

Sea Wolf Leander Class Frigate
H.M.S. ANDROMEDA
1981-1993
1/350 Scale

The Type 12 (Improved) or Leander Class Frigates that were introduced into Royal Navy service from the early 1960's, were the most numerous of any of the classes of ships of the modern era.

The design of the Leander class was based on the earlier Whitby and Rothesay class Type 12 hull, which had already proved it's excellent sea keeping qualities, but had a simplified superstructure layout which included a built in helicopter hangar. The hull was built up flush with the main deck at the stern, which gave a better protected area for the variable depth sonar installation as well as improved deck space around the mortar well . The Leander class Frigates were split into three batches and were built between 1959 and 1973. The first batch of 10 was fitted with Y100 machinery the second batch of 6 having the upgraded Y136 machinery fitted. The third batch of 10 ships were known as the Broad Beam Leanders and had a hull that was wider by 2 feet to accommodate the Y160 machinery fit.

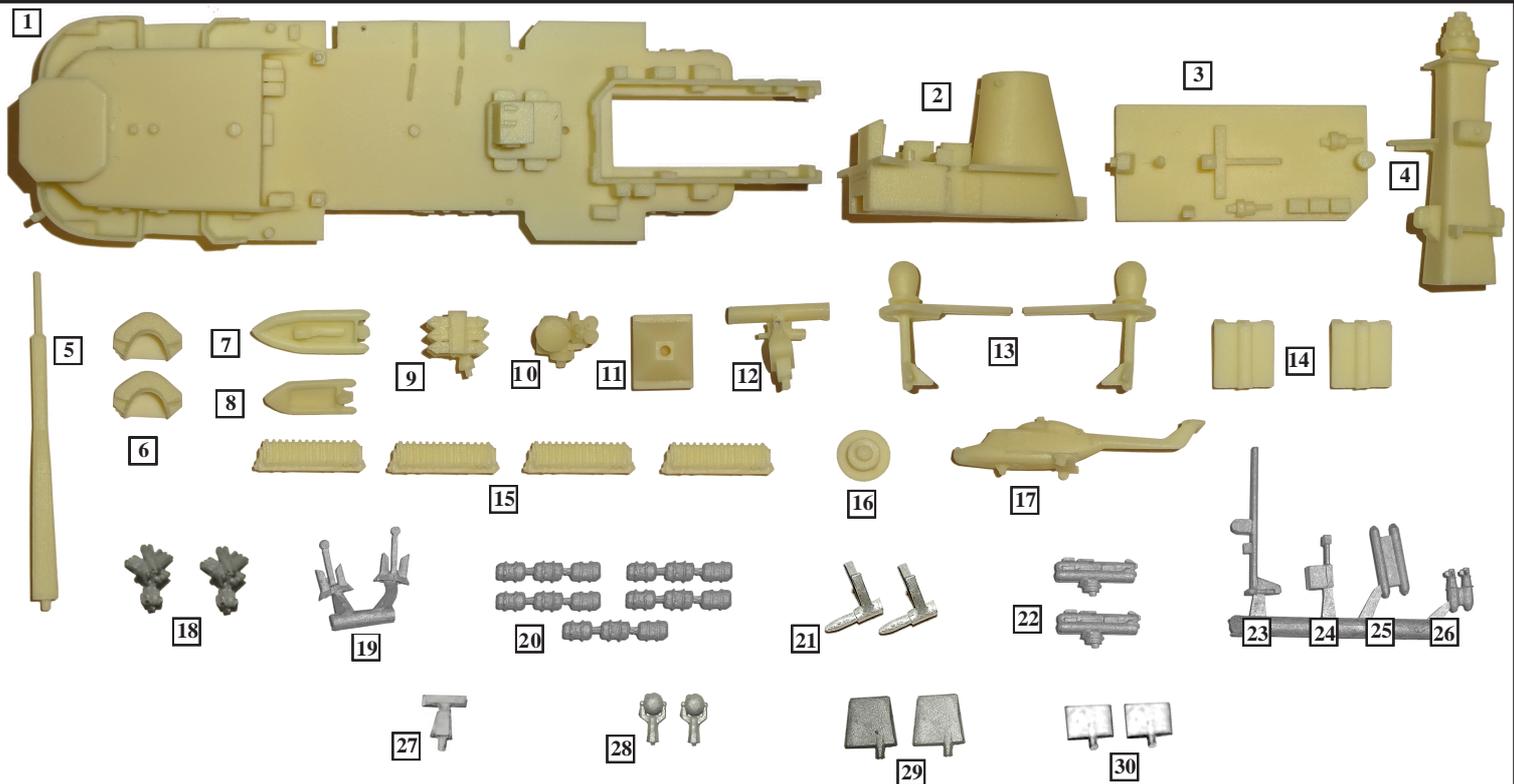
HMS Andromeda, was the last ship to be built at HM Dockyard, Portsmouth and was laid down on 25th May 1966. She was launched on 24th May 1967 and commissioned into service on 2nd December 1968.

HMS Andromeda was a 'Broad Beamed' Leander and therefore had 2 feet more width across the beam, which meant she was an able candidate for the mid life upgrade that was started in 1979.

One of five ships of the class selected for conversion to take the Sea Wolf missile system, the others being HMS's Hermione, Jupiter, Scylla and Charybdis, Andromeda was the first to re-enter service in 1981 after a major 2 year refit, not only having the Sea Wolf missile system fitted but the limbo mortar was removed and the hangar and flight deck were enlarged to allow for a Lynx helicopter to be operated. Two triple STWS torpedo tube mountings were fitted, one to each side of the hangar to maintain the anti submarine capability and a bank of four Exocet missile launcher boxes were mounted in pairs on the fore deck in place of the 4.5" gun turret. The masts were rebuilt with the 967/968 back to back radar antenna being mounted atop the fore mast over the Abbey Hill ECM array. The earlier MRS3 director was replaced by the new 910 Fire Control behind the bridge and the ships boats replaced by a pair of RHIBs to help reduce the top weight as well as give a better type of sea boat.

HMS Andromeda was returned to service in time to be involved in the Falklands conflict where she provided additional protection to the Carrier Groups from aircraft and missile attack. She then stayed in service until 1993, when, having completed a variety of duties worldwide she was put up for sale. Andromeda was then bought by India and commissioned as the training ship INS Krishna. Her armament was reduced to just two 40mm Bofors and two 20mm Oerlikons, but she served the Indian Navy until 24th May 2012, 44 years to the day after her launch. She was finally sunk in the Bay of Bengal after being used for target practice for other ships in the Indian Navy.

Resin and White Metal Parts



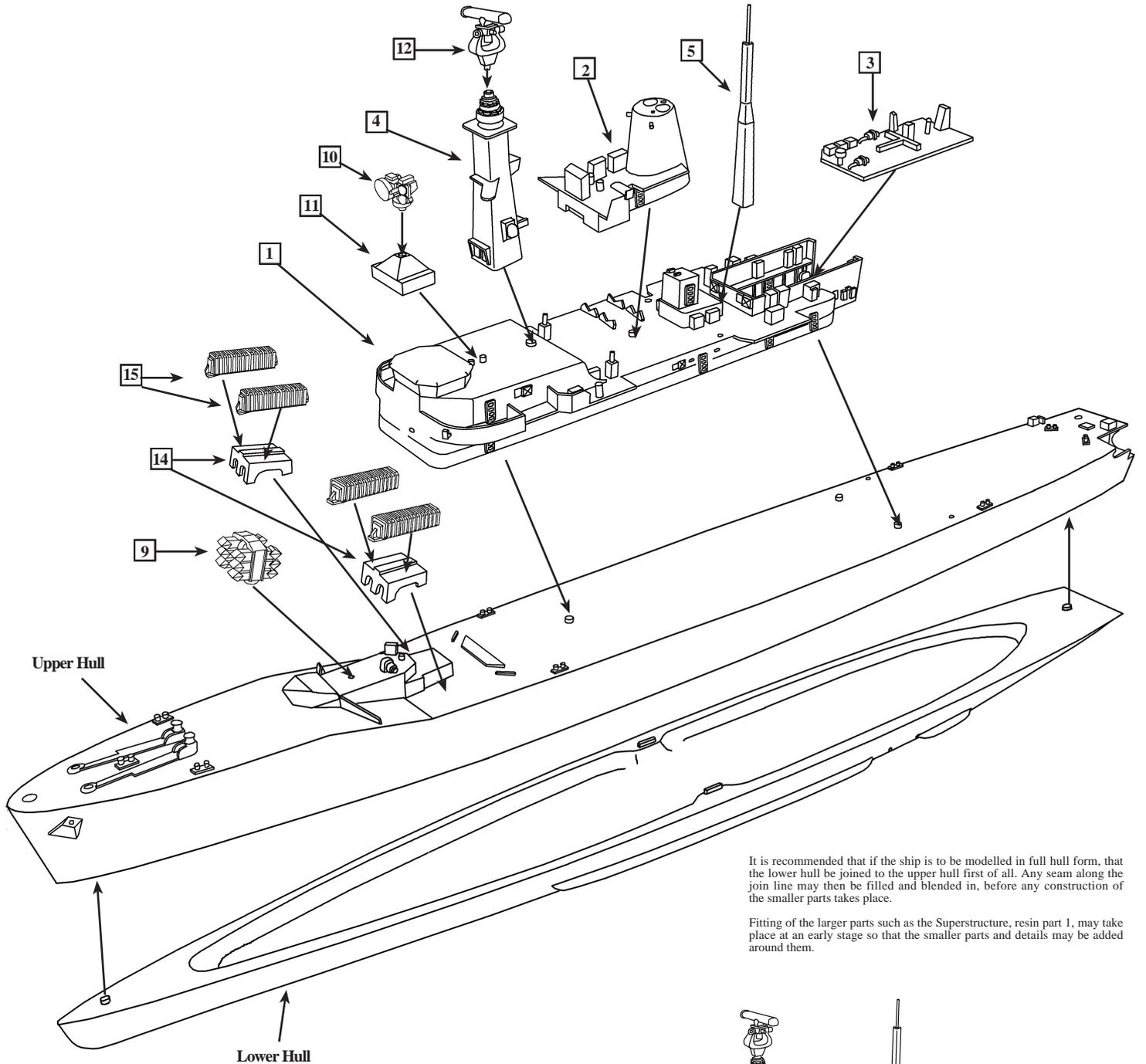
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|--------------------------------------|----------------------------|-----------------------------|------------------------|
| 1. Main Superstructure Unit | 9. Sea Wolf Launcher | 17. Lynx Helicopter | 25. Utility Punt |
| 2. Funnel | 10. 910 Fire Control Radar | 18. Corvus Chaff Launchers | 26. 182 Torpedo Decoys |
| 3. Hangar Roof and Director Platform | 11. 910 Mounting Base | 19. Anchors | 27. 978 Radar Antenna |
| 4. Fore Mast | 12. 967/968 Radar Antenna | 20. Life Raft Canisters | 28. Searchlights |
| 5. Main Mast | 13. SCOT Radomes | 21. Propeller Bearings | 29. Rudders |
| 6. Chaff Launcher Enclosures | 14. Exocet Box Mountings | 22. STWS Torpedo Tubes | 30. Stabiliser Fins |
| 7. Sea Rider RHIB x 2 | 15. Exocet Box Launchers | 23. RHIB Crane Pole | |
| 8. Gemini Inflatable Boat | 16. 20mm GAMBO Platform | 24. Exocet Telmetry Antenna | |

