

# Type 41 Anti Aircraft Frigate

## H.M.S. PUMA

### 1970

### 1/350 Scale

The Type 41 or "Cat" class were a class of anti aircraft frigates built for the Royal Navy as escort vessels to provide anti aircraft cover for convoys. After an initial order for these ships was cut back to four (HMS Lynx, Leopard, Puma and Jaguar) another three were ordered to be built for the Indian Navy (INS Beas, Betwa and Brahmaputra)

Because of their diesel power plants as opposed to the normal steam plants, they could not achieve fleet speeds and could only make 24 knots. They shared a common hull and machinery with the Type 61 "Cathedral" class aircraft direction frigates with which they were intended to operate. *HMS Puma* was built by Scotts at Greenock, being laid down on 16th November 1953 and launched on 30th June 1954. She was commissioned in to service on 27th April 1957 and spent the first few months of her career involved in trials and working up around the coast of Britain.

Because of the greater range given to the ships of this class, by their diesel engines, they were ideal for use patrolling the vast expanses of the southern oceans especially around the British dependencies in the South Atlantic and so the first commission of *HMS Puma* took her southwards, visiting such places as Lagos, Rio de Janeiro, St Helena and Tristan de Cunha before taking up station at Simonstown in to South Africa. Puma spent the early 1960s patrolling the South Atlantic area and exercising with the South African Navy. In 1964 Puma suffered damage from a fire on board which laid her up being repair for several months.

Initially all four of the Royal Navy's ships were fitted with the Type 960 Air Search Radar on the main mast, with the Type 293 target acquisition radar on the fore mast, but in the mid 1960's all four of the ships of the class were modernised and the main mast was strengthened and plated in to support the more modern AKE-1 bedstead antenna for the Type 965 radar. The Type 293 on the fore mast was replaced with a Type 993. The unreliable twin bofors STAAG gun mounting aft of the main mast was also removed and replaced with a single 40mm Bofors mounting.

During the late 1960s after Puma had completed her modernisation, she was deployed on to the Far East station where she operated from Hong Kong and Singapore.

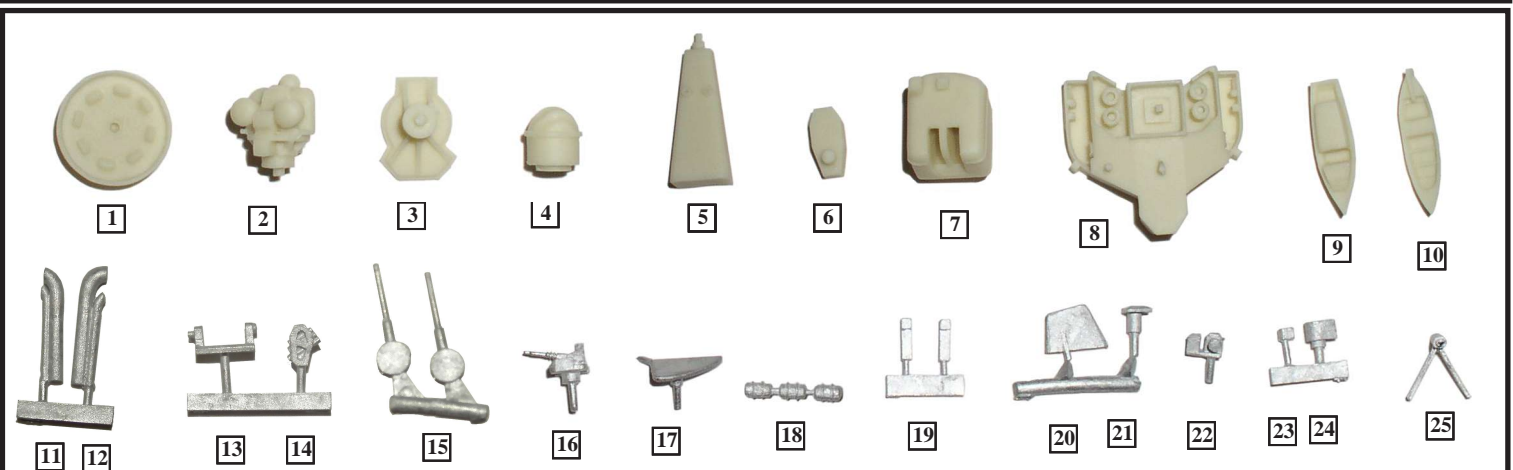
In June 1972 after returning home, *HMS Puma* paid off for the last time and was withdrawn from service, finally being broken up for scrap in 1976

### 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.

### RESIN & WHITE METAL PARTS



- |                              |                                 |                                     |
|------------------------------|---------------------------------|-------------------------------------|
| 1. AA Gun Mounting Platform  | 9. 25' Fast Motor Boat          | 18. 3 Life Raft Canisters x 3       |
| 2. Mk6 Fire Control Director | 10. 27' Motor Whaler            | 19. Stack Vents x 6                 |
| 3. Mk6 Director Platform     | 11. Aft Diesel Exhausts         | 20. Rudder                          |
| 4. Aft Fire Control Director | 12. Forward Diesel Exhausts     | 21. Ventilator Exhaust              |
| 5. Plated Main Mast          | 13. Squid A/S Mortar Mounting   | 22. Deck Winch                      |
| 6. Ventilator Junction Box   | 14. Squid A/A Mortar Barrels    | 23. Mushroom Vent (Small) x 3       |
| 7. 4.5" Mk6 Twin Turret x 2  | 15. 4.5" Gun Barrels x 4        | 24. Mushroom Vent (Large) x 3       |
| 8. Frigate Bridge Unit       | 16. 40mm Single Bofors Mounting | 25. Propeller Hub and 'A' Frame x 2 |
|                              | 17. 993 Radar Antenna           |                                     |

