

# Type 41 Anti Aircraft Frigate

## H.M.S. LEOPARD

### 1958

### 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 Leopard* was built in HM Dockyard, Portsmouth being laid down on 15th September 1950 *Leopard* was eight long years a-building. She was launched on 23rd May 1955 by Her Highness Princess Marie-Louise, a great grand daughter of Queen Victoria, and finally commissioned on 30th September 1958.

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 Leopard* took her through a phase of intensive trials in the late autumn of 1958, until she went through her operational work up during the early part of 1959. On completion of her work up *Leopard* deployed southwards, visiting such places as Lagos, Rio de Janeiro, St Helena and on to South Africa where she took up station at Simonstown. In 1961 *Leopard* gave aid to the island of Tristan de Cunha after a volcanic eruption. Her crew assisted in the relief effort and helped recover the islanders belongings that were left behind.

In 1963 *Leopard* suffered serious damage when she was in collision with the South African minesweeper Pietermaritzburg during joint exercises off Cape Point

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 1973 *Leopard* was called upon to assist in the dispute between Britain and Iceland over fishing rights and was involved in a few incidents with Icelandic gunboats that tried to ram or cut the tows of trawlers fishing in the Icelandic area.

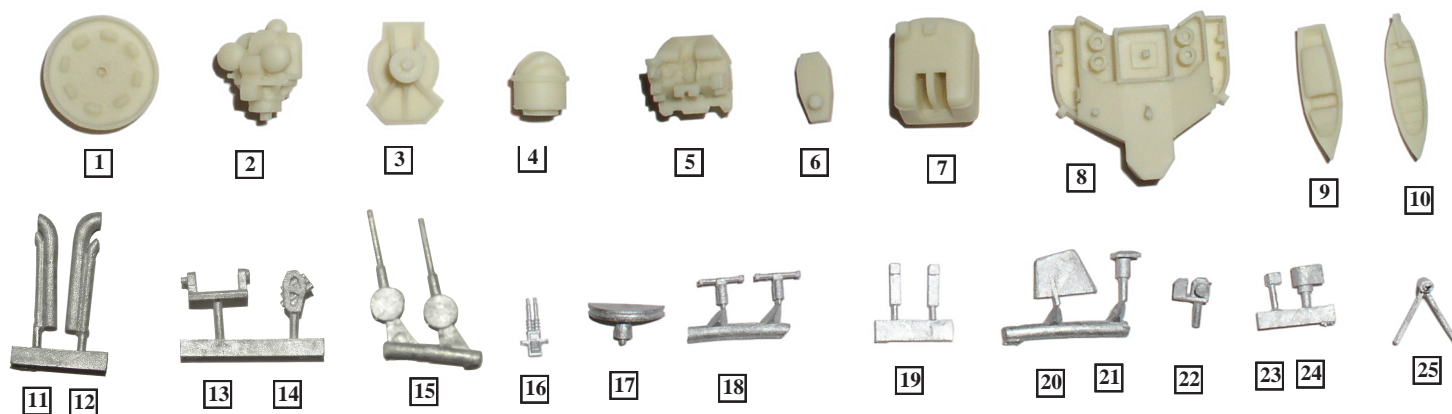
Again this happened in 1975 when a further dispute between Britain and Iceland over fishing flared up. At the end of 1975 *HMS Leopard* was decommissioned and laid up awaiting disposal. She was towed away for scrapping in 1977 after less than 20 years service.

