

# The 'River' class frigates

MAKING THE MODEL

By Peter Hodges

THE Airfix kit hull which lends itself to conversion is that of *Hotspur*, because the rake of her bow is just about right. Her hull is overlong, of course—and in any case the shape of the stern won't do—but with a little careful work in sheet polystyrene and balsa, this can be overcome.

The comparative dimensions of the two classes (in feet) were as follows:

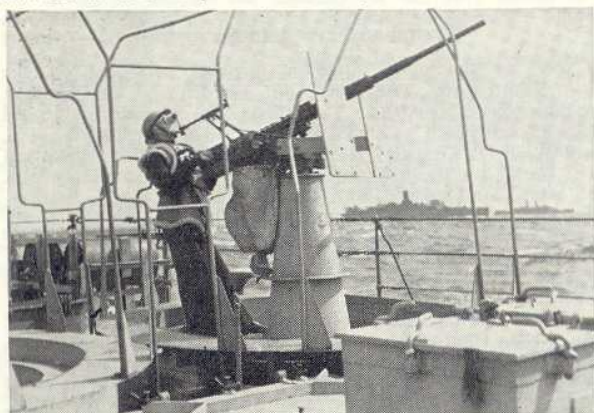
	Length (overall)	Beam	Draught
'H' class	323	32.25	8.5
'River' class	301	36.75	12

The difference in beam is approximately 2 mm in 1:600 scale, so that the *Hotspur* hull is a trifle narrow-gutted, but if the modeller is prepared to accept this, he can go directly to the re-build of the stern. On the other hand, extending the beam is not too difficult and I felt that it was well worth while.

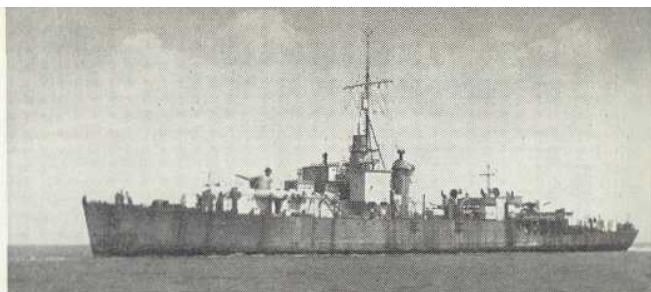
It is best done by cutting out a piece of thick styrene sheet in the shape of an 'L' with a very long 'foot' running along the keel. I didn't have any sheet 2 mm thick but two 40 thou strips cemented together were quite satisfactory—and 80 thou is exactly four scale feet. Sketch G shows the scheme. It goes without saying that one needs to file off the aligning spigots on one hull half and that the halves must subsequently be trued up before the cement sets. Thus, it is best to cement the 'keel' to one hull half first, and then fix the other to it. Make the width of the insert plenty big enough so that it can be filed down to size when the assembly is rigid. At this stage it is not a bad plan to cement some stiffeners within the hull because it will be cut through in due course, ready for the new stern section.

When the hull has thoroughly set, file down the excess plastic protruding from the keel and similarly dress up the bow to a smooth contour. Its rake can now be made dead right provided that the plastic insert has been cut generously. Anything showing inside the hull won't matter because it will be covered by the deck.

So far, so good. Next, the existing stern must be cut off. Make the cut as true as possible—vertically downwards and at 90



This wartime view of the port quarterdeck *Oerlikon* on an escort clearly shows the safety firing preventer rails, mentioned in the text. Note the spent cartridge bag; the ready use locker in the foreground; and the wooden wedge between the nearest depth charge and its stop bar.