## PHOTO ETCHED METAL PARTS

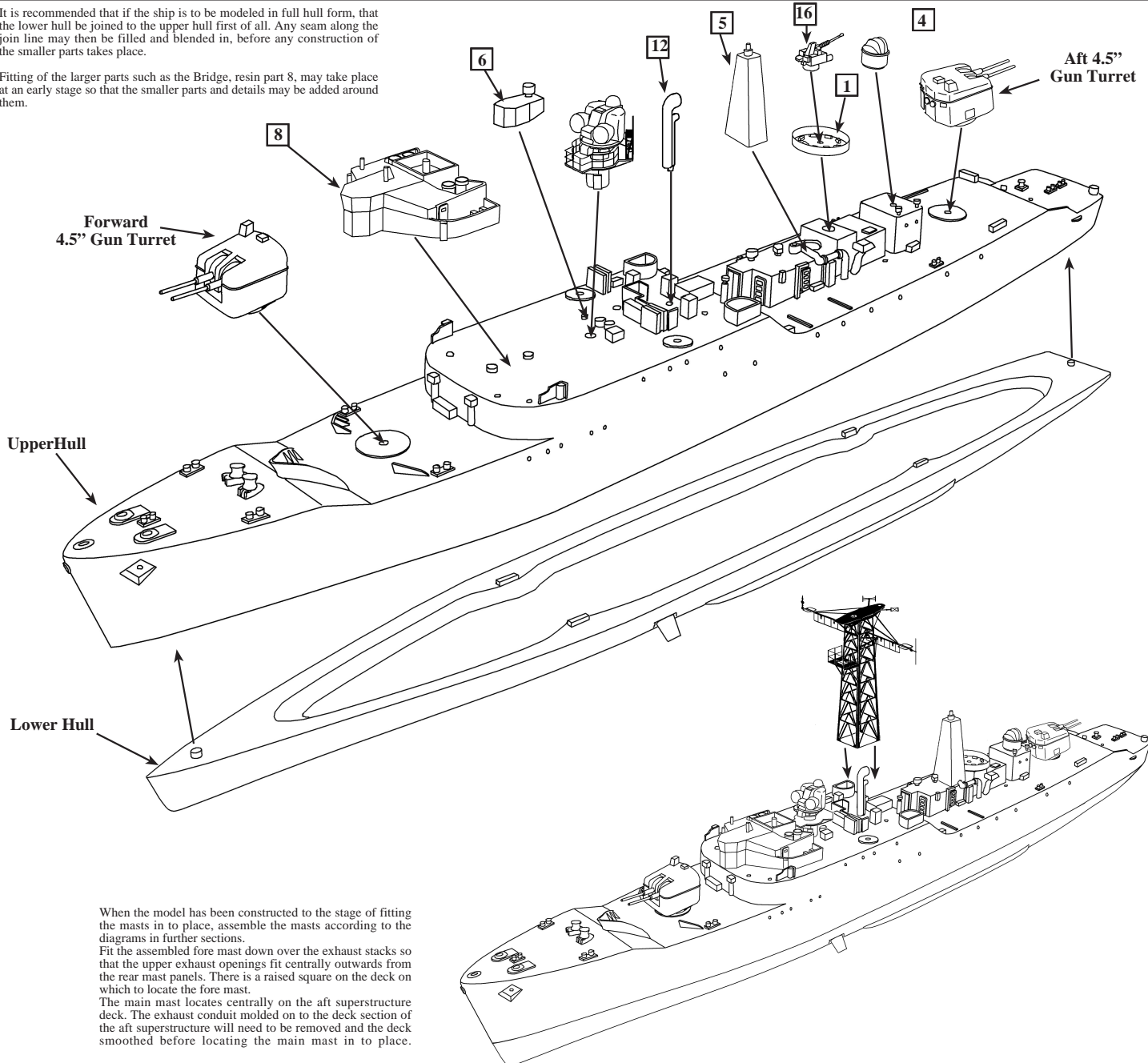
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- |     |                                     |     |                                    |     |                                    |     |                               |
|-----|-------------------------------------|-----|------------------------------------|-----|------------------------------------|-----|-------------------------------|
| 1.  | Railings (Main Deck Aft)            | 17. | Jack Staff                         | 33. | Ensign Staff                       | 49. | Mast Squadron Numbers 5       |
| 2.  | Railings (Focsls)                   | 18. | Mk6 Director Access Platforms      | 34. | Boat Davits                        | 50. | Fore Mast Top HF/DF Antenna   |
| 3.  | Auxiliary Stearing Platform Support | 19. | Mast Squadron Numbers 7            | 35. | Lattice Fore Mast                  | 51. | Hawser Reel                   |
| 4.  | Main Mast Yardarm Stays             | 20. | Mast Squadron Numbers 6            | 36. | Propellers                         | 52. | Cable Reels (Large)           |
| 5.  | Railings (Stern)                    | 21. | 965 Radar Antenna Mesh Screens     | 37. | RAS Gantry                         | 53. | Vertical Ladder Stock         |
| 6.  | Railings (Main Deck Forward)        | 22. | 965 Radar Antenna Base Plate       | 38. | Amidships DF Antenna Mast          | 54. | Signal Lamp Standards (Small) |
| 7.  | Railings (Fore Mast Top Platform)   | 23. | 965 Radar Antenna Front Panel      | 39. | DF Antenna                         | 55. | Anchor Chain                  |
| 8.  | Railings (Mk6 Director Platform)    | 24. | 965 Radar Antenna Bottom Stays     | 40. | Inclined Ladder (Focsls)           | 56. | Searchlights                  |
| 9.  | Railings (Upper Deck Port)          | 25. | 965 Radar Antenna Horizontal Stays | 41. | Inclined Ladder                    | 57. | Ships Name Plates             |
| 10. | Railings (Upper Deck Starboard)     | 26. | 965 Radar Antenna Rear Plate       | 42. | Fore Mast Forward Yards (Late Fit) | 58. | Cable Reel (Small)            |
| 11. | Cordages Reel                       | 27. | Fore Mast Top Pole Antennas        | 43. | Squid Loading Trolley Rails        | 59. | Anchors                       |
| 12. | Squid Mounting Hand Wheel           | 28. | Fore Mast Nav Radar Platform       | 44. | Fore Mast Top Platform             | 60. | Fore Mast Forward Lattice     |
| 13. | Railings (Aft Superstructure)       | 29. | Cable Reels (Small)                | 45. | Fore Mast Antenna Loops            | 61. | Fore Mast Yardarms            |
| 14. | Auxiliary Stearing Platform         | 30. | Bridge Wing Signal Lamps           | 46. | 974 Navigation Radar Antenna       |     |                               |
| 15. | Wire Antenna Collector              | 31. | Bridge Roof DF Antenna             | 47. | 974 Radar Antenna Mast             |     |                               |
| 16. | Cordage Reels (Small)               | 32. | Main Mast Yardarms                 | 48. | Fore Mast Top Weather Vanes        |     |                               |

## MAIN STRUCTURAL PARTS

It is recommended that if the ship is to be modeled 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 Bridge, resin part 8, may take place at an early stage so that the smaller parts and details may be added around them.