### General Precautions

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

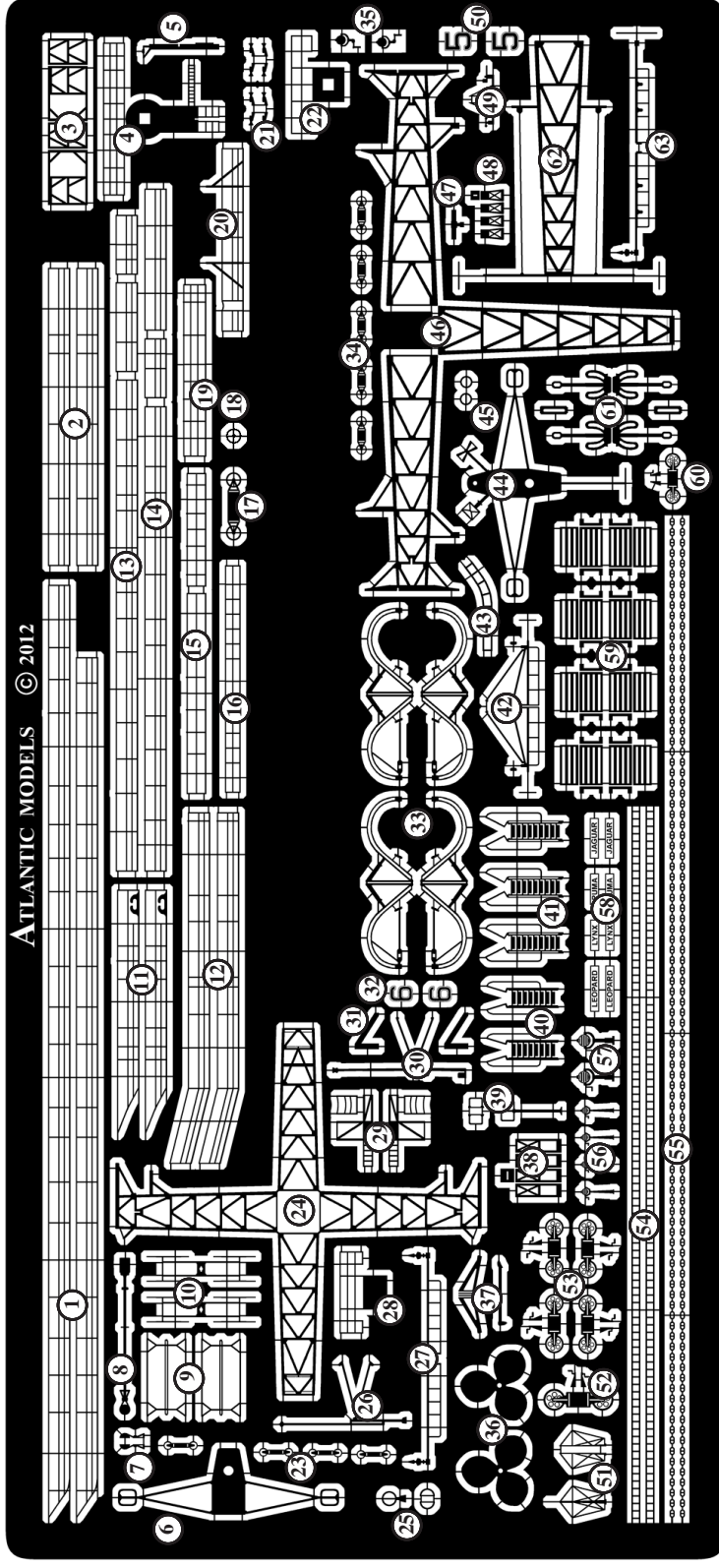
1. Resin dust can be harmful if inhaled. It is recommended that you wear a suitable dust mask when drilling or sanding resin parts.
2. Cyano adhesives (super glues) are generally used to assemble this type of kit. Care must be taken when using this type of adhesive as it will bond in seconds. Follow 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. Rangefinder Sighting bars       |
| 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. Bofors STAAG Mounting     | 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 Twin Bofors Barrels  | 25. Propeller Hub and 'A' Frame x 2 |
|                              | 17. 293 Radar Antenna         |                                     |