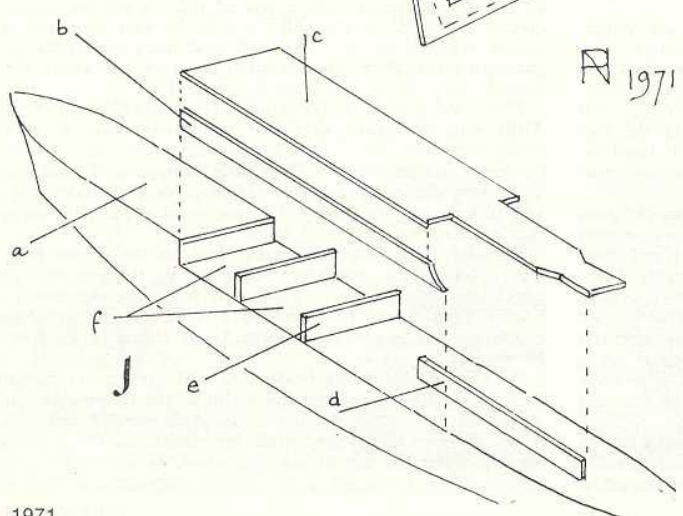
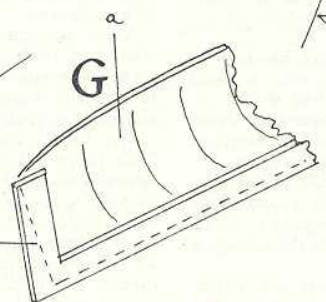
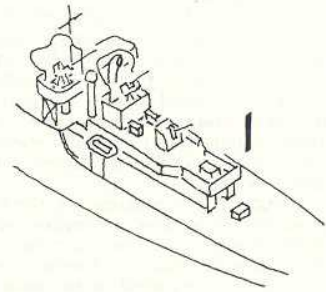
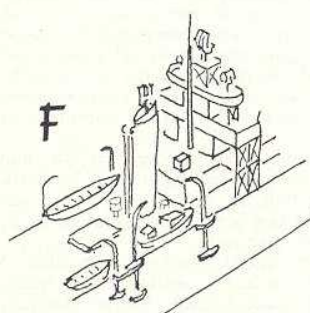
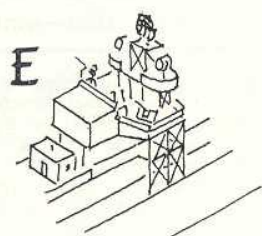
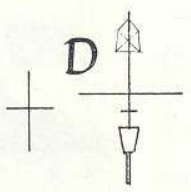
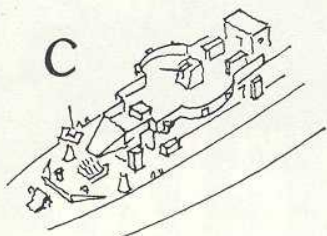
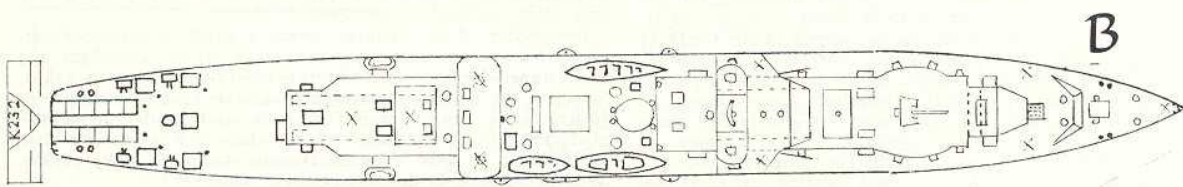
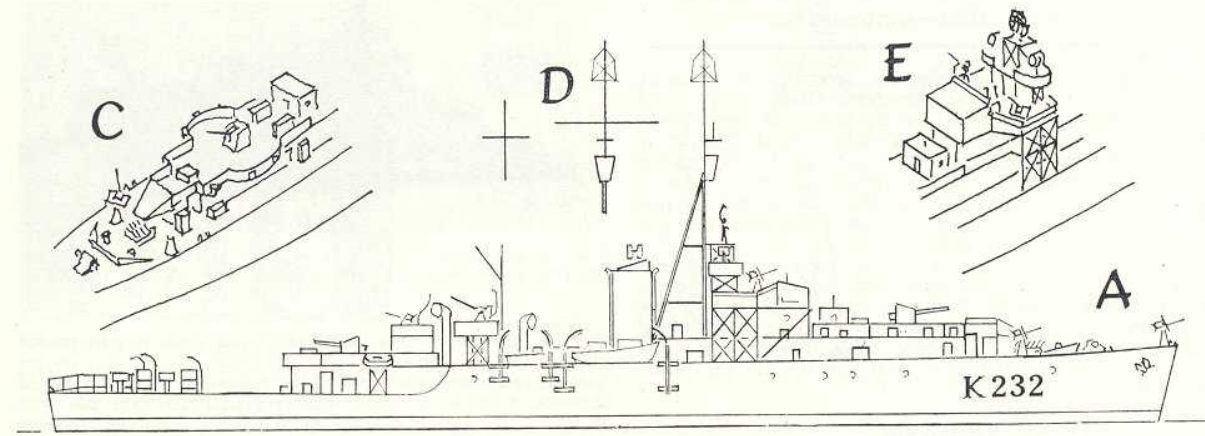
Top: HMS *Test* off Portsmouth in 1952, when she was in reserve. Notice the 'boxed in' bridge wings, the radar lantern on the bridge and the HF/DF aerial on the fore topmast (Wright & Logan). Above: HMS *Helmsdale* entering Malta in 1953, with *Hedgehog* and double *Squid* but with the earlier D/C armament removed (A. & J. Pavia).