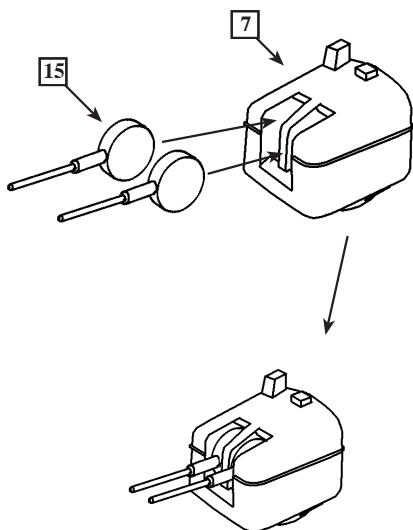


When the model has been constructed to the stage of fitting the masts in to place, assemble the masts according to the diagrams in further sections.

Fit the assembled fore mast down over the exhaust stacks so that the upper exhaust openings fit centrally outwards from the rear mast panels. There is a raised square on the deck on which to locate the fore mast.

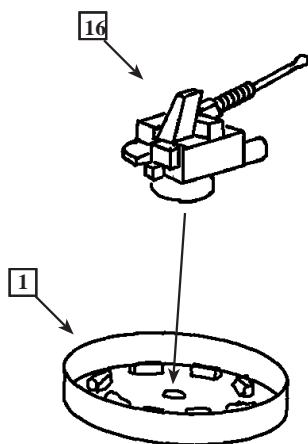
The main mast locates centrally on the aft superstructure deck. The exhaust conduit molded on to the deck section of the aft superstructure will need to be removed and the deck smoothed before locating the main mast in to place.

### Twin 4.5" Mk6 Gun Turret Assembly



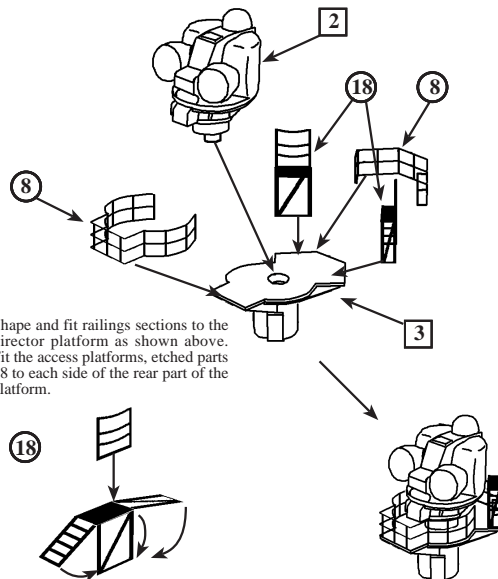
Clean off any excess material from the gun barrels, parts 15, so that the barrels and the elevation discs are clean and smooth. Fit the elevation discs on both barrels in to the recesses in the front of gun turret, resin part 7. Elevate the barrels to the desired position and secure in to place. Make two of these assemblies.

### 40mm Bofors Mounting



Fit the 40mm Bofors Gun mounting in to place on the AA platform, resin part 1, then fit the whole assembly in to place on the raised section of the aft superstructure.

### Mk6 Gunnery Director Assembly

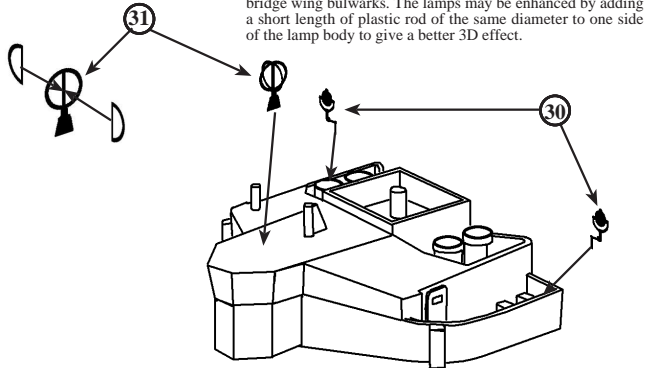


Shape and fit railings sections to the director platform as shown above. Fit the access platforms, etched parts 18 to each side of the rear part of the platform.

Shape the director access platforms, etched parts 18, by folding down the support frames and the ladder to 90° as shown above left, then securing the corners together. Make two of these as mirror images.



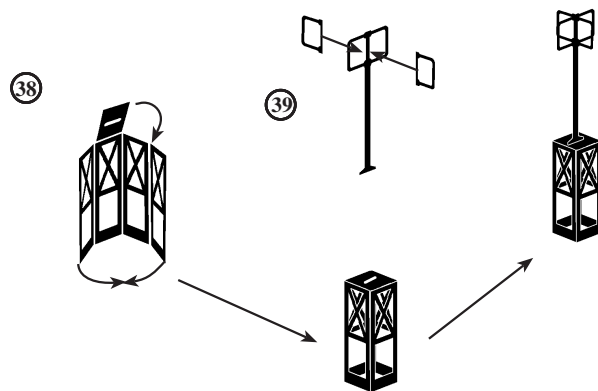
## Bridge Fittings



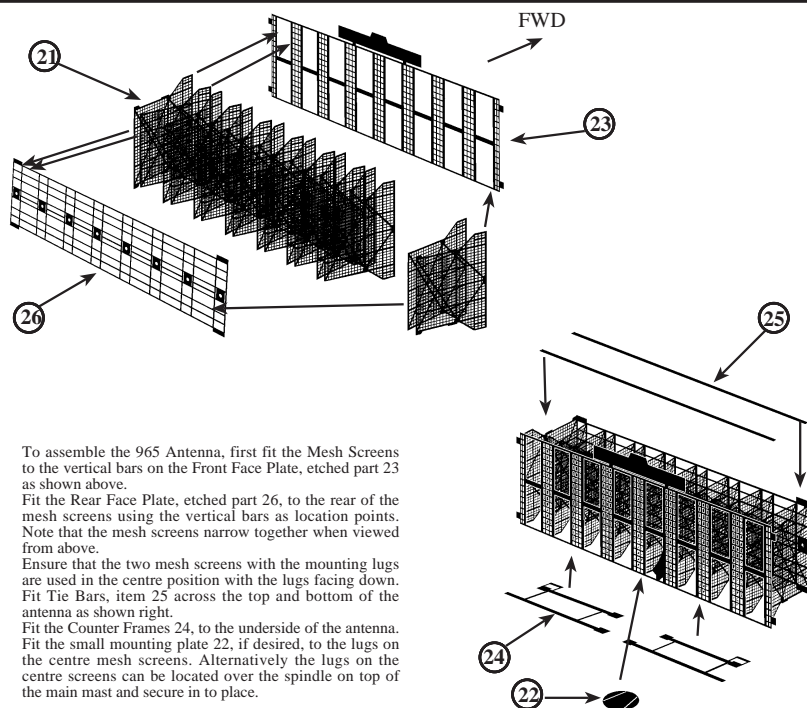
Assemble the small DF Loop antenna, etched part 31, as shown below. Fit the complete assembly to the centre of the bridge roof.

