowed on 'Q' gundeck, abreast the 3 inch mounting.

In the 'eyes' of the ship, make up a tripod of plastic sprue, and then cement to it a separate jackstaff. Similar work is needed for the ensign staff aft, except that here, the staff fits into a socket in the deck and is supported by removable bipod legs. Both staffs are timber, while their supports are tubular steel. There are fairleads in the quarter deck openings aft, easily made from a scrap of plastic 'nicked' like those on the foc'sle. Separate boat-booms are needed to replace those filed away from the ships side—but remember to paint them before positioning them.

For some astonishing reason, the Airfix kit omits two propellers and their shafts, and these must of course be added unless a water-line model is built. All other assembly follows the kit instructions.

PAINTING

This is naturally the key to the final appearance. It is particularly important to get a good smooth surface on the balsa. The following colour scheme is applicable:

Light Grey: Hull and superstructure: all fittings, mountings, directors, funnels etc, Radar aerials on mainmast.

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By

PETER STAHL



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HMS 'Blake'—from page 386

Dark Green: All decks, including director platforms, *except* flight deck.

Light Green: Top of starboard cable holder; starboard navigation lamp.

White: Bollards and fairleads on deck edges; muzzles of guns; life raft stowages; fore topmast; fore-mast radar aerials and yards; upper surface of fore radar platform. Canopies of motor boats; all boats beneath their waterline; radar aerials on front face of directors; semi-circular areas at base of whip aerials on flight deck, and around main roof connection abaft after funnel; jackstaff and ensign staff supporting stays; flight deck markings and letters.

Black: Funnel caps; foremast and cable trunkings between funnel top and radar platform; upper surfaces of main mast; gun barrels; hull of all boats *except* the Fast Motor Boat; bridge windows; windows of Flight Control position; Seacat missiles; boat topping; pendant numbers.

Red: Pyramid shaped bases of whip aerials on hangar deck; main roof connection on deck of structure abaft after funnel; locker on starboard edge of flight deck; port navigation lamp; top of port cable holder; noses of Seacat missiles.

Light Brown: Rectangular areas abaft 6 inch turret on fore'sle deck; decks of boats; quarter deck, ensign and jack staff; booms on the ships side abreast the main superstructure.

Dark Grey: Flight Deck; rotor blades on helicopters.

Dull Red: Hull beneath boot topping.

Bronze: Propellers.

Yellow: Seacat launcher aerials; upper fuselage of helicopters; tips of rotors

Dark Blue: Helicopter fuselage; hull of Fast Motor Boat.

The lining of the flight deck marking can be quite easily achieved by using thin strips of Sellotape. Stick down two parallel strips, leaving a narrow gap between them and stencil with white paint. When dry, peel off the Sellotape and a dead straight line will be left. Alternatively, Blick dry print strips may be used. When the lining is complete, make a series of dots with a hard pencil on the white lines to represent the landing lights.

When they become available, HMS *Blake* will be equipped with Sea King helicopters but in the interim she carries four Wessex. This aircraft is available in both the *Devonshire* and the *Fearless* kits. I slightly modified mine, by removing the rather unsightly representation of the undercarriage and rebuilding better components from sprue and scrap. I also thinned down the main rotor blades which are a bit lumpy. Helicopter blades have a marked droop when they are stationary and, this is easily done by slightly bending the blades downwards.

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The code letters on the Flight Deck are Yeoman $\frac{5}{16}$ inch transfers. These are over-thick and need to be carefully trimmed. In addition, the letter B should be made squarer in shape. All this is best done with a new razor blade before the letter is cut out of the sheet. This gives the extra advantage of removing the unwanted reflective surface of the backing. The scale drawing shows the position and shape of the letters. Again Blick lettering can be used, both for these code letters and for the pendant numbers.

One word of explanation. To avoid unnecessary clutter in the main drawing, I have omitted some of the standard kit components—which should be placed in position following the kit instructions. For example, the funnel outlines are shown dotted on the side elevation but the additional exhaust trunkings leading into them have full lines. Similarly, neither the Seacat directors, nor their supporting structures are shown, but must be included in the model.

Finally, add draught marks by a series of tiny white dots on each side of the bow midway between the anchor and the breakwater: and also on each quarter above the after screws. Terminate the marks at the boot-topping.

My own model is in the 'entering harbour' state. The jackstaff has been rigged, ready for the Union Flag when the ship is alongside, while a White Ensign flies from the ensign staff on the Flight Deck. A Rear Admiral's flag flies from the gaff on the foremast. (At sea, the White Ensign is normally flown from the off-set gaff on the mainmast). On the fore port yardarm is the International Code signal giving the ship right-of-way in Naval ports. This is the Code Pendant over pendant Zero. On the fore starboard yardarm is a Naval signal—the 'Designation' pendant over flags S R J, showing that the ship will be berthing at South Railway Jetty in Portsmouth Dockyard.

Though Part 3 of 'Wehrmacht Markings' was promised for this issue, we have, in fact, switched it with the article featuring HMS Blake which was originally scheduled for next month. This has been done to make best use of available space in our somewhat crowded schedule. 'Wehrmacht Markings' will appear next issue.

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