## **PHOTO ETCHED METAL PARTS**

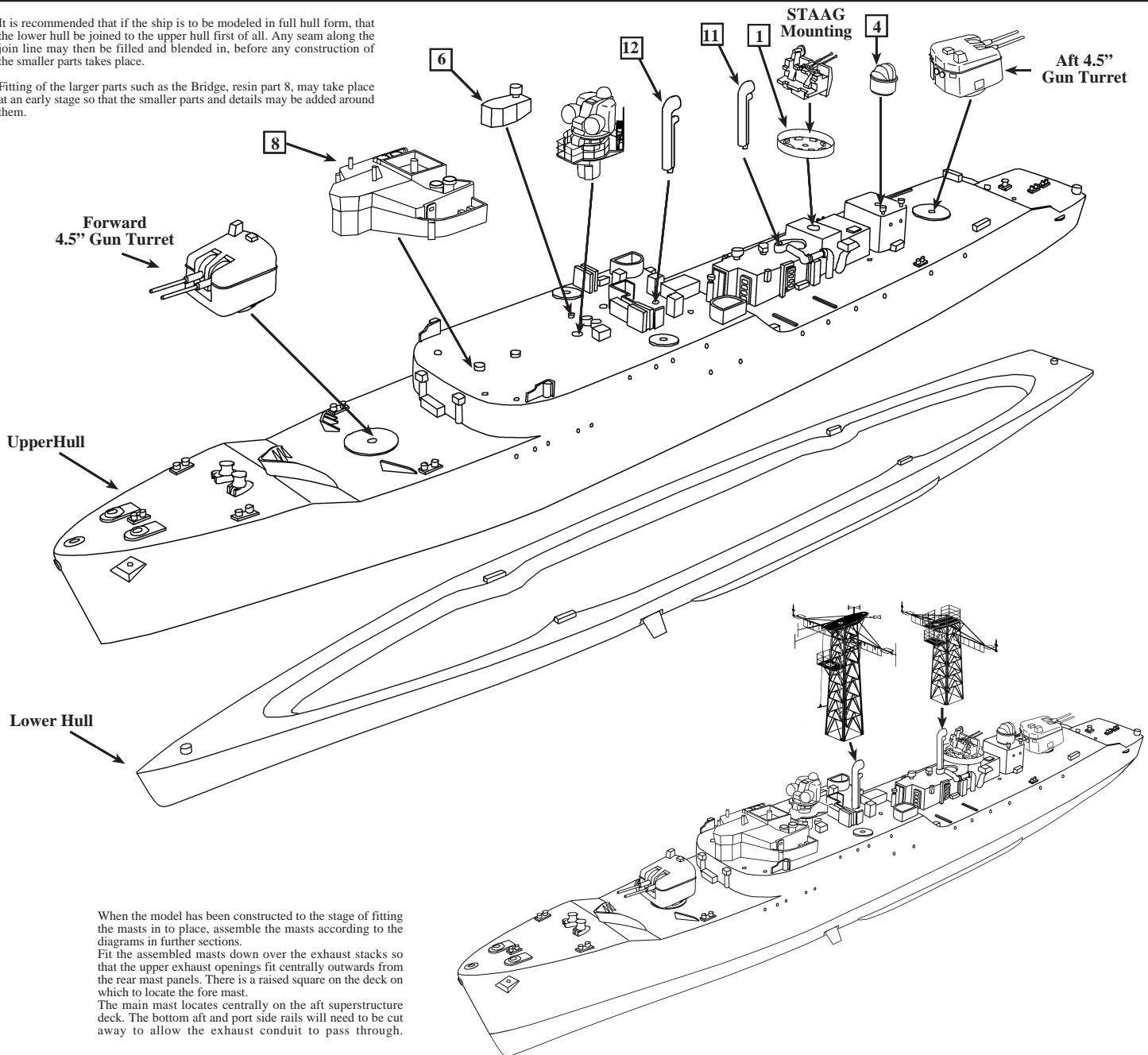


- |     |                                     |     |                                |     |                                    |     |                               |
|-----|-------------------------------------|-----|--------------------------------|-----|------------------------------------|-----|-------------------------------|
| 1.  | Railings (Main Deck Aft)            | 17. | Cordage Reel                   | 33. | Boat Davits                        | 49. | Fore Mast Top Weather Vanes   |
| 2.  | Railings (Focсле)                   | 18. | Squid Mounting Handwheel       | 34. | Cable Reels (Small)                | 50. | Mast Squadron Numbers 5       |
| 3.  | Auxiliary Steering Platform Support | 19. | Main Mast Top Platform         | 35. | Signal Lamps (Bridge Wing)         | 51. | Fore Mast Top HF/DF Antenna   |
| 4.  | Auxiliary Steering Platform         | 20. | Railings (Aft Superstructure)  | 36. | Propellers                         | 52. | Hawser Reel                   |
| 5.  | Wire Antenna Collector.             | 21. | Fore Mast Top Pole Antennas    | 37. | RAS Gantry                         | 53. | Cable Reels (Large)           |
| 6.  | Main Mast Top Platform              | 22. | Fore Mast Nav Radar Platform   | 38. | Amidships DF Antenna Mast          | 54. | Vertical Ladder Stock         |
| 7.  | Main Mast Top Pole Antenna Quarters | 23. | Cordage Reels (Small)          | 39. | DF Antenna                         | 55. | Anchor Chain Stock            |