## Amidships DF Antenna Assembly

Fold each side panel of etched part 38 around in 90° stages until the two outer edges meet. Secure in to place, then fold down the top plate and secure. Make the DF antenna, etched part 39, by attaching the two half loops to the central pillar on each side of the main loop.



## 965 Radar Antenna Assembly



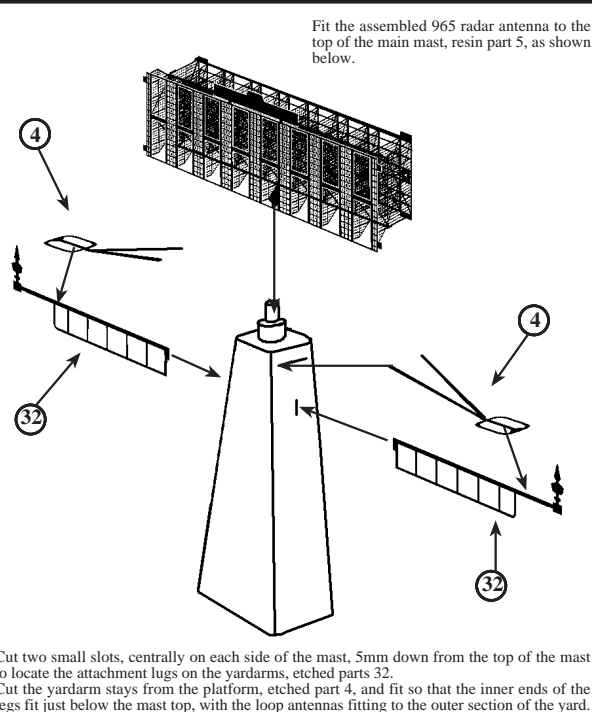
To assemble the 965 Antenna, first fit the Mesh Screens to the vertical bars on the Front Face Plate, etched part 23 as shown above.

Fit the Rear Face Plate, etched part 26, to the rear of the mesh screens using the vertical bars as location points. Note that the mesh screens narrow together when viewed from above.

Ensure that the two mesh screens with the mounting lugs are used in the centre position with the lugs facing down. Fit Tie Bars, item 25 across the top and bottom of the antenna as shown right.

Fit the Counter Frames 24, to the underside of the antenna. Fit the small mounting plate 22, if desired, to the lugs on the centre mesh screens. Alternatively the lugs on the centre screens can be located over the spindle on top of the main mast and secure in to place.

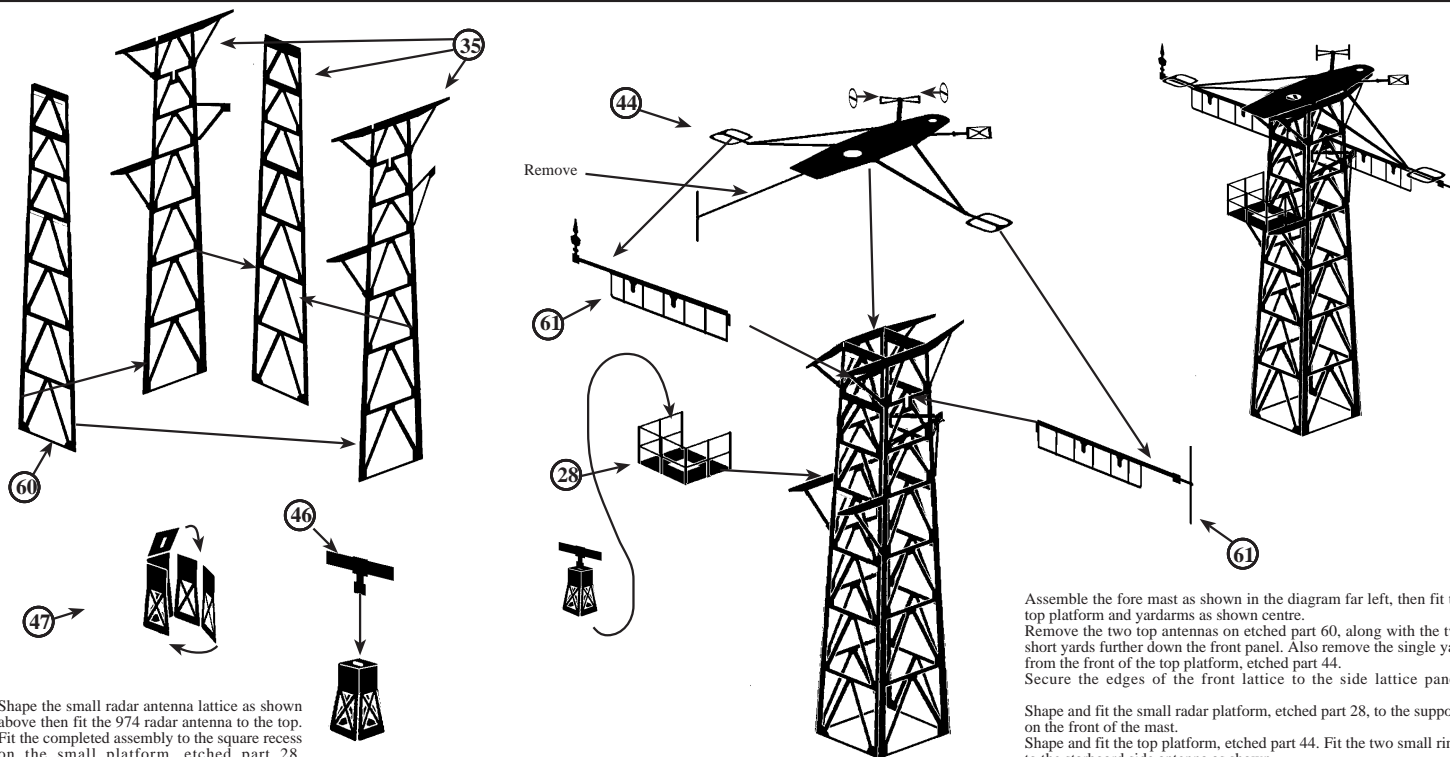
## Main Mast Assembly



Fit the assembled 965 radar antenna to the top of the main mast, resin part 5, as shown below.