General Precautions

When assembling a Resin / Photoetched metal kit, certain precautions must first be taken.

1. Resin dust can be harmful if inhaled. It is recommended that you wear a suitable dust mask when drilling or sanding resin parts.
2. Cyano adhesives (super glues) are generally used to assemble this type of kit. Care must be taken when using this type of adhesive as it will bond in seconds. Follow the advice on the container.
3. Wash resin parts in a solution of warm soapy water before assembly. This will remove any residual mold release agents and ensure a good key for painting.
4. Soak photoetch parts in a suitable solvent, such as white spirit, to degrease the surfaces prior to painting.

Main Component Location

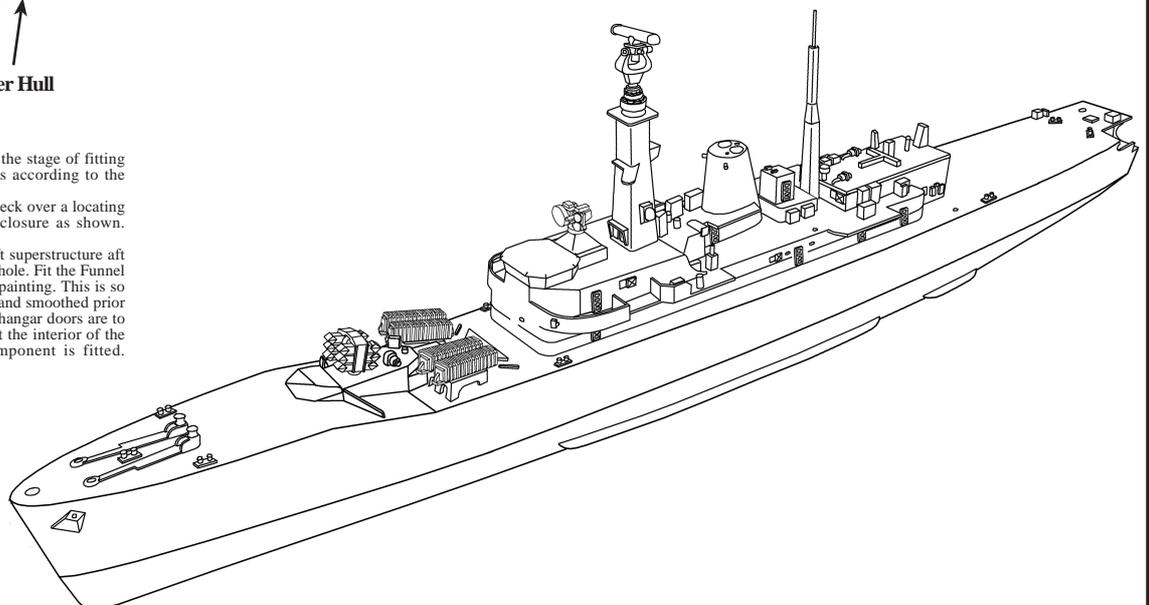


It is recommended that if the ship is to be modelled in full hull form, that the lower hull be joined to the upper hull first of all. Any seam along the join line may then be filled and blended in, before any construction of the smaller parts takes place.

Fitting of the larger parts such as the Superstructure, resin part 1, may take place at an early stage so that the smaller parts and details may be added around them.

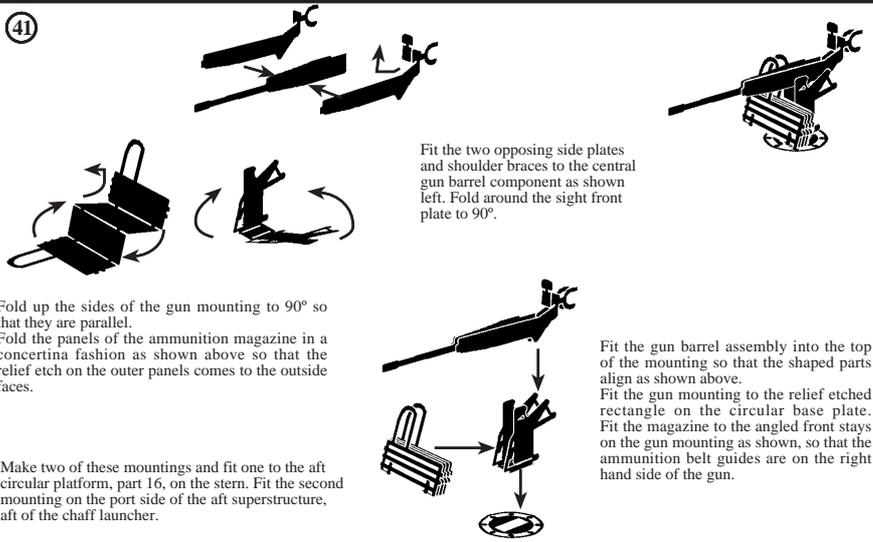
When the model has been constructed to the stage of fitting the masts into place, assemble the masts according to the diagrams in further sections.
Fit the assembled fore mast down to the deck over a locating peg in the centre of the signal deck enclosure as shown.

The main mast locates centrally on the aft superstructure aft of the SCOT deck house into the locating hole. Fit the Funnel and Hangar Roof into place before spray painting. This is so that any seams in the joints may be filled and smoothed prior to painting. It is recommended that if the hangar doors are to be in the open position on the model, that the interior of the hangar be painted before the roof component is fitted.



20mm Oerlikon GAMBO1 Mounting Assembly

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Fit the two opposing side plates and shoulder braces to the central gun barrel component as shown left. Fold around the sight front plate to 90°.

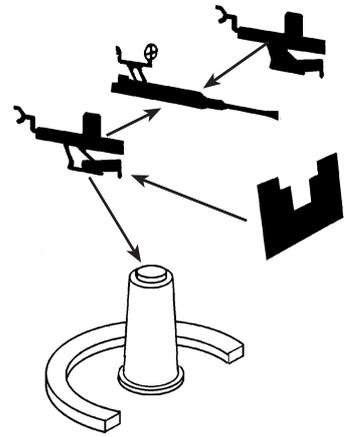
Fold up the sides of the gun mounting to 90° so that they are parallel. Fold the panels of the ammunition magazine in a concertina fashion as shown above so that the relief etch on the outer panels comes to the outside faces.

Make two of these mountings and fit one to the aft circular platform, part 16, on the stern. Fit the second mounting on the port side of the aft superstructure, aft of the chaff launcher.

Fit the gun barrel assembly into the top of the mounting so that the shaped parts align as shown above. Fit the gun mounting to the relief etched rectangle on the circular base plate. Fit the magazine on the angled front stays on the gun mounting as shown, so that the ammunition belt guides are on the right hand side of the gun.

