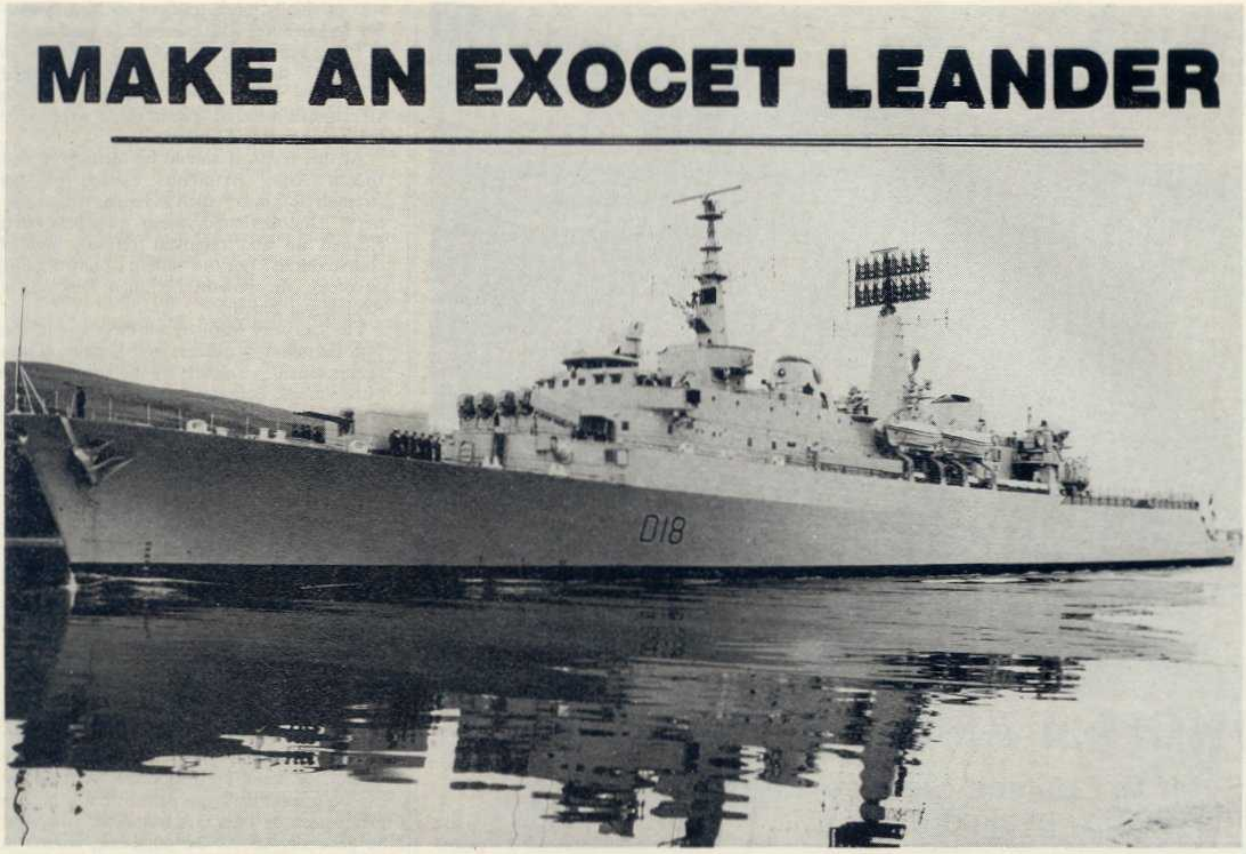
MAKE AN EXOCET LEANDER



The County class Destroyers all differ in minor respects, this photo of HMS Antrim however clearly shows the major differences from the conventionally armed variants, ie the double bedstead radar scanner and the four Exocet container/launchers forward of the bridge. (Photo: MOD Navy).

Andrew J Ambrose describes an interesting 1:600 scale warship conversion from an Airfix kit.

Over the past few years, the western naval powers of the North Atlantic Alliance have placed far too little emphasis on anti-surface ship missiles. This has been due to the popular belief that the member nations of the Alliance could place their entire reliance for surface strike activities on the backs of the fixed wing aircraft of the US and Royal Navies aircraft-carriers, and the shore based aircraft of the various coastal states.

With the decision of the Labour government to pay off Ark Royal, and the cancellation of the replacement carrier 'CVA-01' in 1965, 'certain authorities', in the United Kingdom became aware that the already overstretched resources of the 'Gallant Few' (ie the Royal Air Force) were spread far too thinly over the ground, and, consequently, would not be able to provide sufficient aircover, for every single British Naval vessel and merchant vessel in the world. Therefore, these same 'certain authorities' decided that they must make an instant decision as to how the Royal Navy should defend itself against low range surface attack, and, sure enough, a decision was made . . . 'Retain Ark Royal in service, until 1978, and let the next government worry about it!'