Cut two small slots, centrally on each side of the mast, 5mm down from the top of the mast to locate the attachment lugs on the yardarms, etched parts 32. Cut the yardarm stays from the platform, etched part 4, and fit so that the inner ends of the legs fit just below the mast top, with the loop antennas fitting to the outer section of the yard.

## Fore Mast Assembly



Shape the small radar antenna lattice as shown above then fit the 974 radar antenna to the top. Fit the completed assembly to the square recess on the small platform, etched part 28.

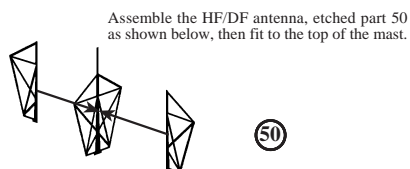
Assemble the fore mast as shown in the diagram far left, then fit the top platform and yardarms as shown centre. Remove the two top antennas on etched part 60, along with the two short yards further down the front panel. Also remove the single yard from the front of the top platform, etched part 44.

Secure the edges of the front lattice to the side lattice panels

Shape and fit the small radar platform, etched part 28, to the supports on the front of the mast.

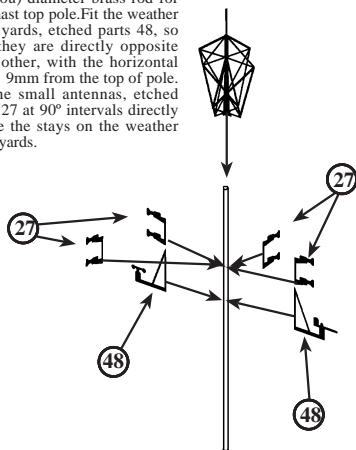
Shape and fit the top platform, etched part 44. Fit the two small rings to the starboard side antenna as shown.

## Fore Mast Top Assembly



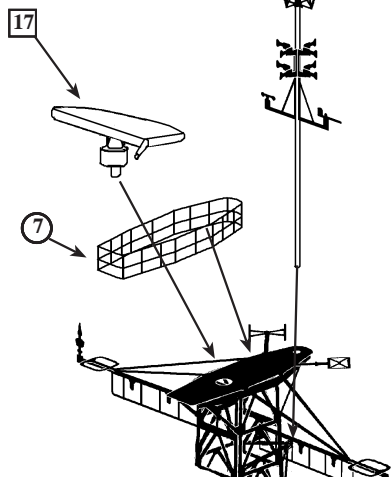
Assemble the HF/DF antenna, etched part 50 as shown below, then fit to the top of the mast.

Cut a 24mm length of 0.5mm (20thou) diameter brass rod for the mast top pole. Fit the weather vane yards, etched parts 48, so that they are directly opposite each other, with the horizontal yard, 9mm from the top of pole. Fit the small antennas, etched parts 27 at 90° intervals directly above the stays on the weather vane yards.

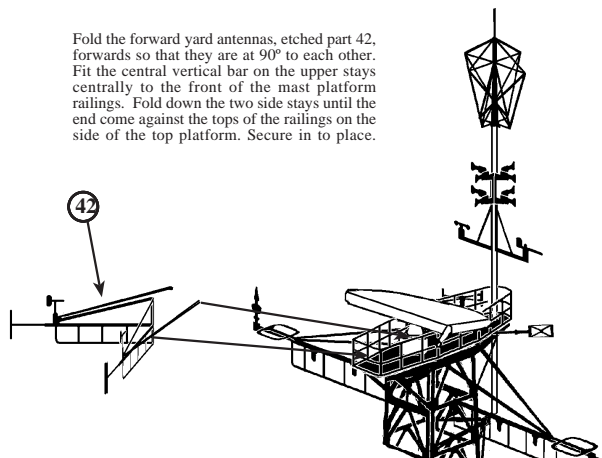


## 993 Radar Platform Assembly

Fit the 993 radar antenna to the mast top platform as shown below.



Fold the forward yard antennas, etched part 42, forwards so that they are at 90° to each other. Fit the central vertical bar on the upper stays centrally to the front of the mast platform railings. Fold down the two side stays until the end come against the tops of the railings on the side of the top platform. Secure in place.



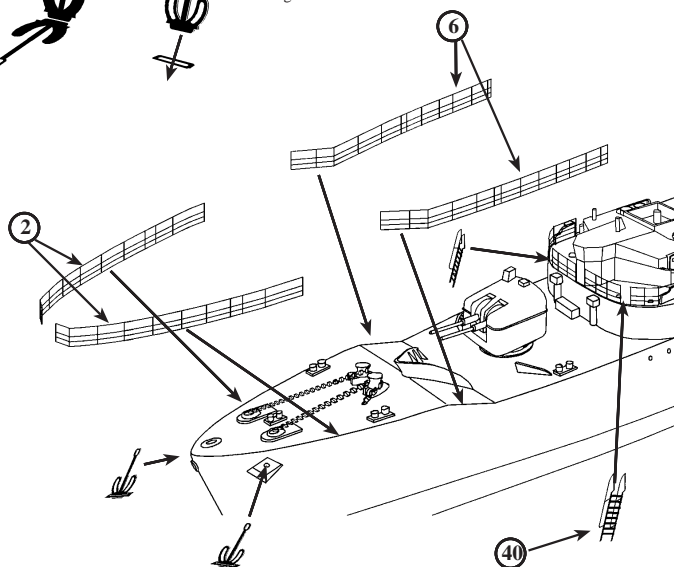
Shape and fit the fore mast platform railing, etched part 7, to the edges of the platform.

Fit the top pole array so that the pole slides down through the hole in the rear of the platform. The bottom of the pole is then located between the two angled brackets on the rear of the mast.

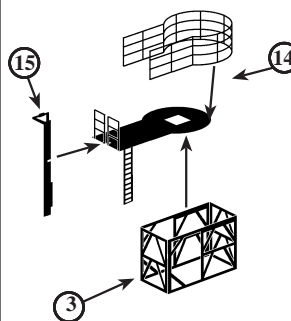
## Anchor and Focsls Fittings



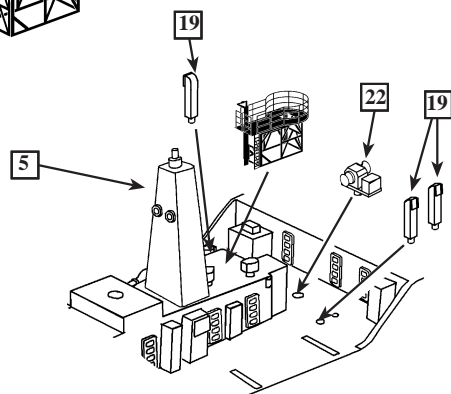
Fold the anchors, etched parts 59, in half so that the relief etched detail is outer most and the anchors are then double thickness. Fit the base of the anchor in to the slot on the tripping plate as shown. Make two of these and fit in to the hawsepipes on each side of the bow. These hole will need to be drilled out first, using a 1.00mm drill bit.