20mm Oerlikon Mounting

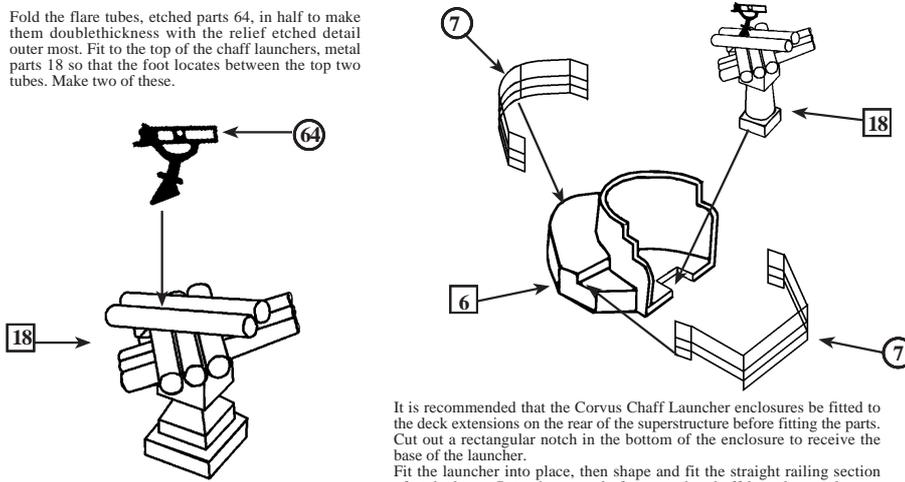
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Fit the two side sections of the gun body to each side of barrel section. Bend the shoulder rests outwards slightly then twist the gun sight to 90°. Fit the 20mm gun mounting to the tops of the pintles that are situated on platforms on each side of the forward superstructure behind the bridge wings, abreast of the Fore Mast. Fit the gun shield centrally to the locating lug just below the mid point on the gun.

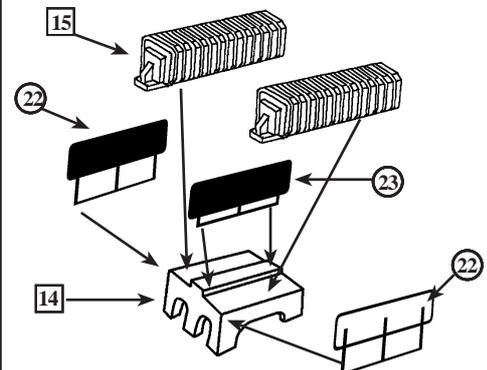
Corvus Chaff Launcher Assembly

Fold the flare tubes, etched parts 64, in half to make them doublethickness with the relief etched detail outer most. Fit to the top of the chaff launchers, metal parts 18 so that the foot locates between the top two tubes. Make two of these.



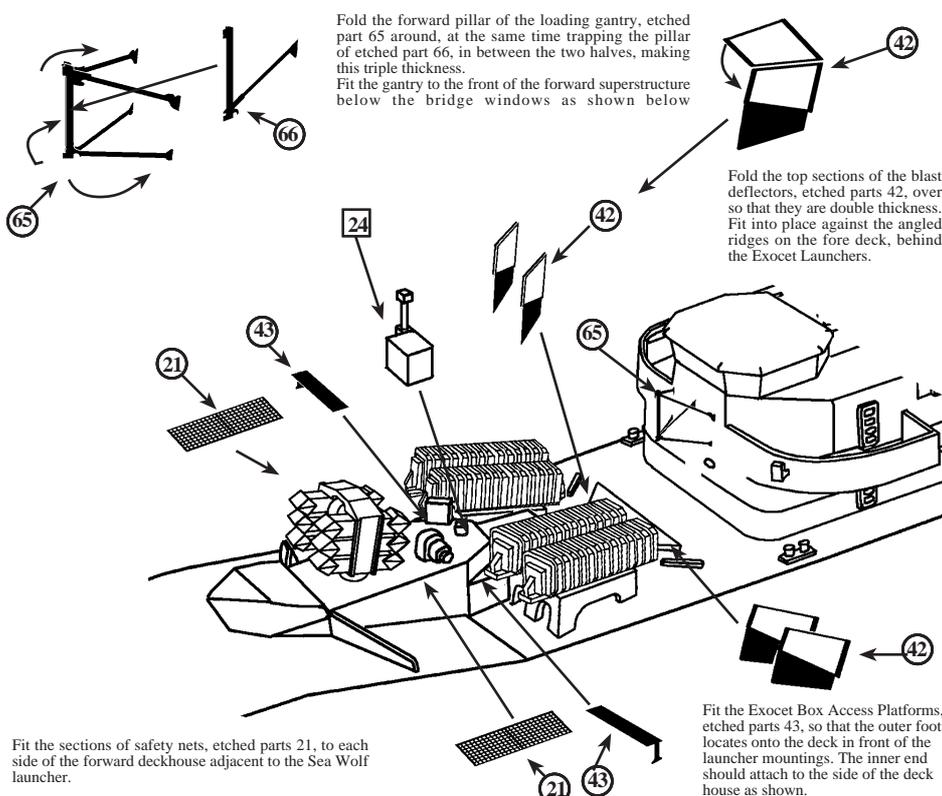
It is recommended that the Corvus Chaff Launcher enclosures be fitted to the deck extensions on the rear of the superstructure before fitting the parts. Cut out a rectangular notch in the bottom of the enclosure to receive the base of the launcher. Fit the launcher into place, then shape and fit the straight railing section of etched part 7, to the rear platform on the chaff launcher enclosure. Shape and fit the angled forward section of railing 7, to the stepped area of the enclosure as shown above.

Exocet Box Launcher Assembly



Fit the Exocet box side shields, etched parts 22, so that the lower frames attach to the sides of the box mounting, resin parts 14, as shown. Fit the central divider plate, etched part 23, to the raised central ridge on the box mounting. Fit the Exocet Box Launchers resin parts 15, centrally to each side of the divider plate. Make two of these and fit to the fore deck in the positions shown in the next diagram.

Fore Deck Fittings Location



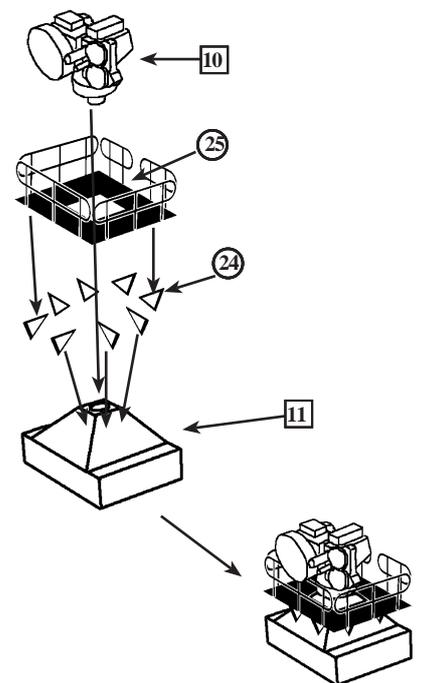
Fold the forward pillar of the loading gantry, etched part 65 around, at the same time trapping the pillar of etched part 66, in between the two halves, making this triple thickness. Fit the gantry to the front of the forward superstructure below the bridge windows as shown below

Fold the top sections of the blast deflectors, etched parts 42, over so that they are double thickness. Fit into place against the angled ridges on the fore deck, behind the Exocet Launchers.

Fit the sections of safety nets, etched parts 21, to each side of the forward deckhouse adjacent to the Sea Wolf launcher.

Fit the Exocet Box Access Platforms, etched parts 43, so that the outer foot locates onto the deck in front of the launcher mountings. The inner end should attach to the side of the deck house as shown.