| 8.  | Main Mast Top Pole                  | 24. | Lattice Main Mast              | 40. | Inclined Ladder (Focсле)           | 56. | Signal Lamp Standards (Small) |
| 9.  | Type 960 Radar Antenna Frames       | 25. | Bridge Roof DF Antenna         | 41. | Inclined Ladder                    | 57. | Searchlights                  |
| 10. | Type 960 Radar Antenna Dipoles      | 26. | Jack Staff                     | 42. | Fore Mast Forward Yards (Late Fit) | 58. | Ships Name Plates             |
| 11. | Railings (Stern)                    | 27. | Main Mast Yardarms             | 43. | Squid Loading Trolley Rails        | 59. | Life Raft Racks               |
| 12. | Railings (Main Deck Forward)        | 28. | Main Mast Front Platform       | 44. | Fore Mast Top Platform             | 60. | Cable Reel (Small)            |
| 13. | Railings (Upper Deck Port)          | 29. | Mk 6 Director Access Platforms | 45. | Fore Mast Antenna Loops            | 61. | Anchors                       |
| 14. | Railings (Upper Deck Starboard)     | 30. | Ensign Staff                   | 46. | Lattice Fore Mast                  | 62. | Fore Mast Forward Lattice     |
| 15. | Railings (Mk6 Director Platform)    | 31. | Mast Squadron Numbers 7        | 47. | 974 Navigation Radar Antenna       | 63. | Fore Mast Yardarms            |
| 16. | Railings (Fore Mast Top Platform)   | 32. | Mast Squadron Numbers 6        | 48. | 974 Radar Antenna Mast             |     |                               |

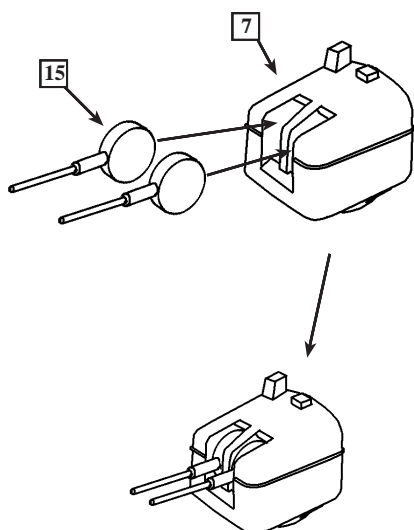
## Main Structural Components

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.