degrees to the fore-and-aft line—but don't worry if it's a bit out: it can always be squared up with a file. Now, a piece of balsa is needed to make the new stern. As before, it should be well oversize, with the forward part shaped to fit into the 'open' stern left by the vertical cut (Sketch K). This shaped part should be about 10 mm long, to ensure that it sets rigidly. Once it is firmly in position, bring the top surface down to the level of the 'ledges' inside the hull halves and shape it up to the new contour. The 'Rivers' had a fine run aft, terminating in a 'V' shaped transom; an end view shows this and the work is quickly done with sandpaper.

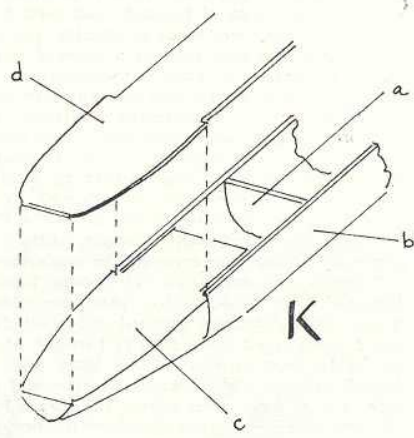
The widened hull can now be decked over. Cut a new fo'c'sle to the existing 'break' and a new quarter deck over the rest—both from 40 thou sheet. Notice that the quarter deck is stepped outward slightly at the joint between the old hull and the balsa. When this is complete, work can start on the extension of the *Hotspur* fo'c'sle deck towards the stern. The curved ship's side at the old break of the fo'c'sle should be squared off—a quick job with a razor blade and a file—and a couple of transverse 'bulkheads' fitted to stiffen the strip of plastic forming the raised ship's side. An aftermost bulkhead is needed to coincide with the new 'break' but this is not shown on Sketch J which otherwise shows the general idea. From this, it will be seen that these bulkheads, the new extension to the ship's side and part 'd', are all of the same depth, and can be taken from one long strip, chopped up as required. Again, I used 40 thou plastic, undercut in depth so that the lengthened fo'c'sle deck—'c'—lay flush with the forward part. Although it is perfectly feasible to make the whole length of the fo'c'sle in one piece—ie, from stem to quarter deck—it is easier to fit if it is made in two parts as described. Notice that the longitudinal bulkheads supporting 'X' gundeck were overhung by it; and that the aftermost end was open. All