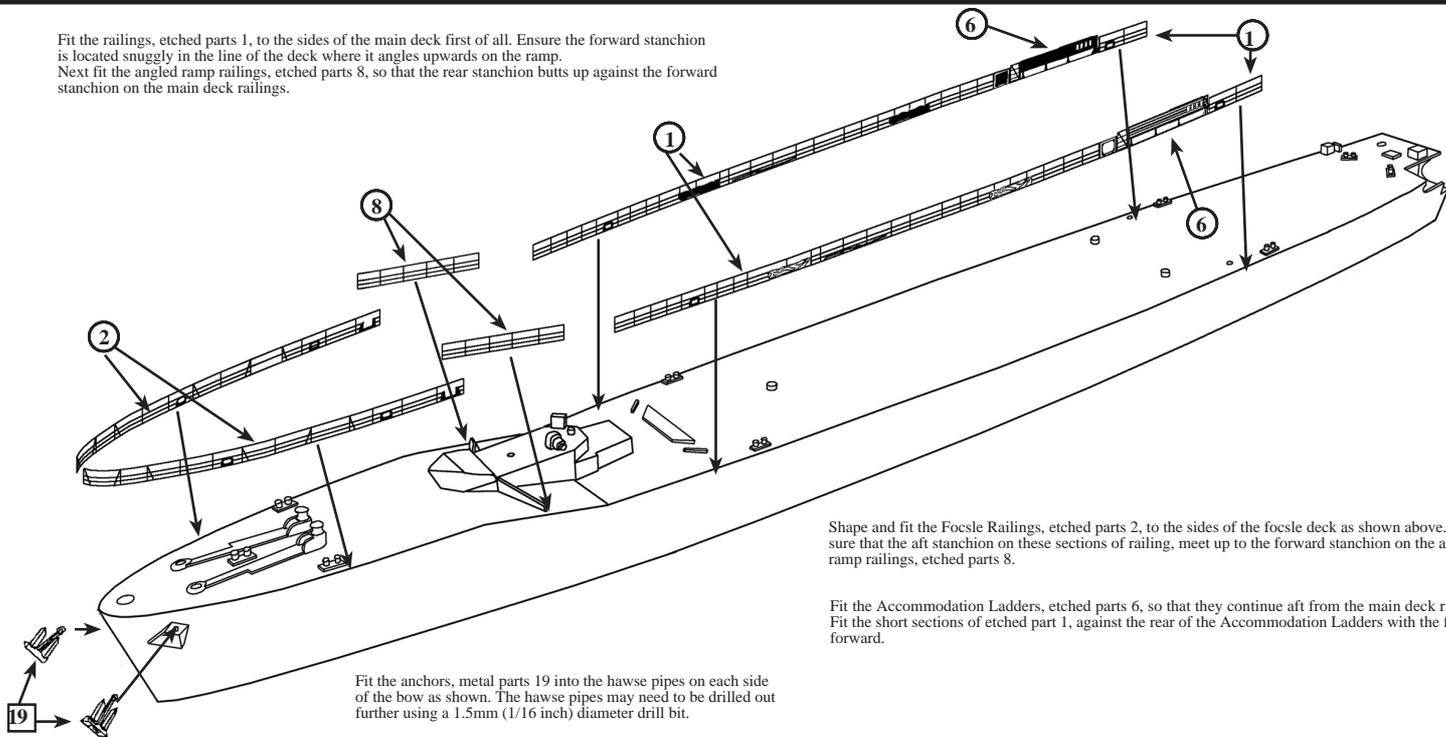
910 Fire Control Radar Assembly



Fold up the railings around the 910 director platform, etched part 25 to 90° as shown above, then fit the platform to the pyramid shaped mounting, resin part 11, so that the top passes up through the central rectangular hole. Fit the platform supports, etched parts 24, to the underside of the platform so that they locate outwards from the corners of the centre hole.

Main Deck Railing Location

Fit the railings, etched parts 1, to the sides of the main deck first of all. Ensure the forward stanchion is located snugly in the line of the deck where it angles upwards on the ramp. Next fit the angled ramp railings, etched parts 8, so that the rear stanchion butts up against the forward stanchion on the main deck railings.

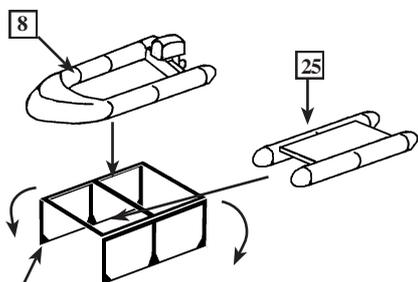


Shape and fit the Focsle Railings, etched parts 2, to the sides of the focsle deck as shown above. Make sure that the aft stanchion on these sections of railing, meet up to the forward stanchion on the angled ramp railings, etched parts 8.

Fit the Accommodation Ladders, etched parts 6, so that they continue aft from the main deck railings. Fit the short sections of etched part 1, against the rear of the Accommodation Ladders with the fairlead forward.

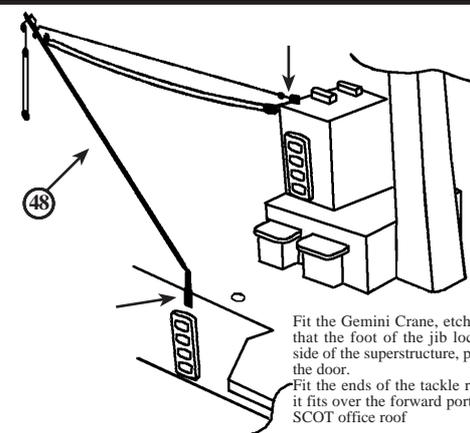
Fit the anchors, metal parts 19 into the hawse pipes on each side of the bow as shown. The hawse pipes may need to be drilled out further using a 1.5mm (1/16 inch) diameter drill bit.

Gemini and Punt Cradle Assembly



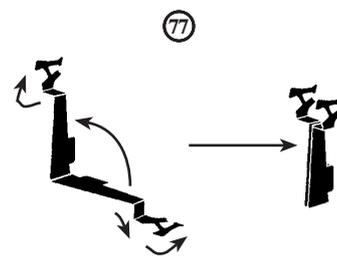
Fold down the side frames of etched part 52, to 90° so that they are parallel as shown. Fit the Gemini Inflatable to the top of the frame, after it has been located on the port side of the superstructure. Fit the Utility Punt, metal part 25 so that it slides on to the deck, inside the frame underneath the Gemini.

Gemini Launch Crane Location



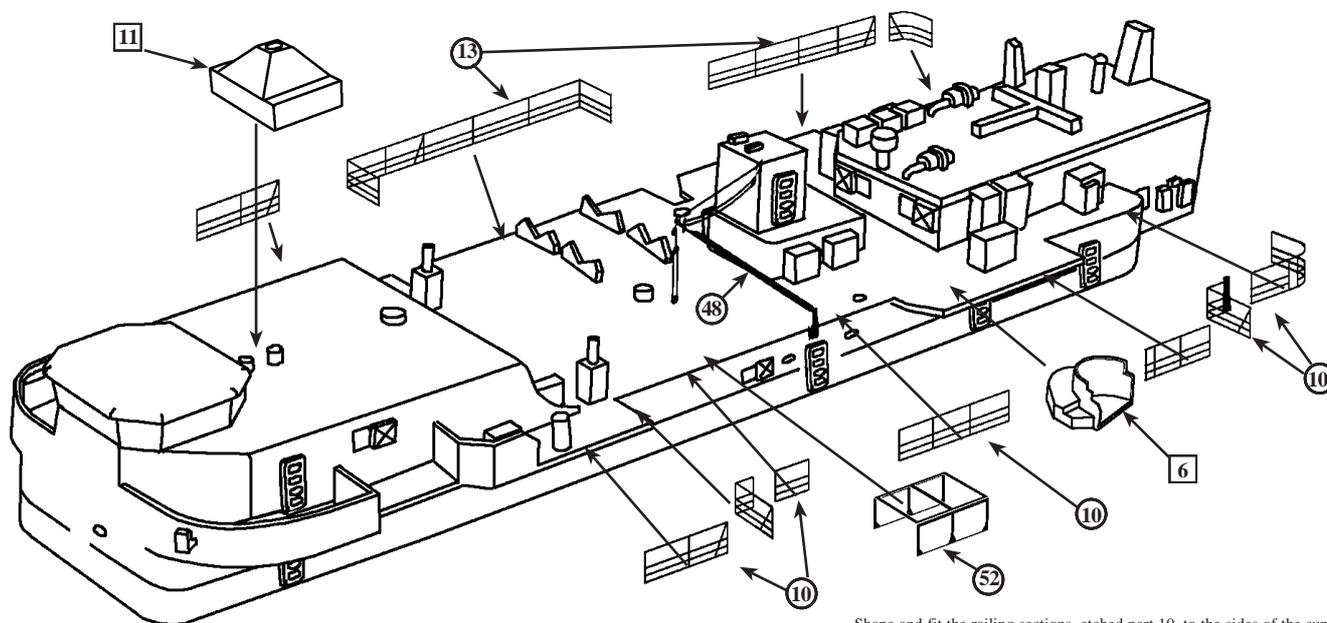
Fit the Gemini Crane, etched part 48, so that the foot of the jib locates onto the side of the superstructure, port side above the door. Fit the ends of the tackle rigging so that it fits over the forward port corner of the SCOT office roof

Lookout Binocular Assembly



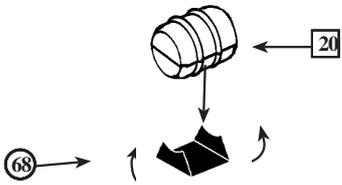
Fold the pedestal sections of the lookout binoculars in half so that they are double thickness. Then fold the binocular on each side outwards as shown above. Secure into place.

Superstructure Railing Location (Lower)



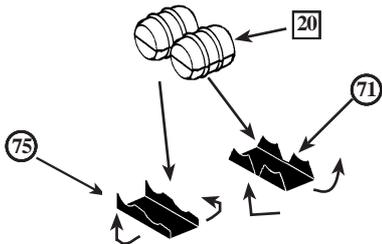
Shape and fit the railing sections, etched part 10, to the sides of the superstructure deck as shown above. The aftermost section has a gap next to the thicker post to allow for the 20mm Gambo Mounting. The forward sections have gaps to allow for life raft canisters and vertical ladder access. Fit the Corvus Chaff Launcher Enclosures to the forward end of the after deck extensions.