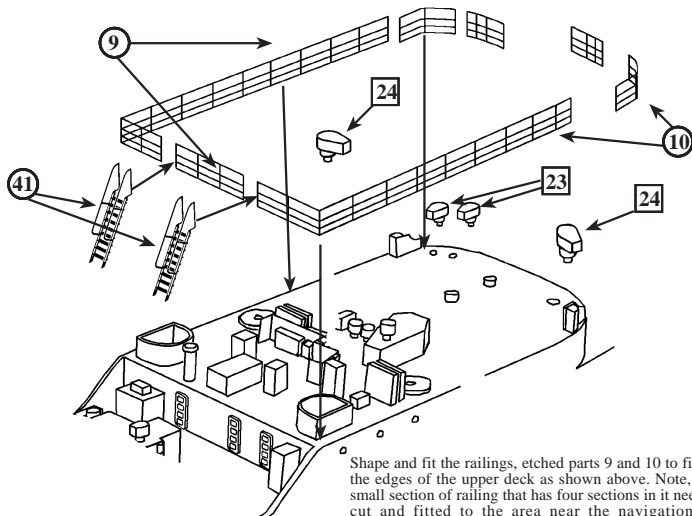
## Auxiliary Conning Position Assembly



Shape the railings on the auxiliary conning platform, etched part 14, to fit around the edges of the deck. Fold up the rear railings to 90° and fit the wire mast collector, etched part 15 in to the slot in the rear of the platform. Fold the lattice sections of the support structure, etched part 3, around in 90° stages and secure the ends together. Fit the platform to the top of the supports as shown left. Fit the assembly centrally on to the forward area of the aft superstructure.

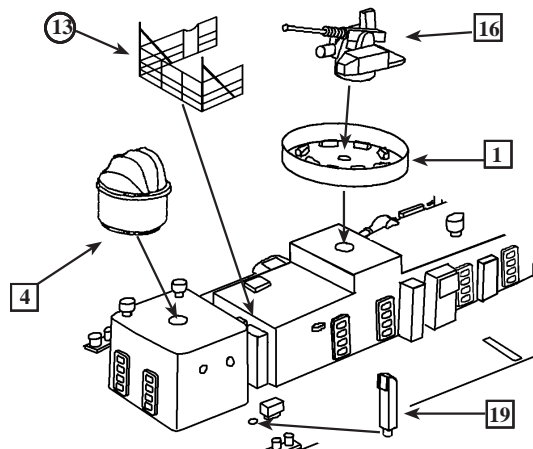


## Upper Deck Railing Location



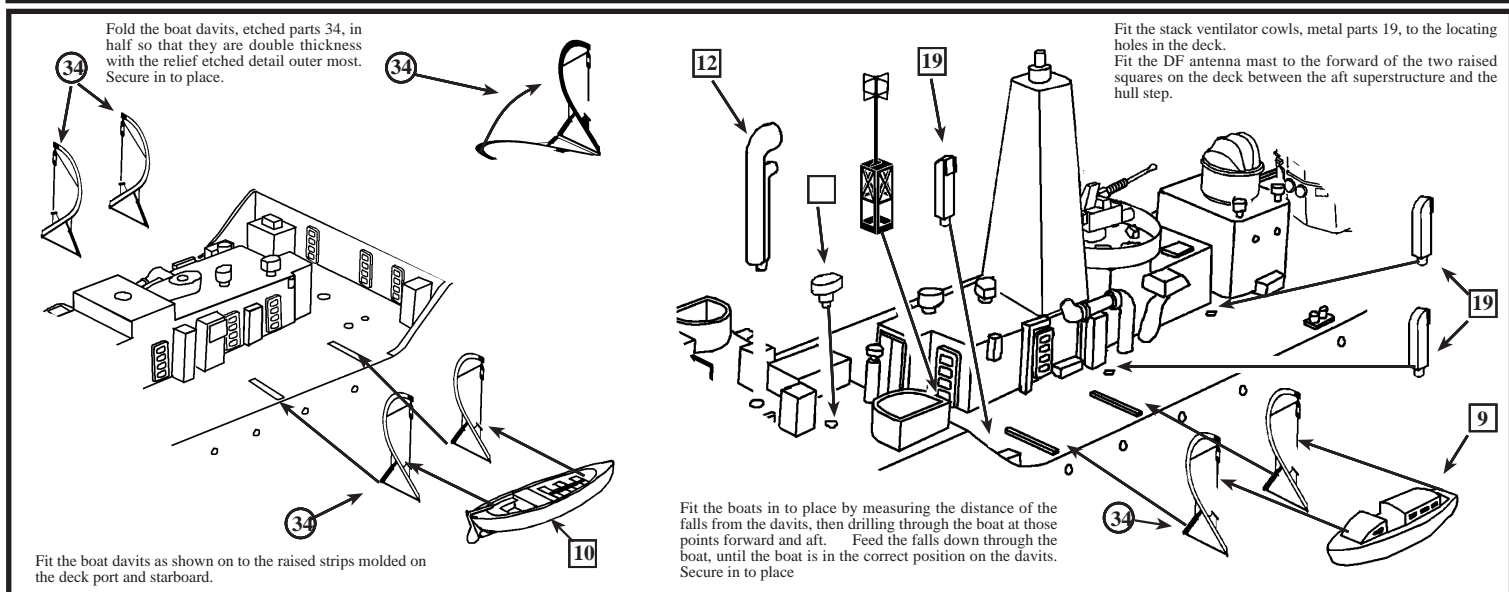
Shape and fit the railings, etched parts 9 and 10 to fit around the edges of the upper deck as shown above. Note, that the small section of railing that has four sections in it needs to be cut and fitted to the area near the navigation lights.