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**Key to drawings opposite:** (A) Scale side elevation. (B) Scale plan. (C) Detail of forward 4 inch gundeck. (D) (Scale) Front elevations of fore and main yards. (E) Detail of bridge sponsors. (F) Detail of boat deck and bridge rear. (G) Hull modifications: (a) Starboard hull section; (b) Keel filling piece. (H) Detail of tripod foremast. (I) Detail of after 4 inch gundeck. (J) *Hotspur* hull modifications: (a) Fo'c'sle; (b) Port side filling piece; (c) Fo'c'sle deck extension; (d) Port side of quarter deck superstructure; (e) Bulkheads to support extensions; (f) Continuous quarter deck. (K) Modification to *Hotspur* stern: (a) Stiffening dummy bulkhead; (b) *Hotspur* hull; (c) Balsa plug; (d) Quarter deck.



1971



A and B — 1 : 600 scale;  
remaining sketches not  
to scale

## 'River' class—continued

the parts so far can be dimensioned directly from the scale drawings but do remember that these give *outside* sizes.

The basic hull is now complete but the reader will have already observed that although the beam is correct, the hull depth is still in error by some  $3\frac{1}{2}$  scale feet. I chose to ignore this, because it is less than 2 mm and is in any case obviated on a waterline model. Further, one normally looks down on models in this scale, so that though an error in the beam is noticeable, it is less marked if it occurs in the depth.

The rest of the superstructure is made from suitable styrene sheet in the usual way. The biggest single piece is 'B' gundeck, which is stretched from the 'Hedgehog' crew shelter right aft to the base of the tripod foremast. Remember, when cutting this out, to include the slight 'bandstand' effect around the forward 4 inch and also the intermediate platform beneath the upper bridge wings.

### Fitting out

Starting right forward, make up a tripod mounting for the jackstaff, but if a 'bow chaser' is to be fitted, it is as well to omit the tripod altogether. While on the subject of the Oerlikon 'bow chaser' it's worth mentioning the other standard weapon positions. They are shown by small crosses on the scale plan—'sided' single Oerlikons abreast the Hedgehog, a second pair on the bridge wings, a further pair on a sort of 'flying bridge' abaft the boat deck, and a centre-line single on top of 'X' guncrew shelter, superfiring over the after 4 inch. The designed quota was ten 20 mm guns and the final pair had locations on each side of the quarter deck just abaft the after end of the superstructure. Not all ships had a 'bow chaser' and few seemed to have shipped the Oerlikons on the quarterdeck—perhaps to leave more room for extra depth charges. Occasionally, power-operated twin Oerlikons replaced singles but only on the bridge wings or on the 'flying bridge' where they were less vulnerable to bad weather. Single 40 mm Bofors were also sometimes fitted in those positions—and in fact, HMS *Tay*, drawn here, had single Bofors on her 'flying bridge'.

Continuing the progress aft, the two anchors were handled by a windlass-style device, common in ships of this size. A small steam engine drove the horizontal shaft, which had drums on its outer extremities and toothed cable-holders inboard of these. The cable-holders idled on the main shaft, but could be clutched in as required. The drums were used for wires or hawsers.

Next comes a breakwater of normal shape and the fo'c'sle area had the usual quota of fairleads and bollards. With a completely new fo'c'sle deck, one needs to simulate the anchor cables, which can be done very effectively by a series of tiny white dots, leading from the windlass to each hawse-hole.

The Hedgehog mortar was positioned on the centre line, immediately forward of a narrowed extension of 'B' gundeck. The 24 mortar spigots were mounted as described in Part I of this article and a compromise is necessary to model them realistically. The shortest cut is to imagine that the weapon is 'covered', but quite a good likeness can be achieved by cementing the two Quad 0.5 inch mountings from the Airfix *Cossack* kit together. Although there will only be eight 'stubs', they give the right impression if they are arranged to angle forwards.