However, it soon became apparent that if no new aircraft carrier was to be built, some form of anti-ship missile, or supersonic V/STOL aircraft, should be deployed, to give the Navy the surface strike capability it needed. Unfortunately, both these items had also been cancelled by the same 'certain authorities'! (Yes! That's right, the same 'certain authorities' that cancelled TSR2).

After Admiral Gorshkov's celebrations in Murmansk, Vladivostock, the Baltic, and the, Black Sea (not to mention the Kremlin, etc) someone, somewhere in Whitehall, decided that the Royal Navy should, after all, possess the ability to sink ships! This was a sentiment that was heartily agreed with by several members of the said Royal Navy, as, after all, they did have something of a tradition to maintain in this field of endeavour.

Meanwhile, on the other side of the English Channel, the French company 'Aerospatiale' had been working on a sophisticated new missile system, known as 'Systeme mer-mer Exocet', and, as we had cancelled our own projects in this field, it was decided that an order for approximately 300 of these missiles should be placed, and be adopted as the standard Royal Navy anti-ship Weapon, and so these missiles were then imported.

This (strangely enough) would appear to have been a reasonably sensible move (having destroyed our alternatives that is), as although Exocet only has a range of 25 miles (NB that represents 1/15 of the range of equivalent Soviet missiles such as the SS-N-3 (SHADDOCK) system) it nevertheless has its own distinct advantages; it is a very low flyer, and as such, would make it very difficult for a hostile unit's radar to pick it up (other than right in the eye!) consequently causing further hardships in the ability to destroy it with anti-missile missiles. Furthermore, it is a fire and forget type of missile, needing no bridge guidance, as target data is all pre-set before launch, consequently allowing the launch vessel to take evasive action immediately after firing the missile, so helping to avoid eye-watering reprisal attacks.

One of the other advantages of adopting the Exocet system, is the fact that it can be carried and operated by small units, such as patrol boats. Therefore, when the Royal Navy eventually receives its 2000 nautical mile range 'Tomahawk' SLCM's, the Exocets 'in stock' as it were, will not need to be scrapped, as they can be fitted on the Navy's smaller craft, such as the Island class patrol boats, etc so saving a considerable amount of depreciating tax-payers' money!

Due to various political manoeuvres, it was not until 1974 that the first of our conversions actually received her missiles. This was the County Class Guided Missile Destroyer HMS Norfolk (D21), she was followed by three others, namely HM Ships Antrim (D18), Glamorgan (D19) and HMS Fife (D20). The other four Counties including the Devonshire (D02) (The Airfix model used for the conversions) not being destined to receive Exocet. In fact, HMS Hampshire has now paid off, and has been withdrawn from service.

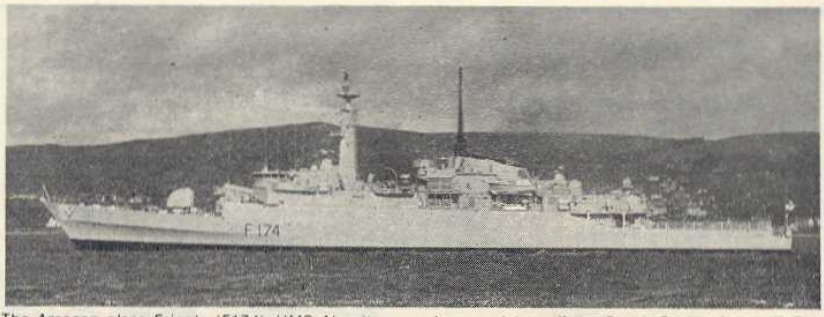
Of the Leander class Frigates, HMS Cleopatra was the first to receive Exocet, destined to be followed by 17 other Leanders, but, as yet, certain ships still retain their 4.5 inch guns. Of the Type 21 Frigates, all eight are destined to receive Exocet, and most have either been fitted complete, or fitted with all the Exocet installations minus the actual Launchers.

As regards the County Class vessels, eight different models can be completed from the

Airfix kit, comprising the four stage I, and four stage II (missile) versions. The primary differences being the missiles, the forward mast assembly, and the scanner atop the after mast.