Bridge and Signal Deck Fittings



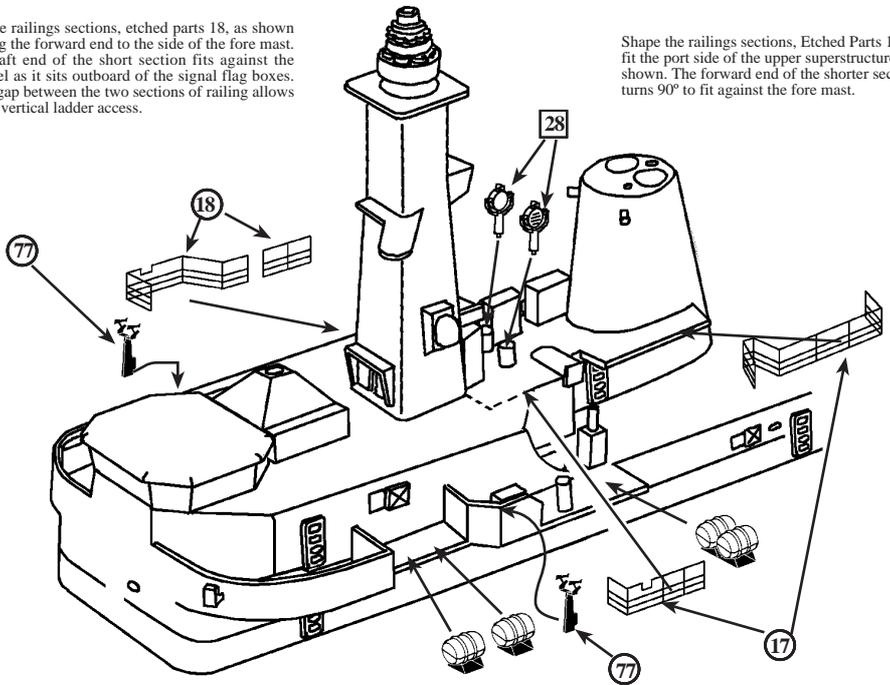
Fold up the sides of the life raft canister racks, etched parts 68, so that they are parallel. Remove the life raft canisters, parts 20, from the molding strips so that each canister is separate, then fit to the angled part of the rack as shown above.

For the double life raft racks, fold up the sides of etched parts 71 and 75, so that they are parallel, then fit two canisters into each. Fit these into the positions shown in the following diagrams.



Shape railings sections, etched parts 18, as shown fitting the forward end to the side of the fore mast. The aft end of the short section fits against the funnel as it sits outboard of the signal flag boxes. The gap between the two sections of railing allows for a vertical ladder access.

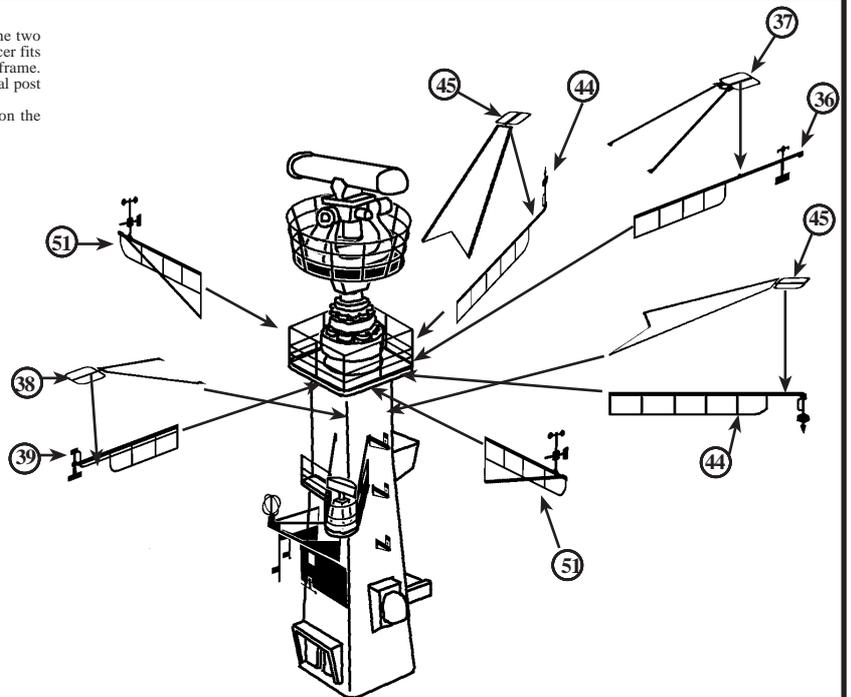
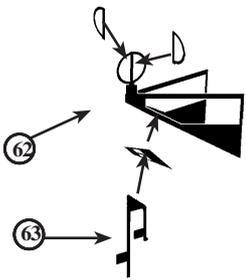
Shape the railings sections, Etched Parts 17, to fit the port side of the upper superstructure as shown. The forward end of the shorter section turns 90° to fit against the fore mast.



Fit the life raft canister assemblies onto the deck extensions as shown above. These are mirrored to fit the starboard side in the same positions.

Fore Mast Assembly

Assemble the DF Antenna, etched part 62, by folding the two frames around to form a 'V' so that the small shaped spacer fits to the rear of the point of the V on the underside of the frame. Fix the two half circles of the antenna at 90° on the central post to form a cross when viewed from above. Fit the light cluster, etched part 63, to the central bar on the underside spacer frame.

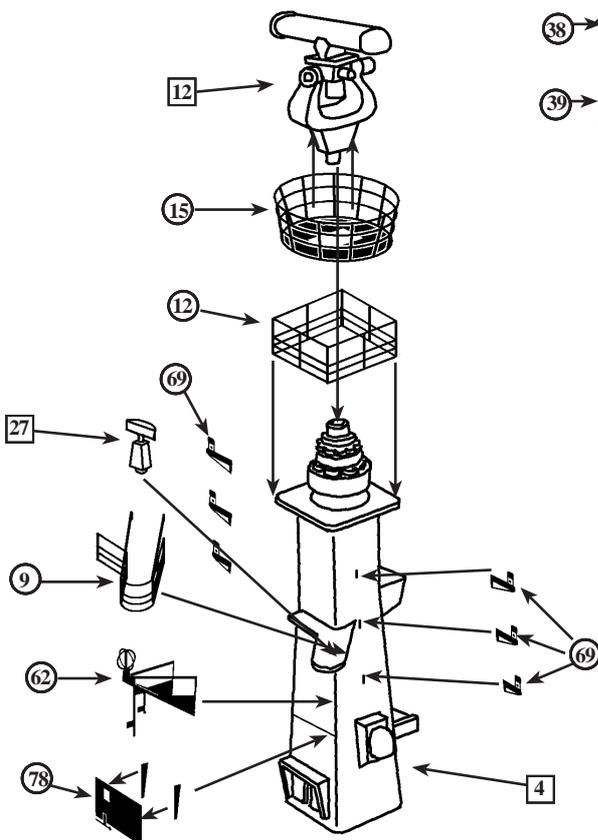


Shape and fit the railings, etched part 12, to the rectangular platform on the fore mast, resin part 4. Shape and fit the railings, etched part 9, to the Nav Radar platform. Note that the two support stays are parallel whilst the end section of railing follows the line of the platform's edge. The ends of these stays attach to the front and side faces of the fore mast.

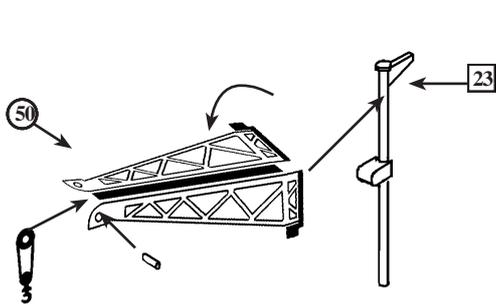
Fold up the railing section of etched part 15 then gently curve to fit around the edge of the circular platform. These railings are shaped to have an outward incline upwards from the platform when the two ends are secured together. Fit the platform to the 967/968 radar antenna, resin part 12, so that the rectangular base fits through the rectangular hole in the platform. Secure into place then fit into the locating hole in the top of the Abbey Hill ECM array on top of the fore mast.

Fit the ESM Sensor Antennas, etched parts 69 to the sides of the fore mast at the positions shown. Fit the 978 Nav Radar antenna, metal part 27 to the radar platform. Assemble the sensor plate, etched part 78 and fit to the fore mast at the position shown left. Fit the DF antenna assembly to the front of the fore mast just above the sensor plate.