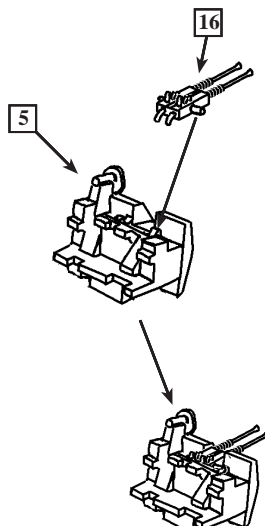


### Twin 4.5" Mk6 Gun Turret Assembly



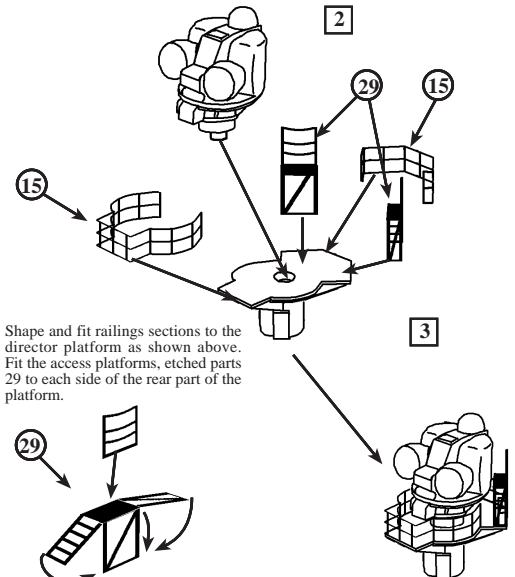
Clean off any excess material from the gun barrels, parts 15, so that the barrels and the elevation discs are clean and smooth. Fit the elevation discs on both barrels in to the recesses in the front of gun turret, resin part 7. Elevate the barrels to the desired position and secure in to place. Make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

### 40mm Bofors Staag Mounting



Fit the twin gun barrels, parts 16, in to place so that the trunions on each side of guns locate in to the recesses in the centre of the STAAG mounting, resin part 5. The guns may be elevated to the desired position before securing in to place.

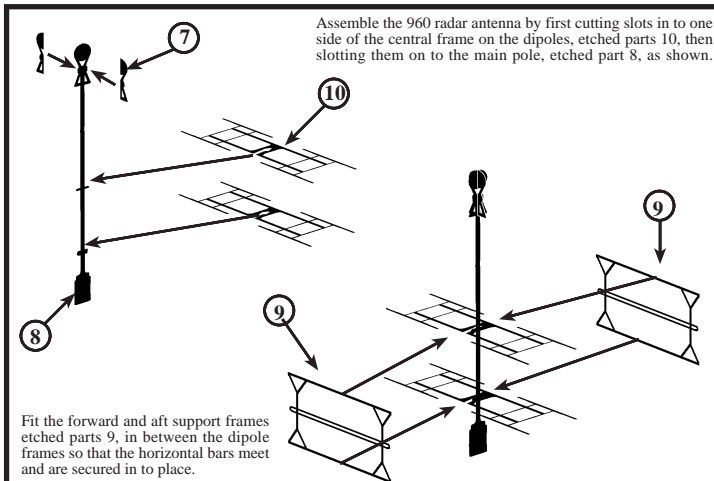
### Mk6 Gunnery Director Assembly



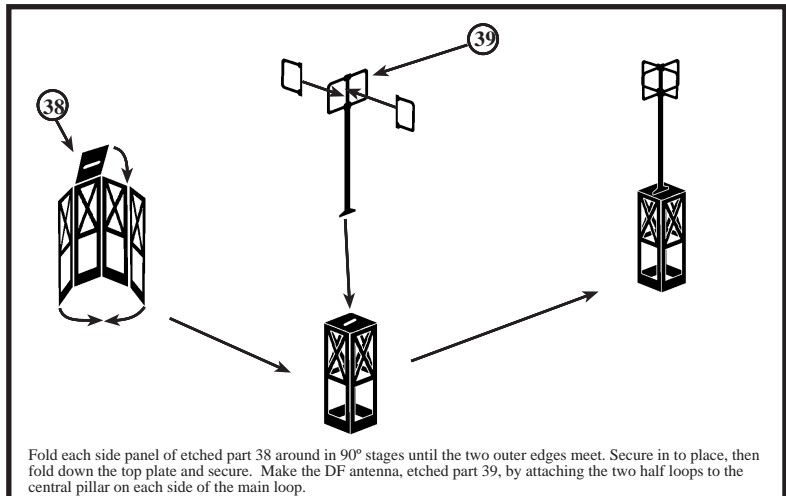
Shape and fit railings sections to the director platform as shown above. Fit the access platforms, etched parts 29 to each side of the rear part of the platform.