A number of ventilation 'mushroom' tops rose from 'B' gundeck and from its deck-edge; ready-use ammunition was stowed in conventional lockers forward and abaft the 4 inch; and there was a box-shaped crew shelter, forward of, but separate from, the bridge superstructure. The latter was also rather boxed-shaped and had high sponsons to port and starboard with wind deflectors on their upper edges. The forward part of the compass platform was covered but elsewhere the bridge was entirely open. To afford some protection to the exposed personnel, a shallow glass-pannelled wind screen was set athwartships above the compass platform.

On the centre line in the bridge rear, there was a pylon structure carrying a warning radar. Some ships had the Type 271 'lantern' in which case this structure was plated in because it



*Kale, in reserve in 1950, looks rust-streaked and neglected, but the strong workman-like hull is still evident. Notice the Radar Type 277 aerial on the bridge pylon.*

was the radar office. The aerial within the 'lantern' was trained manually by the operator, who sat below it. On top of the 'lantern', a short dipole aerial of the associated IFF set projected upwards. Later units of the class replaced the Type 271 with Type 277, and in this case the radar office was remote, allowing the support structure to be of open girders. Part 29 of the Airfix *Devonshire* kit is ideal as a Type 277 aerial, but it can in any case easily be made from scrap.

Irrespective of the style of aerial, a platform projected outwards from it on each side, carrying a signal searchlight and again these were supported by struts from the bridge deck below. Similarly, the bridge sponsons had the same kind of cross-braced girders rising upwards from the main deck, with intermediate platforms between the two levels. Cordage reels were often sited on them but in some ships the framing was replaced by plating, to form an extra bridge wing compartment.

The girders can be made up from extended plastic sprue—or, better still, from thin slices of plastic sheet. The advantage of the latter method is that, having determined the size of the parts required, identical lengths can be cut off from a parallel strip. When making any of the re-build units, do remember to allow for the thickness of the various decks when marking out from the scale drawing, or the model will grow disproportionately higher with each level.

Abaft the sheer drop of the bridge rear, 'B' gundeck level continued to form the base for the tripod foremast. Extended sprue is needed for this as well as for other similar spars. Incidentally, notice the two heavy booms cocked up at 45 degrees abreast the bridge on each side.

The funnel was an upright, workman-like affair. Some were flush topped, but others had a shallow cowl. Neither were as streamlined as the *Cossack* funnels, but her forefunnel can be filed up to the correct scale quite easily and then the waste steam pipes added. Abreast it, there were radial davits on each side for a whaler to port and a motor cutter to starboard. Further aft, on the starboard side a second pair of smaller davits took care of the 14 ft dinghy. All these davits were mounted in projecting brackets on the ship's side and there was sufficient deck space to allow them to be housed more or less along the fore-and-aft line, rather than directly inboard.

There are plenty of boats and davits available from various Airfix kits, but make sure that the davits selected are of the radial type and not the outward-facing screw-jack variety. Like kit masts, davits tend to be a little lumpy, so I made up new units from domestic fuse wire—15 amp for the whaler and cutter and 10 amp for the dinghy. The improved appearance more than compensated for the extra trouble.

Roughly level with the dinghy, and on the centre line, there was a hatch-like ventilator; close to it, the forward pair of mercantile-style ventilator cowls led from the machinery space below. They could be swivelled around to suit existing wind conditions but at sea, were normally set facing forward at about 30 degrees.

Next came the 'flying bridge', to which reference has already been made. It spanned the full width of the upper deck and was supported by struts. When this gundeck carried single Bofors, these weapons were supported by additional tubes positioned directly under the mountings themselves. In some cases, the out-

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board ends of the gundeck were linked to the deck below by 'solid' plating, instead of the more usual crossed-braced girders.