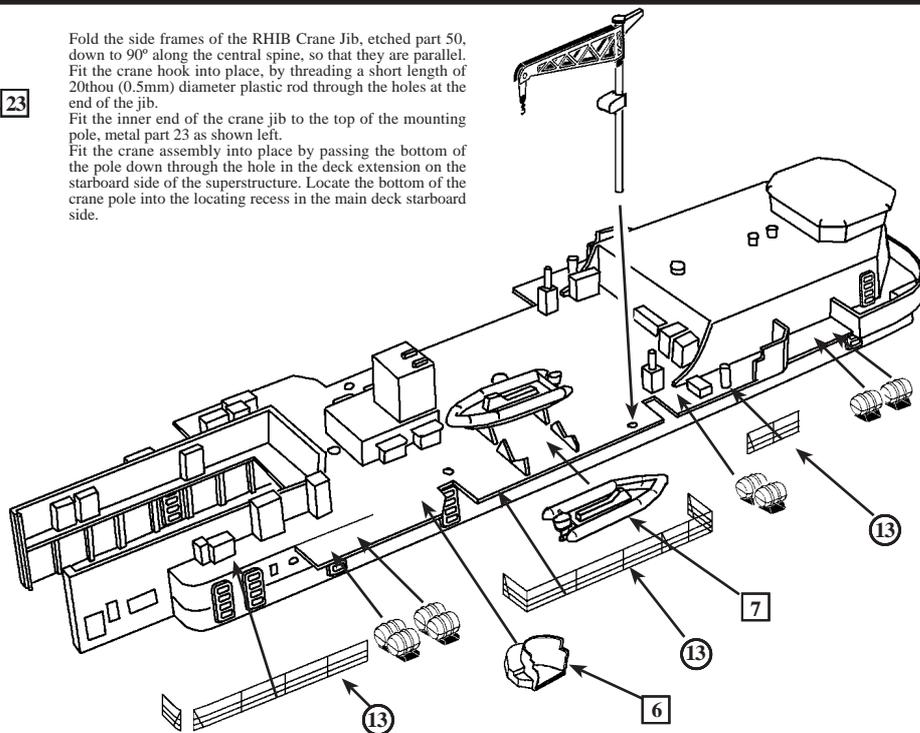
Fit the Front and Rear Yardarms, etched parts 39 and 36 respectively, to the fore mast as shown. Shape the antenna loop ends on the yardarm stays, etched parts 37 and 38 as shown then fit to the tops of the yardarms so that the feet of the stays then contact the front and rear faces of the fore mast, outwards towards the corners. Fit the Rear Quarter Yardarms, etched parts 44, to the undersides of the rectangular platform so that the inner ends contact the mast on the corners. Shape and fit the stays, etched parts 45 in a similar manner to those on front and rear yardarms, except that the rear feet of the stays meet in the middle of the rear face of the fore mast passing under the stays of the Rear Yardarm. Fit the side yardarms, etched parts 51, to the underside of the rectangular platform, with the inner end against the side of the fore mast



Boat Crane Assembly and RHIB Location

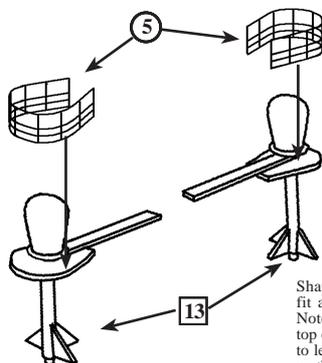


Fold the side frames of the RHIB Crane Jib, etched part 50, down to 90° along the central spine, so that they are parallel. Fit the crane hook into place, by threading a short length of 20thou (0.5mm) diameter plastic rod through the holes at the end of the jib. Fit the inner end of the crane jib to the top of the mounting pole, metal part 23 as shown left. Fit the crane assembly into place by passing the bottom of the pole down through the hole in the deck extension on the starboard side of the superstructure. Locate the bottom of the crane pole into the locating recess in the main deck starboard side.



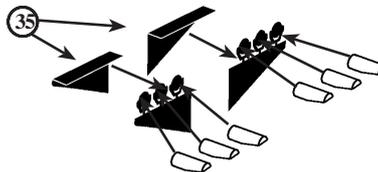
Shape and fit the railings sections, etched parts 13, to the deck extensions on the starboard side of the superstructure as shown right. Fit the Corvus Chaff Launcher Enclosure, resin part 6, to the forward end of the aft deck extension. Fit the life raft canister assemblies into the locations shown right. Fit the RHIB Sea Rider boats into the cradles as shown, with one facing forward, the other facing aft.

SCOT Platform Assembly



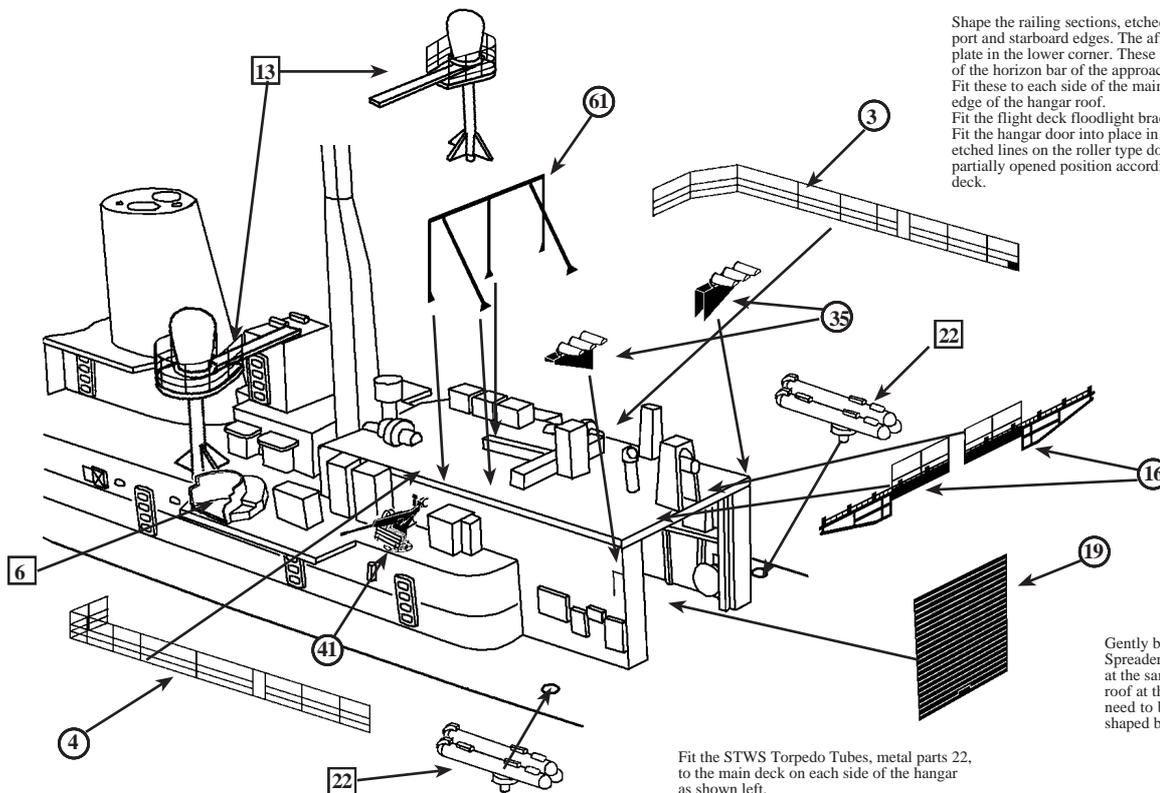
Shape the railings sections, etched parts 5, to fit around the edges of the SCOT platforms. Note: The waveguide conduits that run to the top of the SCOT house will need to be trimmed to length before fitting the platforms into place on the superstructure deck.

Flight Deck Floodlight Assembly



Fold the top portion of the forward support plates on the flight deck floodlights, etched parts 35, to 90°, then fit to the rear of the floodlight plate as shown. The shrouded floodlights can be made more 3D by cutting 2.5mm lengths of 30 thou plastic rod and shaving a flat on the lower side as shown. Fit these to the shaped floodlight holders.