Shape the director access platforms, etched parts 29, 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.

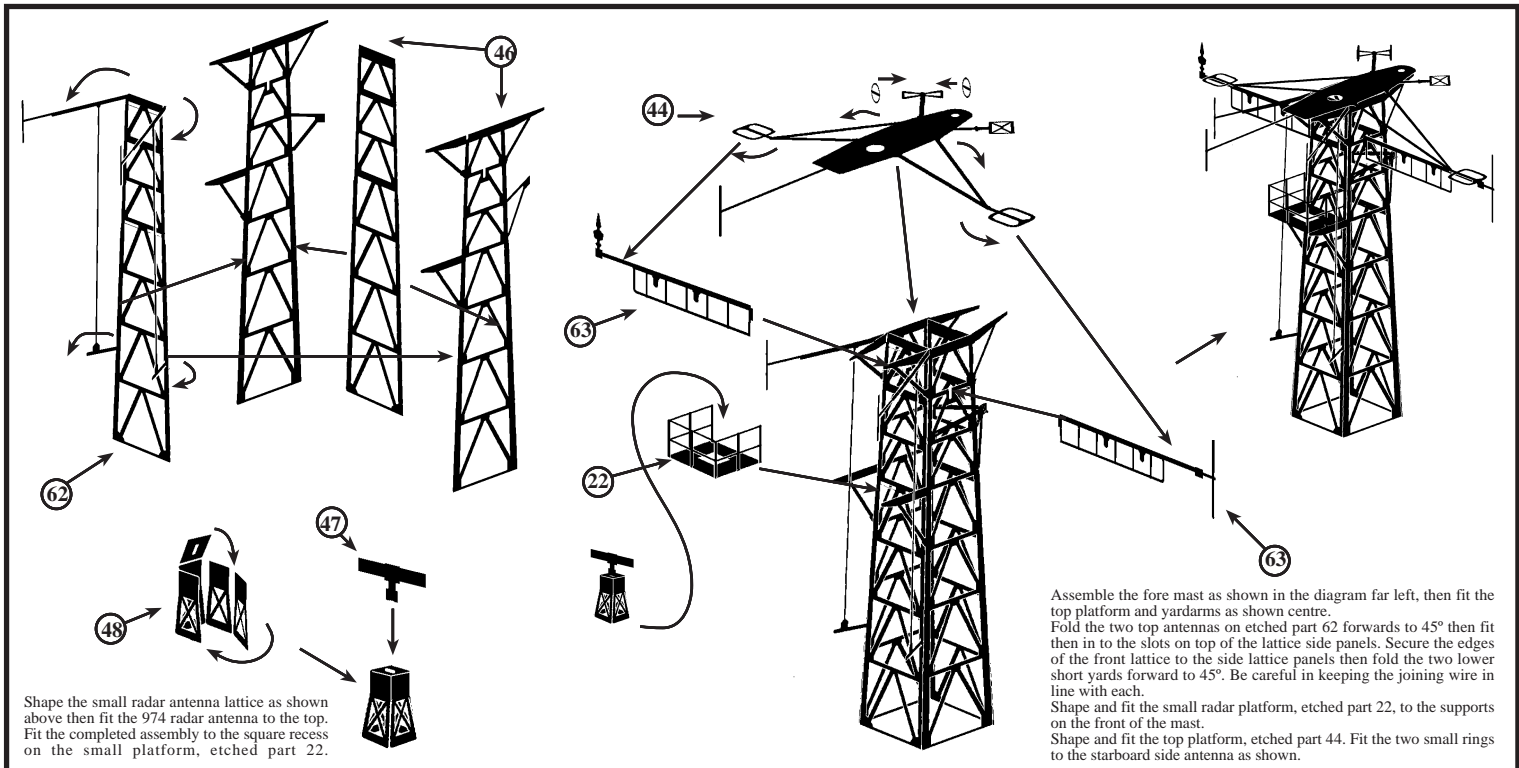
## 960 Radar Antenna Assembly



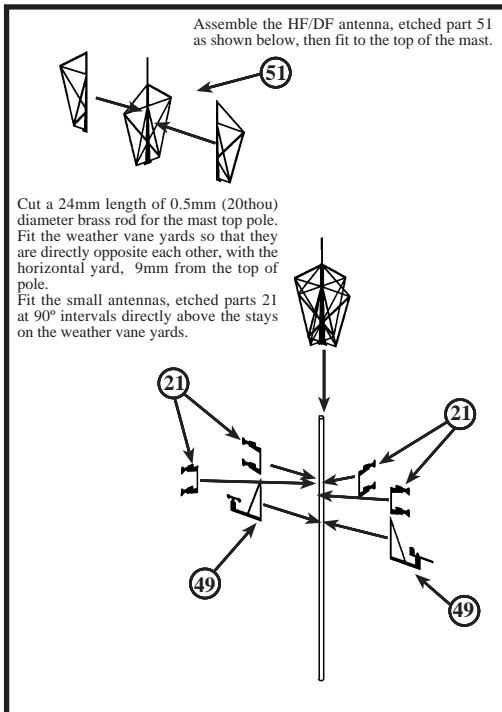