To complete the Exocet version, the kit can be made up as the instructions provided, but leaving out part 32, the Type 965 radar scanner; the complete forward mast assembly (parts 20 to 26 inclusive) and 'B' gun turret (parts 41, 42 and 43).

Sand down flush to deck level, the 'B' gun turret traversing ring, and replace with the mounting unit, which is made up from Plasticard following drawing 'B'. When the mounting unit has been constructed and positioned, following drawing 'C', make up four of the missile container/launchers and position as shown.

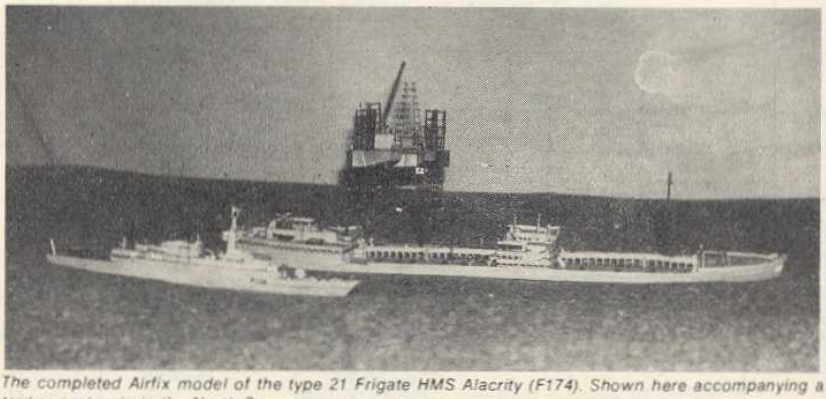


The Amazon class Frigate (F174), HMS Alacrity, seen here cruising off the South Coast of the UK. The Exocet launchers, and extra structure forward of the funnel can be seen in this profile view. (Photo: MOD Navy)

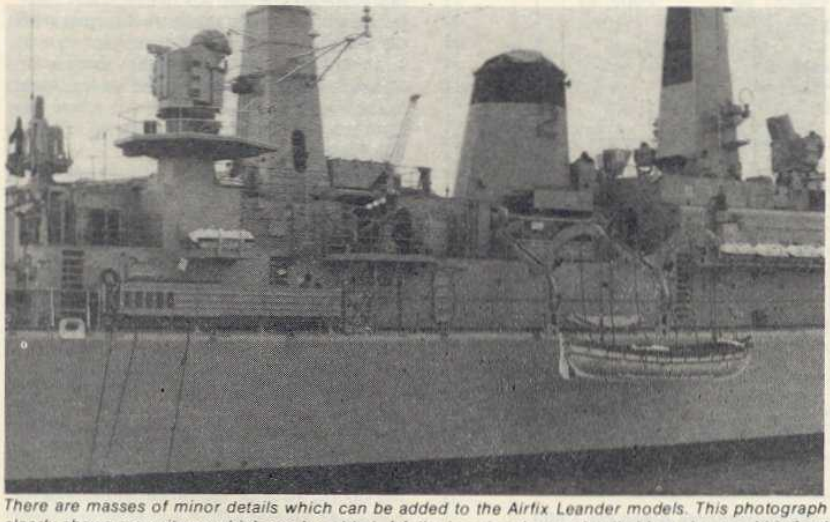
The completed Alacrity model viewed from starboard. The addition of such items as wireless telegraphy aerials etc, greatly enhance the appearance of the finished model.

In place of the 965 scanner, a double 'bedstead' type 965M is used. This is easily made, by joining two of the original scanners together, as found in the County and Leander kits. Alternatively, the scanner can be made up from scraps of Plasticard.

The forward mast on the phase two ships, is totally different from that supplied in the kit, and so another mast assembly must be built up. Once again Plasticard is used, drawing 'A' should be followed for this construction, or, once again an alternative is available, as this mast is used in the Airfix Type 21 kit, and so if required, can be obtained from that source. However, if the Type 21 mast is used, the protrusion on the forward face of same must be removed with a sharp knife.



The completed Airfix model of the type 21 Frigate HMS Alacrity (F174). Shown here accompanying a tanker past a rig in the North Sea.