Helicopter Hangar Details

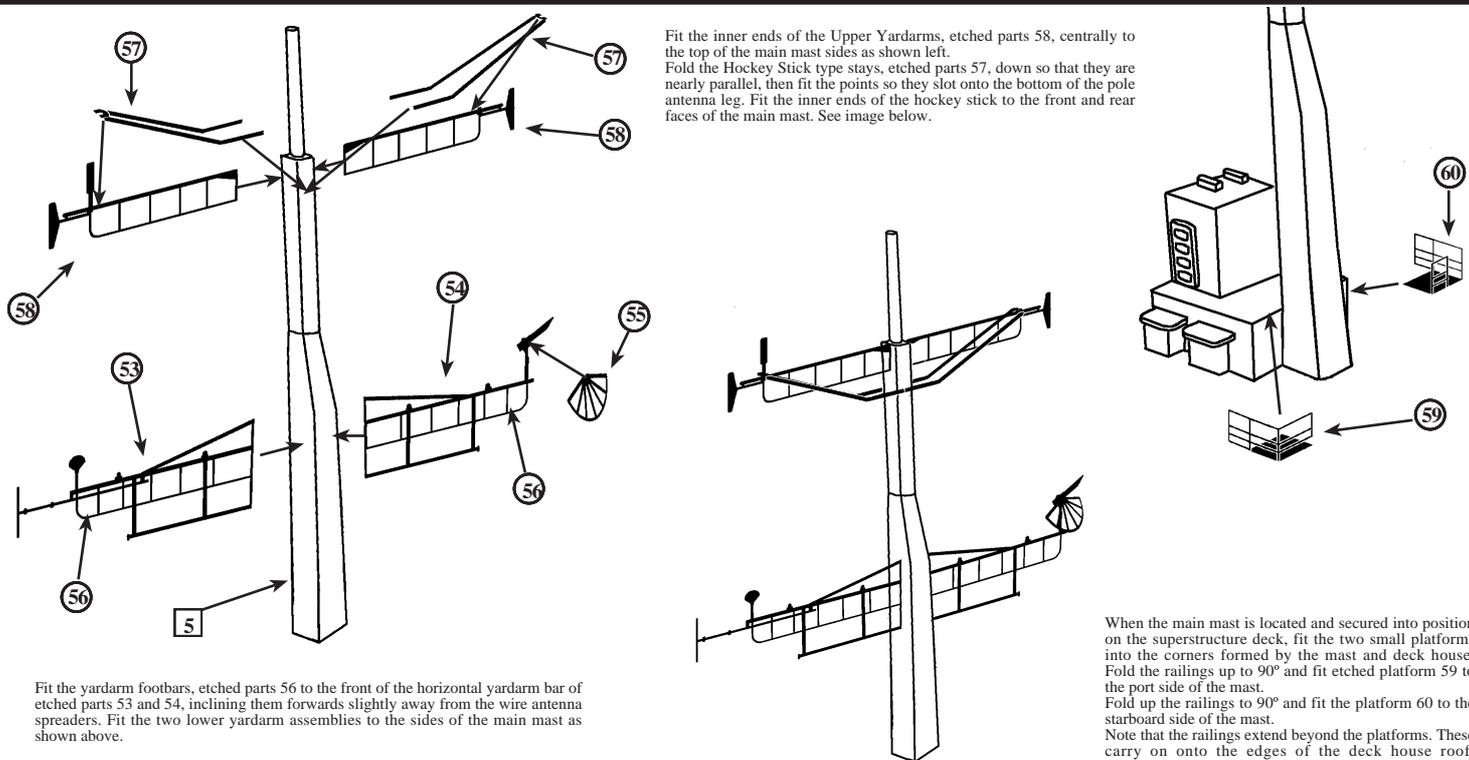


Shape the railing sections, etched parts 3 and 4, to fit the hangar roof on the port and starboard edges. The aft ends of these railings have a small square plate in the lower corner. These are fitted against the railings that are part of the horizon bar of the approach lights, etche parts 16. Fit these to each side of the main landing approach lamp box along the rear edge of the hangar roof. Fit the flight deck floodlight brackets to the sides of the hangar as shown. Fit the hangar door into place in the hangar opening. By cutting along the etched lines on the roller type door, the door can be fitted in the fully or partially opened position according to what one is modelling on the flight deck.

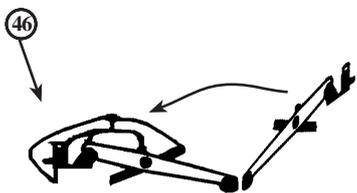
Gently bend the longer inner stays on the Wire Antenna Spreader, etched part 61, to the rear until all the feet are at the same level. Fit the antenna spreader to the hangar roof at the position shown left. The centre leg may also need to be bent rearwards to allow for the leg of the T shaped box on the deck.

Fit the STWS Torpedo Tubes, metal parts 22, to the main deck on each side of the hangar as shown left.

Main Mast Assembly

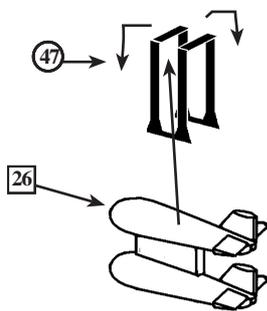


Decoy Crane Assembly



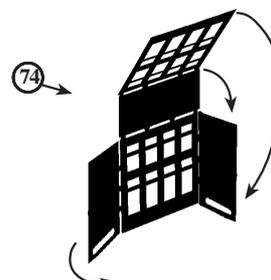
Fold the two sides of the Decoy Crane, etched part 46, around so that the jib is double thickness. Secure into place.
Fit the rear base of the jib to the top of the pintle that is located inside the bulwark on the port stern quarter.

182 Decoy Stowage



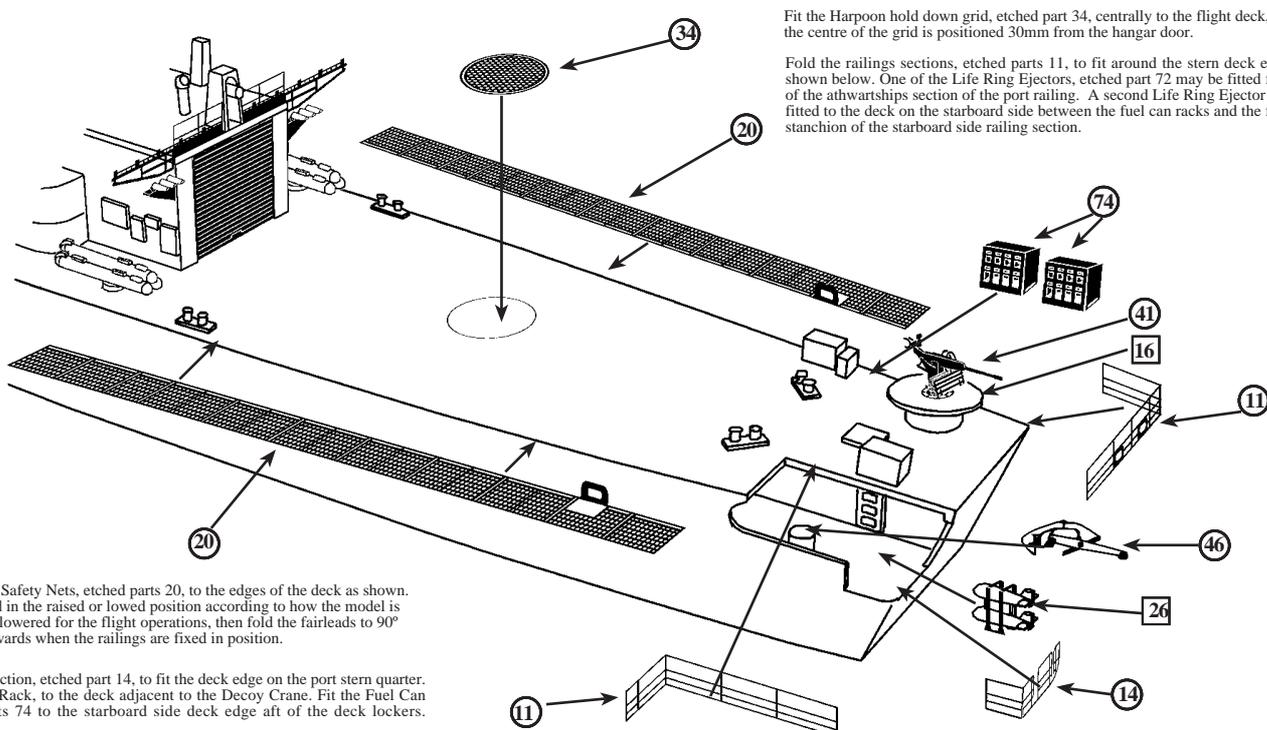
Fold the legs on etched parts 47 over in 90° steps so that they are parallel, then fit them over the acoustic decoys as a stowage frame.

Fuel Can Rack Assembly

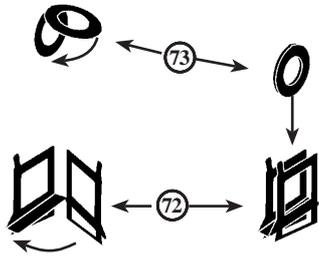


Fold the sides of the fuel can rack round to 90° so that they are parallel, then fold the top and front panels down in stages of 90° so that they form a box construction rack. These racks are meant to contain the Jerry cans of fuel required by the ships boats. They are usually positioned on the edges of the deck towards the stern. See section below for location. They have a quick onboard release capability due to the flammable contents and are usually painted red.

Flight Deck Fittings Location

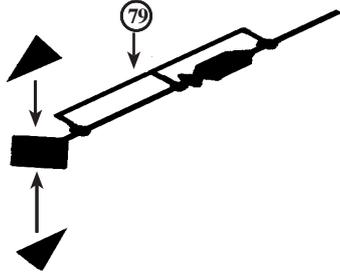


Life Ring Ejectors



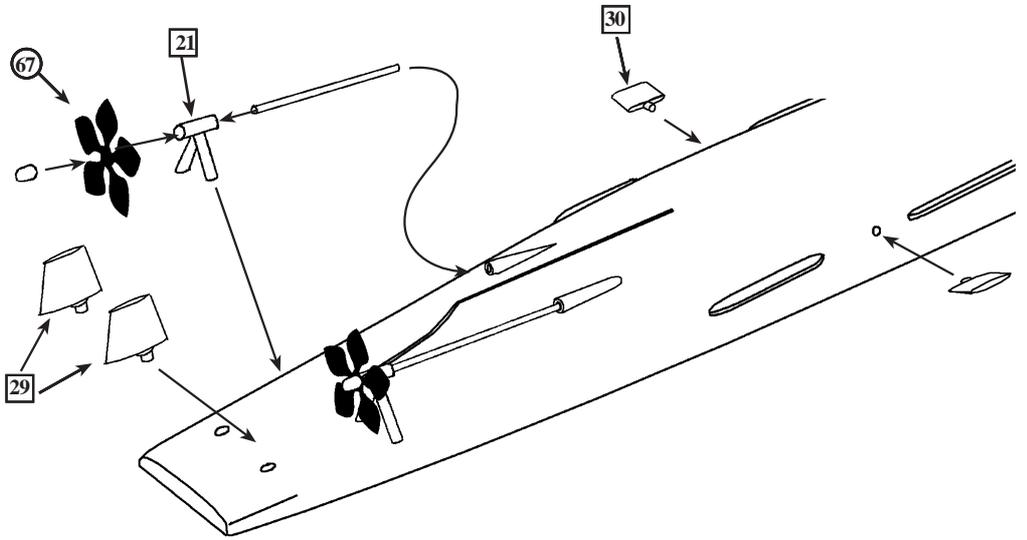
Fold the sides of the Life Ring Ejector around so that they are parallel. Twist up the central spacer so that the edges locate along the bottom rail on the two sides. Fix into place. Fold the life rings, etched parts 73 in half so that they are double thickness, then place inside the ejector rack after painting