Between the guns there were ready-use ammunition lockers, and beneath, at fo'c'sle deck level, there was a cluster of ventilator 'mushrooms'. This area was the usual position for the fresh vegetable lockers but although strictly speaking these were constructed from wire mesh, they are best modelled from small blocks of plastic.

A very short mainmast, with a single yard for the main roof radio aerials, rose from the deck below, immediately forward of the gundeck. A monkey gaff was provided for the White Ensign in its sea position and, as before, extended sprue makes a better job than Airfix kit parts.

The fo'c'sle deck continued aft to form 'X' gundeck and here was the break down to quarter deck level. There was a second pair of ventilator cowls at this point—higher than the forward pair—and then the after 4 inch guncrew shelter, flanked by Carley floats on skids.

Heartened by the success of the fuse wire davits, I decided to use the same material for the safety firing rails of the close range guns. They need not be very elaborate and can be made from one piece of 5 amp wire suitably cranked as shown in Sketch 1. Ordinary polystyrene cement will secure it quite firmly to the inside of the splinter screen of the gundeck. Study of a number of photographs of 'River' class ships indicates that only the after close range guns had these safety firing 'preventer' rails: the forward weapons were probably limited in their training movement by permanent stops which sufficed to keep their firing arcs within safe boundaries.

The centre of rotation of the after 4 inch is shown on the drawing. The mounting was identical to that in 'B' position and I modified a spare pair of 4.7s from the odds-and-ends box. There will be four available from the *Hotspur* kit, anyway. The after gundeck was rather similar to the forward one, in that it had the same kind of ready use lockers and a crew shelter. All gundecks and sponsons had either splinter shields or canvas wind dodgers around them, best modelled from thin white paper. Leave the inner sides in the natural paper state because this gives a smart appearance and at the same time reduces the painting problem.

The quarter deck space was mostly devoted to the depth charge rails and throwers. Four throwers was the standard fit,

but several ships seem to have had as many as eight. Others had additional rack-like stowages for re-loads. With a little patience very satisfactory overstem rails and parbuckle stowages can be made from thin slivers of plastic sheet. Unless one is a watch-maker—and I am not—it is virtually impossible to model the exact girder-work, but a sort of outline framing looks most realistic.

Some 20 ships of the class were fitted for minesweeping and many of this group retained their heavy 'sweep davits on the quarters, even though they were infrequently used—if at all. *Hotspur* herself had the same units which are ready-made for those who require them. An Ensign staff should be mounted right aft, but don't fit it if the model is in some action state because the staff is then struck.

Final details, like bollards and fairleads—and indeed the small ready use lockers—are best left until last. Needless to say, it is much easier to paint them first before they are cemented to the finished deck.

I chose to model HMS *Tay* because she represents an average ship of the class. She did not have the most extensive A/S arrangements, which reduces the effort on the quarter deck; at the same time she had a pair of single 40 mm Bofors on the 'flying bridge' gundeck, which adds interest to the armament. She had a very light grey hull and superstructure—almost white, in fact—except for the light blue camouflage panel which in her case ran the whole length of the hull up to quarter deck level. Decks were dark grey throughout, but I painted the bridge deck in 'wood' colour to represent the gratings. 'Rivers' quite often had a light blue 'bow wave' on the hull by way of camouflage and there is a model of one of the class in the Imperial War Museum. Rather surprisingly, her decks are modelled as having been partially covered with light brown 'corticene'—a kind of tough linoleum. This was certainly a standard deck covering for destroyers before 1939, but its fitting to the decks of a war construction frigate would seem unlikely.

As will be observed from the drawings, the pendant number on the ship's side was worn nearer the bow than in contemporary destroyers. Letraset or Blick letters are much the best for this purpose and the lettering used on the drawing itself are from a sheet of the former product.

I always add a signal hoist of some kind to add colour and my model flies her pendant number from the starboard foreyard with the naval 'Right of Way' hoist of the period from the port. For those interested in such matters, the subject was explained under the title of 'Make a Signal' in the March 1970 edition of this magazine.