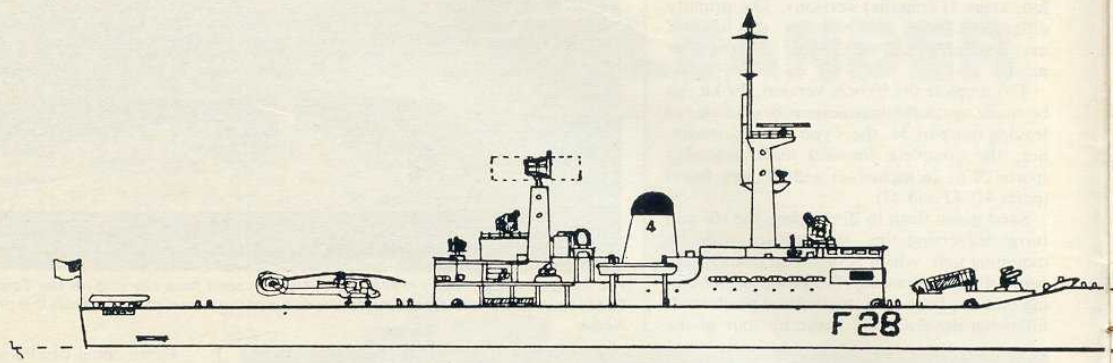
There are masses of minor details which can be added to the Airfix Leander models. This photograph clearly shows many items which can be added. A fully rigged and superdetailed Leander, would indeed be a very nice model to behold. This particular shot is Diomede and not Cleopatra as shown in the drawings, so don't be put off by the single Seacat and unusual position of the director. In all honesty the author has yet to see two Leander class frigates which are exactly the same.

Extra detail can be added to the County's, by reference to the photography, as the minor detail is virtually identical on all eight ships of the class. Care should be exercised however, if models of the Stage I County's Kent, and London are to be built, as the mainmast is mounted further aft on these two ships. As regards colour schemes, the missile launchers and mountings are all the usual Airfix (M13) light grey, and the scanner atop the forward mast is white. HMS Fife, Norfolk, and Glamorgan, all have grey masts. However, HMS Antrim's masts are painted black from the level of the funnel top upwards. The 965M scanner is supposedly light grey, but a more common colour scheme would indicate that it is a sort of efflux dirt or even black colour.

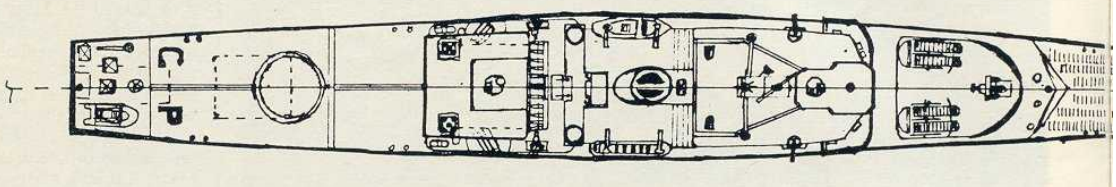
Moving on to the Type 21 Frigates, once again eight models can be made from the standard Airfix Amazon kit. Namely, HM Ships, Amazon (F169), Antelope (F170), Active (F171), Ambuscade (F172), Arrow (F173), Alacrity (F174), Ardent (F175 or F184) and Avenger (F185). Although certain of these ships were destined to receive the new Seawolf PDMS, none have been so equipped, so the single Seacat SAM quadruple launcher remains. The last four in the list were also due to receive 'SCOT' the satellite communications system, but an absence of the necessary aerials would indicate that has not yet been fitted either.

All ships are 'CAAIS' fitted, and all eight now have Lynx helicopters. Amongst the electronics fitted, are two GWS24 (Seacat Control) radars, one 922Q (Target Indicator), one type 978 (navigation), and Orion RTN-10X gun control. The ship is also fitted with IFF Interrogators and Transponders, which are used to identify each Radar contact, conclusively as either friend or foe. Sonar fits include a Type 162M, and a 184M which is hull mounted, and accounts for the protrusion on the bottom of the Airfix model.

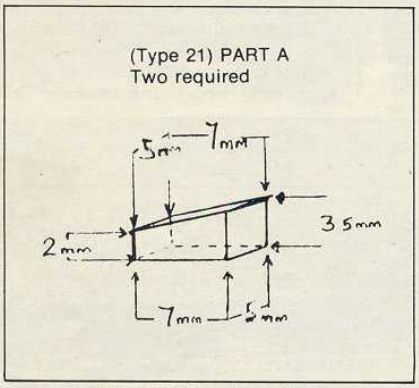
Whilst the model is undergoing her Exocet installation, it is as well to carry out several



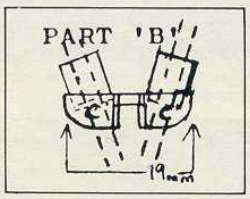
Leander Class Frigate, Exocet Version, HMS Cleopatra F28, Circa 1978, (1:600 scale) 1 inch = 50 feet.