## Aft Superstructure Fittings

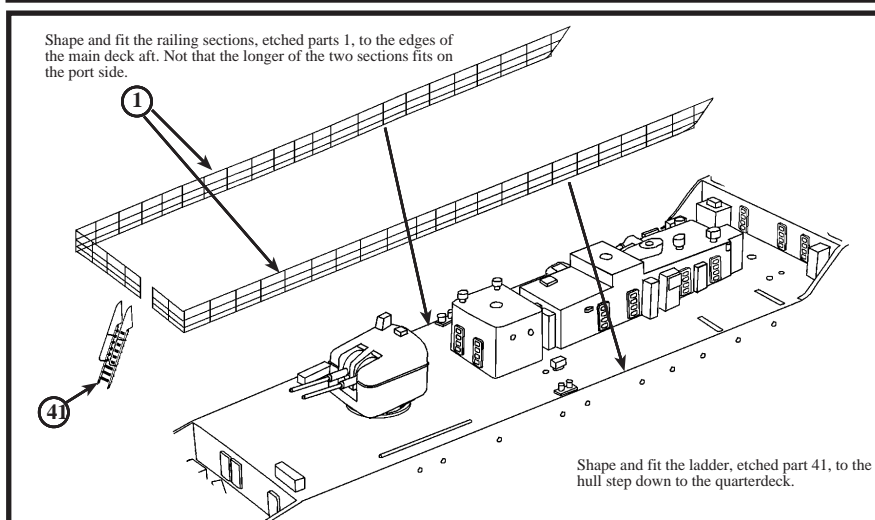


Shape and fit the railing section, etched part 13, to the edges of the rear area of the aft superstructure. A section of vertical ladder stock can be cut and fitted to the side of the superstructure below the open part of the railing.

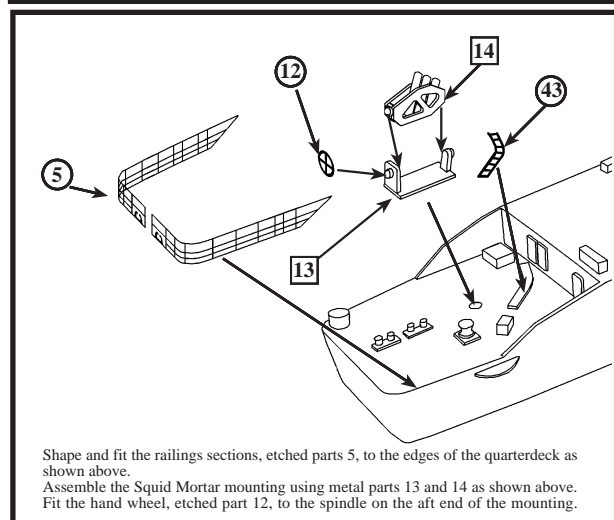
## Amidships Fittings and Boats Location