Dan Buoy Assembly



Assemble the radar reflectors on the Dan Buoys, etched parts 79, as shown above. Fit the rectangular bracket arrangement onto the side railings on each stern quarter. The colour of the reflector and body of the Dan Buoys varied from Dayglo Orange which was the most common, to Red and White 90° alternate sections

Propeller and Rudder Assembly

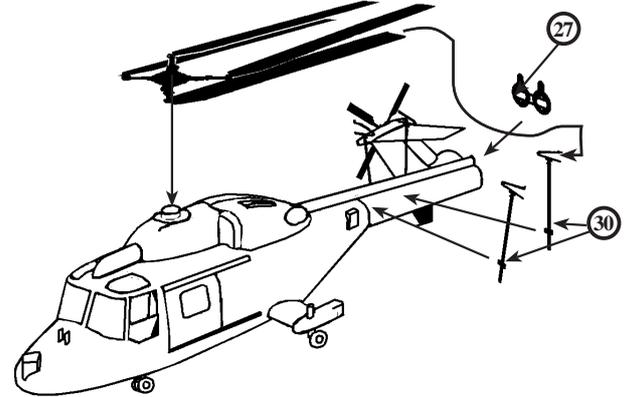


If the kit is being built as a full hull model, prepare the lower hull and fit to the upper hull as described at the beginning of these instructions. Fit the Stabiliser fins, parts 30 to the locating holes on the lower hull between the bilge keels. Cut two 30mm lengths of the 1mm diameter brass rod stock provided, to make the propeller shafts. Cut the front of the hub boss from the bearing and retain. Fit the propeller, etched part 67, centrally to the flat face on the front of the A frame bearing. Re-fit the hub boss to the front of the propeller as shown above. Fit the propeller shaft assemblies to the lower hull so that the open end of the shaft fits in to the hull sleeve. The legs of the A-frame may need to be trimmed in length to get the A-frame to sit correctly on the hull, but there is sufficient length on both legs to do this. Fit the rudders, metal parts 29, in to place in the locating holes on the stern.

Westland Lynx HAS3 Helicopter Assembly



Fit the main and tail rotor blades, etched parts 31 and 29, as shown above. Fit the blade aerial 28 to the underside of the tail cone.



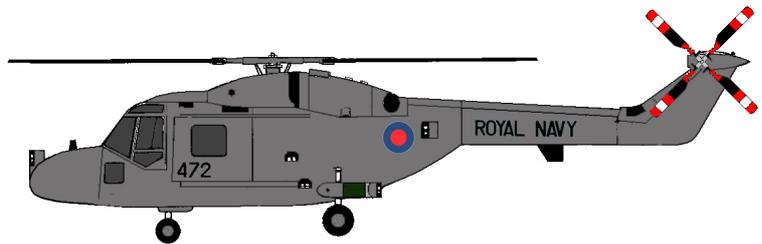
If the helicopter is to be displayed folded, make a small cut at the root of each rotor blade on the forward edge. This will make it easier to bend the blade rearwards and keep it flat. Cut the tail pylon off completely at the fold joint as shown, and fit the fold joint, etched part 27. This will allow the tail to be reattached in the folded position with ease. Fit the folded main rotor blades so that they are positioned over the tail, then fit the blade support poles in pairs to each side of the tail cone. The blades then fit into the slot on top of the pole.



Humbrol 164
Dark Sea Grey

Ships Flights Codex Numbers

472/HMS Andromeda. 475/HMS Hermione. 443/HMS Jupiter
323/HMS Scylla 431/HMS Charybdis



Other Colours Used

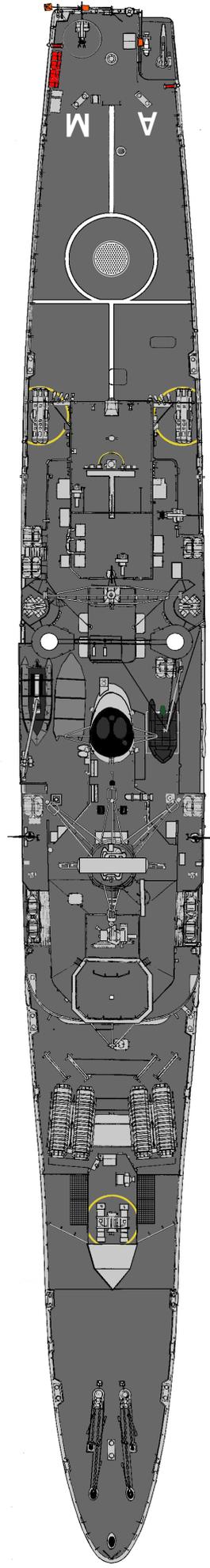
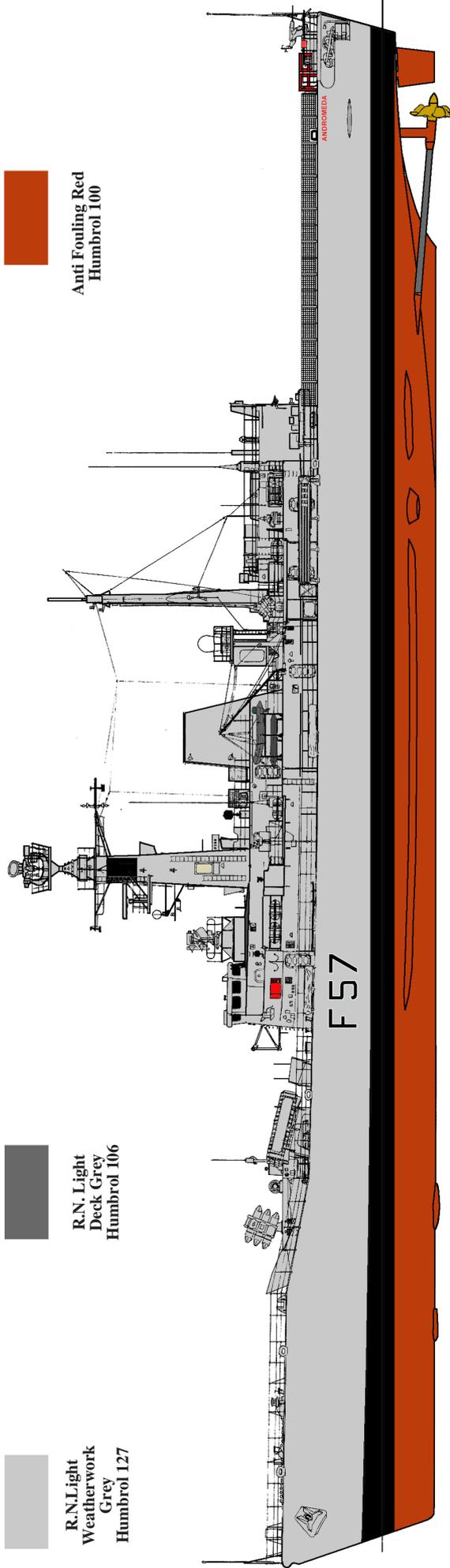
Matt Black..... Wheel Tyres, Undersides of Rotor Blades.
Olive Green..... Top Surfaces of the Rotor Blades
Red and White Tail Rotor Blade Tips
Gloss Black.... Tail Rotor Blades

Main Colour Chart and Painting Guide

R.N.Light
Weatherwork
Grey
Humbrol 127

R.N. Light
Deck Grey
Humbrol 106

Anti Fouling Red
Humbrol 100



Pennant Numbers Flight Deck Code Letters for all Ships of the Class

F57 HMS Andromeda / AM F58 HMS Hermione / HM
F60 HMS Jupiter / JP F71 HMS Scylla / SC F75 HMS Charybdis

The colour guide above shows the main scheme and the areas covered. There are smaller less obvious areas that are listed below.

Matt Black.

Upper parts of Masts and Exhaust Stacks. Gun Barrels. Waterline Boot Topping. Seats in RHIBs

Off Black

Gemini Inflatable Boat, Decking in RHIBs.

Medium Grey

Bouyancy Tubes on the RHIBs

Matt White

SCOT Radomes, Hull Bottom of RHIBs

Bronze

Propellers.

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1 Hillview Grove, Easington, Durham, SR8 3NT. UK Tel. 0191 5271574
e.mail: minimariner@talktalk.net Website <http://www.atlanticmodels.net>