DRAWING 'D'



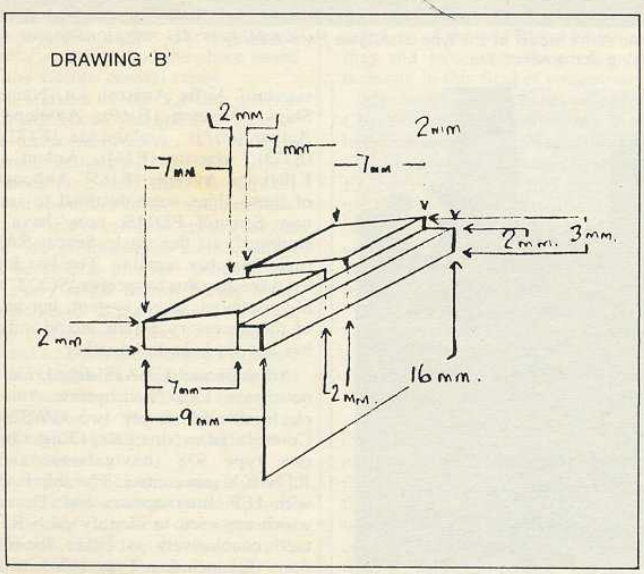
Measurements for 1:600.



To 1:600 scale. Dotted line indicates positioning line for missiles. Refer to photograph when fitting.

Right: County class. Foremast assembly. Drawn to 1:600 scale. Alternatively, a foremast from another Airfix Amazon kit may be used.

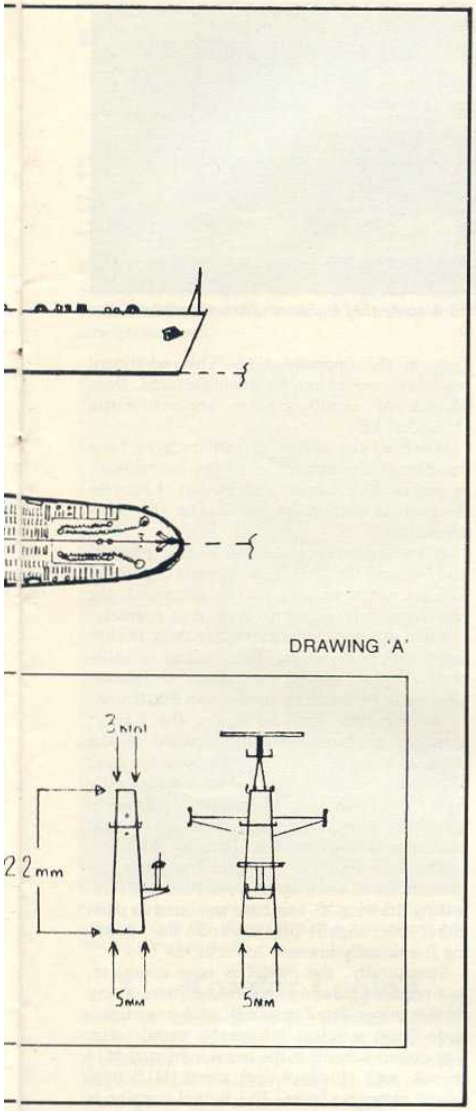
DRAWING 'B'



Mounting for County class Destroyers. Measurements given for 1:600 scale.
Mounting is located with forward edge, level with foremost part of 'B' gun traversing ring.

other modifications at the same time. Starting with an unassembled model, the main deck moulding (part 5 in the kit) has a slight alteration to the aft end; the box like structures projecting from the main superstructure just abaft the funnel, are angled slightly and not square, so should be cut to shape with a sharp knife (see drawing 'F') to achieve the wedge shape as shown. The holes left in the side where this has been done should then be plated in using thin Plasticard.

Stage one and two of the kit's instructions, can now be carried out as required. Note that the anchors are usually secured at a slight angle, and facing aft. For waterline models, the bottom half of the hull should now be removed, so as to alleviate damage which would likely occur if the operation was left until later in the process. Following drawing 'D', make up two of the base units (part 'A') and the platform (part 'C') from thin Plasticard, and affix in position as shown, directly in front of the Bridge. By-passing section three of the instructions, assemble the parts shown in section four, but do not fix the structure to the rest of the ship at this stage. Flatten off the base of the funnel either side of part 41/42, so that a flush and vertical bottom quarter is achieved. This should be flush with the sides of the deckhouse immediately aft of the funnel. Care should be exercised, to avoid



DRAWING 'A'