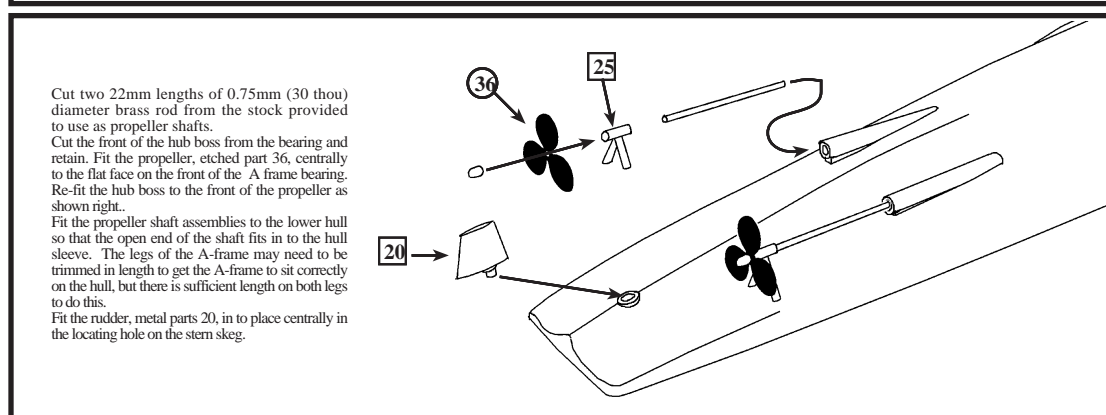
## Main Deck Aft Railing Location



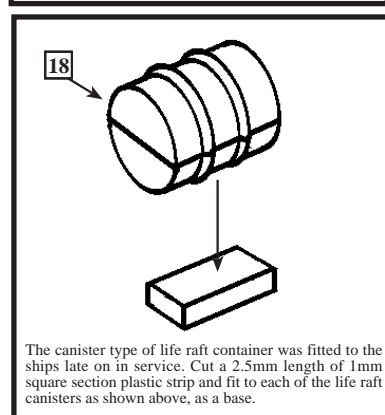
## Quarterdeck Fittings



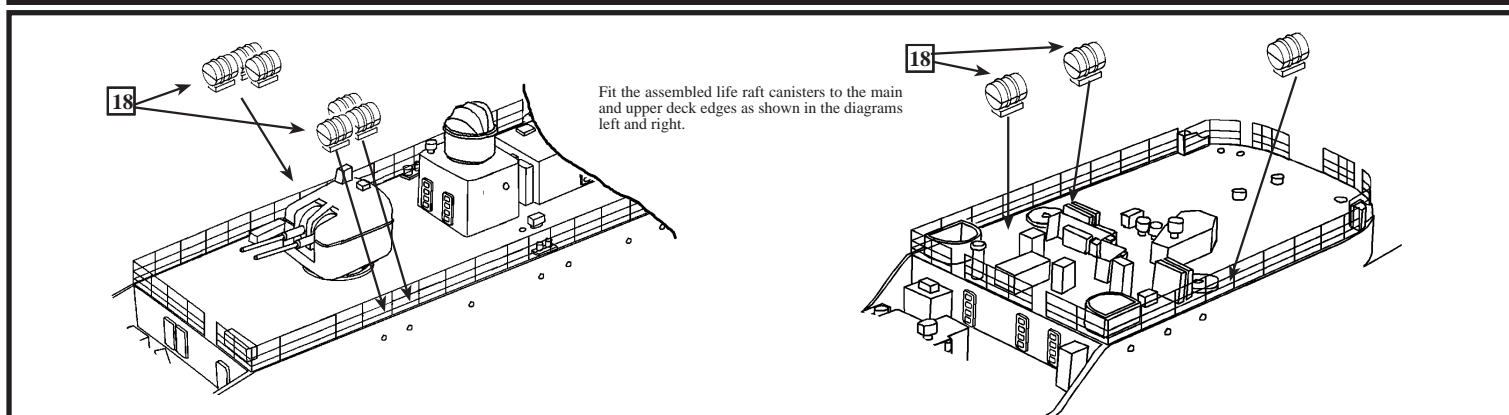
## Propeller and Rudder Assembly



## Life Raft Stowage Assembly

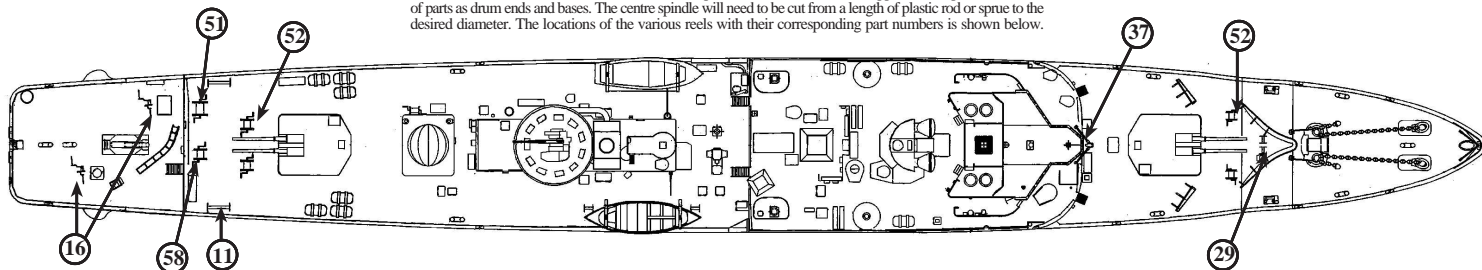


## Life Raft Canister Locations



## Cable Reel and Deck Gear Locations

Cable and hawser reels were to be found at various points on the decks, and are supplied in the photo etched set of parts as drum ends and bases. The centre spindle will need to be cut from a length of plastic rod or sprue to the desired diameter. The locations of the various reels with their corresponding part numbers is shown below.

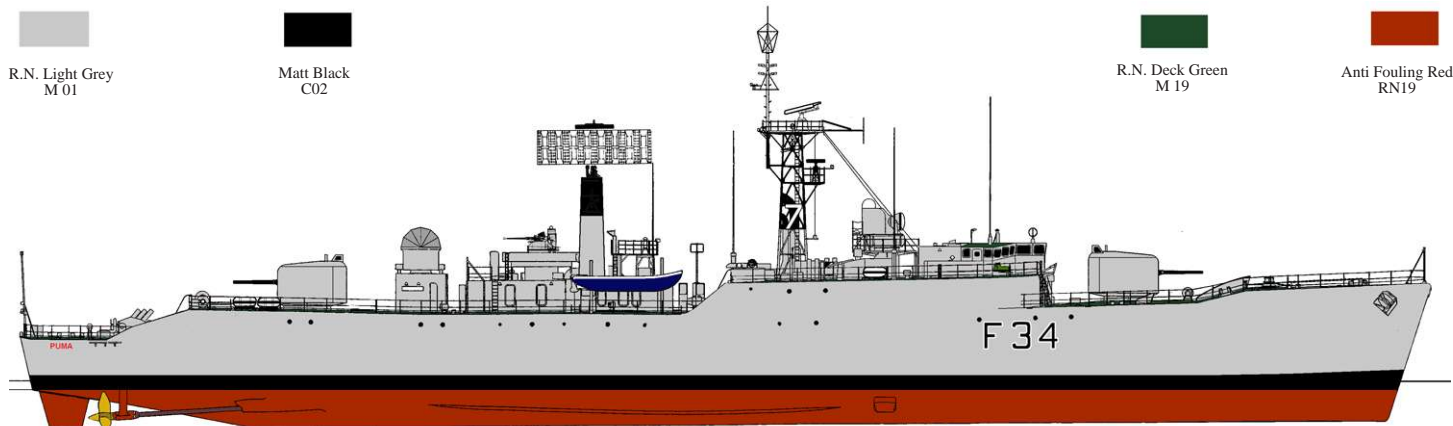


## Other Instructions

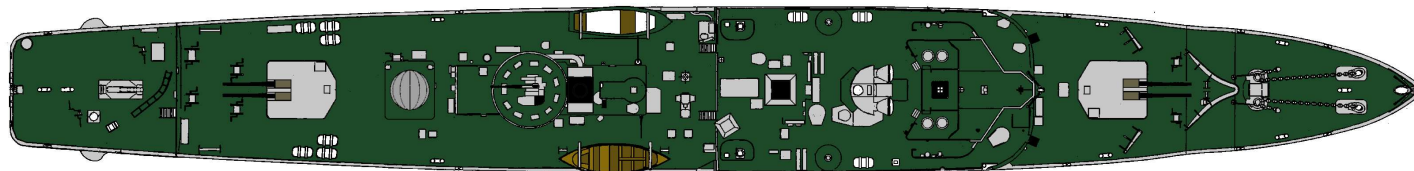
1. Stock lengths of vertical ladders, etched parts 53, have been supplied so that vertical ladders can be cut to fit the masts and sides of bulkheads as desired.
2. Anchor Chain, etched parts 54, is supplied in sufficient length to not only allow for the fitting out of the focsle deck from the capstans to hawsepipes, but there is extra to feed from the hawsepipes to the surface of the water in a diorama scene that may be modeled.
3. The ships squadron numbers, etched parts 19, 20 and 49 have been supplied as photo-etched parts rather than decals because they are fitted to the sides of the Fore Mast and require the rigidity to be applied to lattice sections. They are located at the lower part of the Black coloured section of the mast and depending on what squadron the ship served with at the time depends on the number used. These numbers were usually painted White.
4. Decals have been provided to finish the model with the correct pennant numbers, plus one alternative being HMS Jaguar. They also have impressions of the bridge windows, which will give a more accurate finished article, than maybe have the modeller struggling with a fine paint brush.  
Warning these decals are fine and must be applied with care by brushing directly from the card using the usual waterslide method. Using decal solvents is not recommended but it may be helpful to some to thicken the decals individually using Microscale Decal Solution.

## COLOUR CHART & PAINTING GUIDE

All paint references in this colour guide  
are for the highly authentic paints supplied  
by



HMS Puma 1970



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. Mast Top Platforms. 974 Radar Antenna and Platform.
Matt White	Fore Mast Top Array. Fore Mast Platform Railings. 293 Radar Antenna. Life Raft Covers. Bollards and Fairleads. Coachwork on Motor Boat
Light Grey	Sides of Boats. Aft Director Canopy. Bofors Staag Mounting.
Bronze	Propellers. Elevation Discs on 4.5" Guns.

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