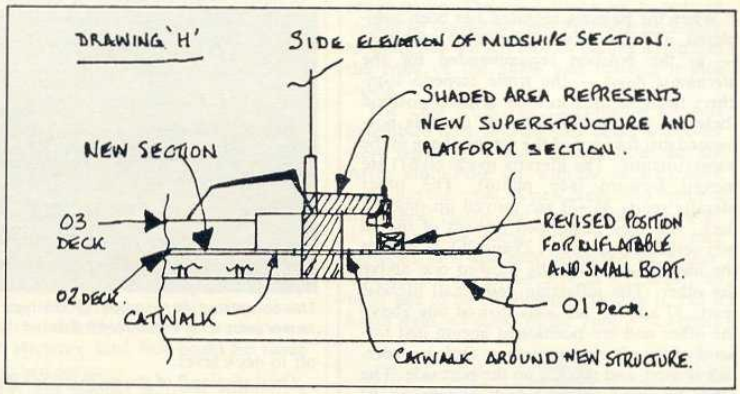
squaring off the funnel above the level of the deckhouse roof. This section can then be cemented in position on the ship.

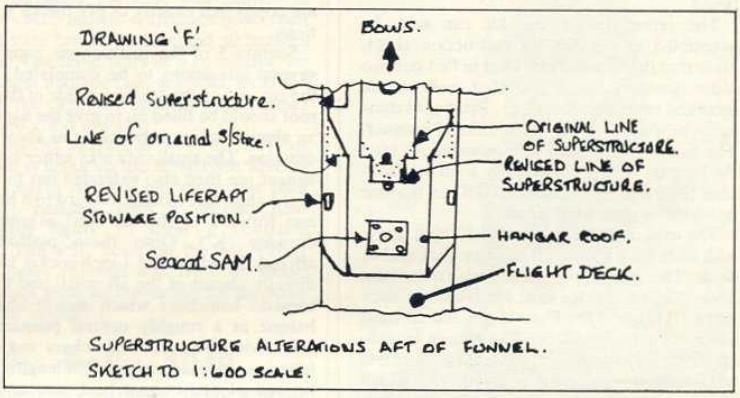
The sides of this deckhouse should now be built out to run alongside the funnel, and join with the forward deckhouse as shown in Drawing 'G'. Fairly thin Plasticard is best for this purpose. Using a slightly thicker grade, plate in the sides, sternmost ends, and top of the aft deckhouse, removing the angled appearance, so that the stepped in look is now achieved.

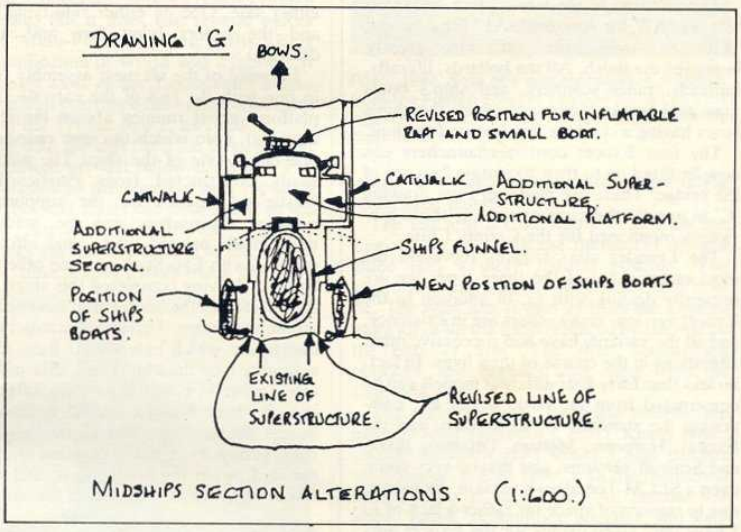
From the side of the superstructure just forward of the funnel, build out the extra superstructure as shown, and affix the catwalk around same, at 02 deck level.

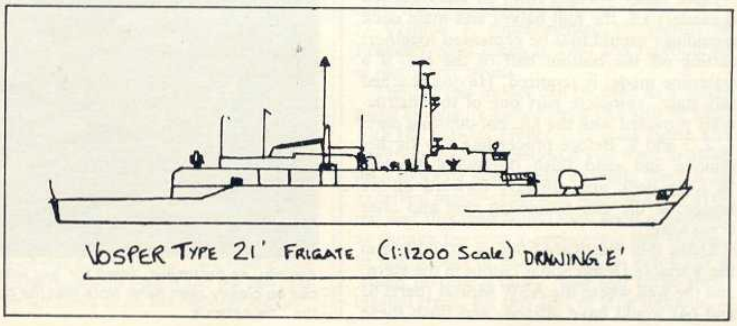
Construct the extra platform on 03 deck just forward of the funnel, which runs from the existing forward line of superstructure, aft, to the most forward edge of the funnel, enclosing the bottom of the mast. To fit this structure, you will find it necessary to remove the protruding piece of plastic, which sticks up in the centre of this deck level. Note that the forward edge of the platform extends over the front, level in line with parts 44 and 45.

Having completed the structural alterations, it is now a good idea to apply some paint to areas which will later become obscured, by addition of detail such as davits, lifeboats, etc.









When the painting required has been completed, affix the forward davits on each side — in the position recommended for the sternmost davit — the triple torpedo launchers being located in their original position (between the davits). The aft davit is now located just forward of the wedge shape in the superstructure. The liferafts (parts 60/61) are moved forward (see photo). The other liferafts (parts 46/47) are moved up onto 02 deck, and then positioned just aft of the 20 mm oerlikon guns (parts 25 and 26). Note that the liferafts are normally stowed one above the other. The inflatable and small lifeboat (parts 37 and 38) are also stowed one above the other and are positioned abeam just forward of the aft superstructure. Only one derrick is used, and this fits on the port side. The other bits and pieces which appear on 02 deck, can be made from small scraps of Plasticard.

The remainder of the kit can now be assembled as per the kit instruction sheet. Note that the forward mast has in fact got two radar scanners atop and that neither are mounted centrally, therefore, Plasticard must again be used to make the additional scanner. The Seacat SAM launcher, mounted aft atop the hangar, is best replaced by a similar launcher from the Airfix Leander kit, as the one provided is somewhat small.

The colour scheme overall is light grey, with slate grey for the Helicopter deck and 01 deck. The gun deck, missile platform, boat deck (02), and bridge top, are Humbrol deck green (H12), and the Funnel top and aft mast assembly are matt black. The kit can be substantially improved, if such detail as wireless telegraphy aerials, etc are added. This detail can be added by reference to the photography.

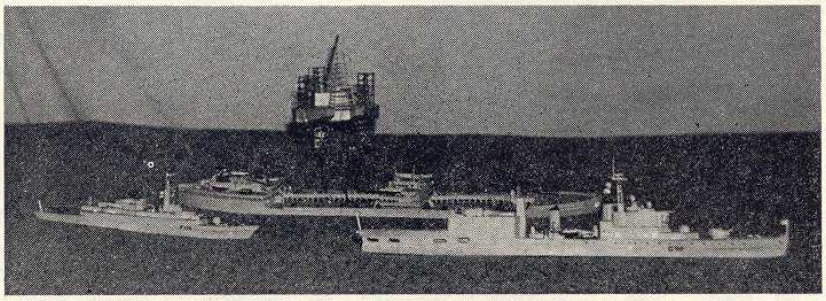
The addition of the white 'deck-code' letters, eg 'AZ' for Amazon, 'AL' for Alacrity, 'AB' for Ambuscade, etc, also greatly improves the finish. All the bollards, liferafts, fairleads, radar scanners, and ship's boats tops, and hull bottoms, are white; the ship's boats having a sky blue band around the hull.

The four Exocet container/launchers can now be fitted on to their mounting forward of the bridge. These are made up from drawing 'C' in exactly the same manner as those previously mentioned for the County Class.

The Leander class frigates represent the most complicated of the three types we are presently dealing with as, in addition to the Exocet version, many others are in existence, and all the variants have had successive other alterations in the course of their lives. In fact, no less than forty four different models can be constructed from the basic Airfix kit, comprising the standard 4.5 in version, and the Exocet, Harpoon, Mellara, Ottamat, Ikara, and Seawolf versions, and maybe very soon, even a SLCM Tomahawk version. However, due to reasons of space (or rather a lack of it) I have only given details for the Exocet only version, such as HMS Cleopatra.

Once again working from an unassembled (Leander) kit, the hull halves and main deck mouldings should first be cemented together, cutting off the bottom half of the hull if a waterline model is required. Having reached this stage, complete part one of the instructions provided with the kit, but omitting parts 1, 2, 7 and 8. Before proceeding any further remove and sand flush (following drawing 'K') the deck area directly forward of the bridge, ie the gun traversing ring and after breakwater.

Using thin Plasticard (.010 or .020) plate in the Variable Depth Sonar cutout in the stern, and the well where the ASW Mortar (parts 63 and 64) would have affixed, and flush these off to deck level.



The completed Airfix model of the type 21 Frigate HMS Alacrity (F174). Shown here accompanying a tanker past a rig in the North Sea.

Omit section 2 of the instructions if a waterline model is being produced, and move straight on to section 3, and section 4, which are completed exactly as per the kit's instructions.

Section 5 of the instructions supplied has several alterations to be completed. Firstly, the cutouts on the starboard side of the hangar roof should be filled in, to give the hangar roof an almost square appearance as shown in the drawing. The small catwalks either side of the hangar are then also extended out to the side of the ship, and extend forward to a position 3 mm forward of the aft mast assembly (see drawing 'K'). Onto these platforms are affixed the additional 3 inch rocket launchers directly abeam of the aft mast, and the triple torpedo launchers which mount abeam the hangar in a roughly central position either side. Both the rocket launchers and torpedo tubes can be made from small lengths of plastic rod of approximately 1 mm and 2 mm diameter respectively. Right aft on this catwalk are mounted the two liferaft canisters either side. One on either side lying abeam, and the others lying fore and aft (see drawing).

Forward of the aft mast assembly, directly in line with the end of the catwalk, another platform exists running abeam the ship (see drawing), onto which the new radomes affix one either side of the ship. The platform is easily constructed from Plasticard, with plastic-rod utilised for the supports. The radomes themselves can be made from matchheads painted white, and affixed into position with Evo-Stick or some other similar fixative. Having completed this stage, the fittings on top of the hangar roof now need some minor alterations. Initially, construct the new deckhouse which extends aft from the mast assembly (see drawings) and affix part 49 on top of same in a central position, after having cut off about 3 mm from the bottom of the Seacat director first. Part 48, the Seacat launcher, is now mounted in position on the hangar roof as per the instructions, and an additional launcher is mounted in the same position on the opposite side. This additional launcher can either be manufactured from scratch or acquired from another Airfix 'Leander' kit.

When all the above alterations have been completed, the remainder of the instructions in section five can be carried out. Likewise the parts in section six can also be affixed as suggested.

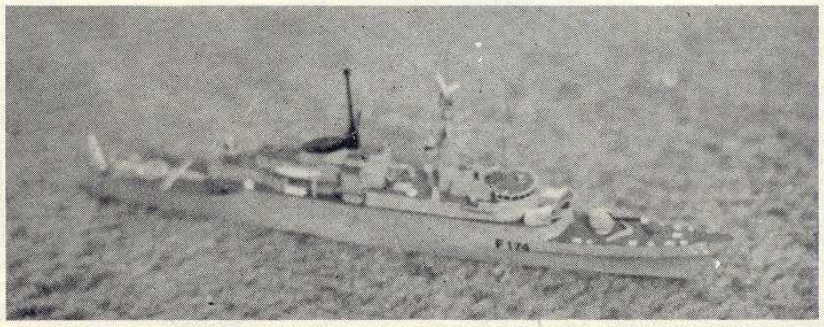
In section seven, the ASW Mortar (parts 63 and 64), and the V.D.S. unit (parts 65, 66 and 67), are not used, and can be discarded, the remaining parts being assembled as normal.

Right aft, above the stern, the deck is cluttered with various fittings including an inflatable dinghy, and various other oddments, which can be made up from scrap Plasticard.

Moving right forward again, the Exocet launcher platform (directly forward of the bridge), is made up using thin plastic sheet following the drawings. Mounted centrally right forward on the platform, is a third Seacat quadruple launcher, which once again must be acquired from another 'Leander' kit.

The four Exocet, container/launchers are manufactured once again from Plasticard following drawing 'C', and are mounted in pairs either side, slightly off the centre line, pointing fractionally inwards towards the bow.

Structurally, the model is now complete, and requires painting and the addition of any further minor detail required, such as ensigns, code flags, wireless telegraphy aerials, etc. The colour scheme is the usual light grey M13 overall, with Humbrol deck green (H12) used for all upper surfaces. The funnel capping is black, and there is a matt black ring 3 mm deep, around the forward mast, directly beneath the uppermost radar platform (see photography). All bollards, fairleads, and hawsepipes are white, as is the uppermost section of the aerials on the forward mast. The Seacat missiles are dark blue as the helicopter, and the centre boss of the Seacat launcher is yellow. The liferafts are matt white, as is the deck marking on the helicopter deck. Note that the helicopter deck markings are slightly altered from those supplied with the kit.



Alacrity. As prototype, 'fitted for, but without' Exocet canisters. The revised aft superstructure sections can be clearly seen here. Note that the new semi-bridge afore the funnel, is only fractionally higher than the new catwalk.