## Amidships DF Antenna Assembly



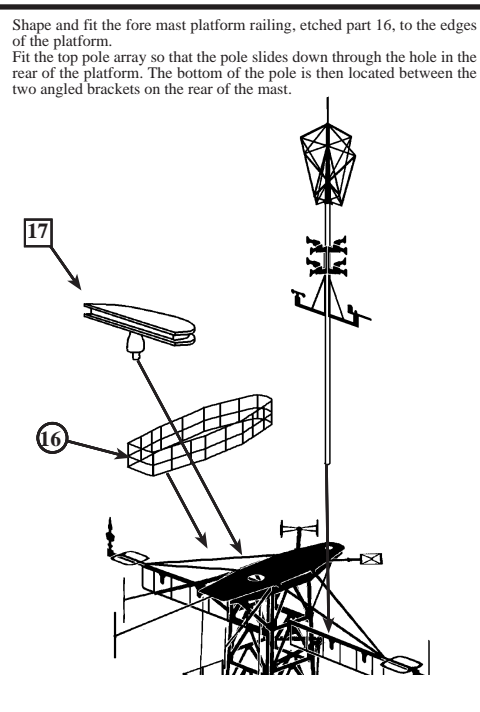
## Fore Mast Assembly



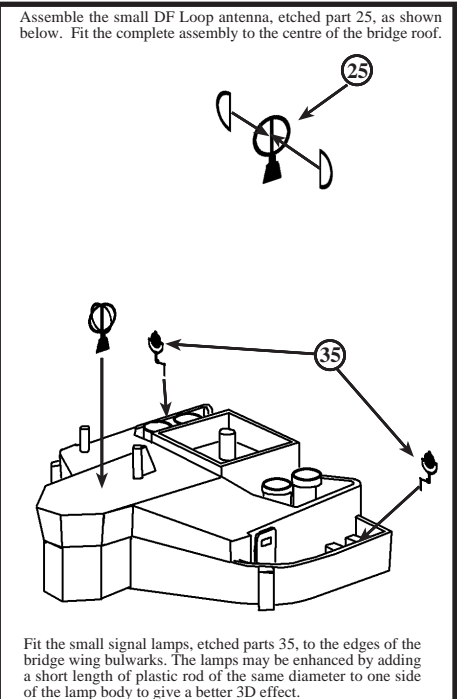
## Fore Mast Top Assembly



## 293 Radar Platform



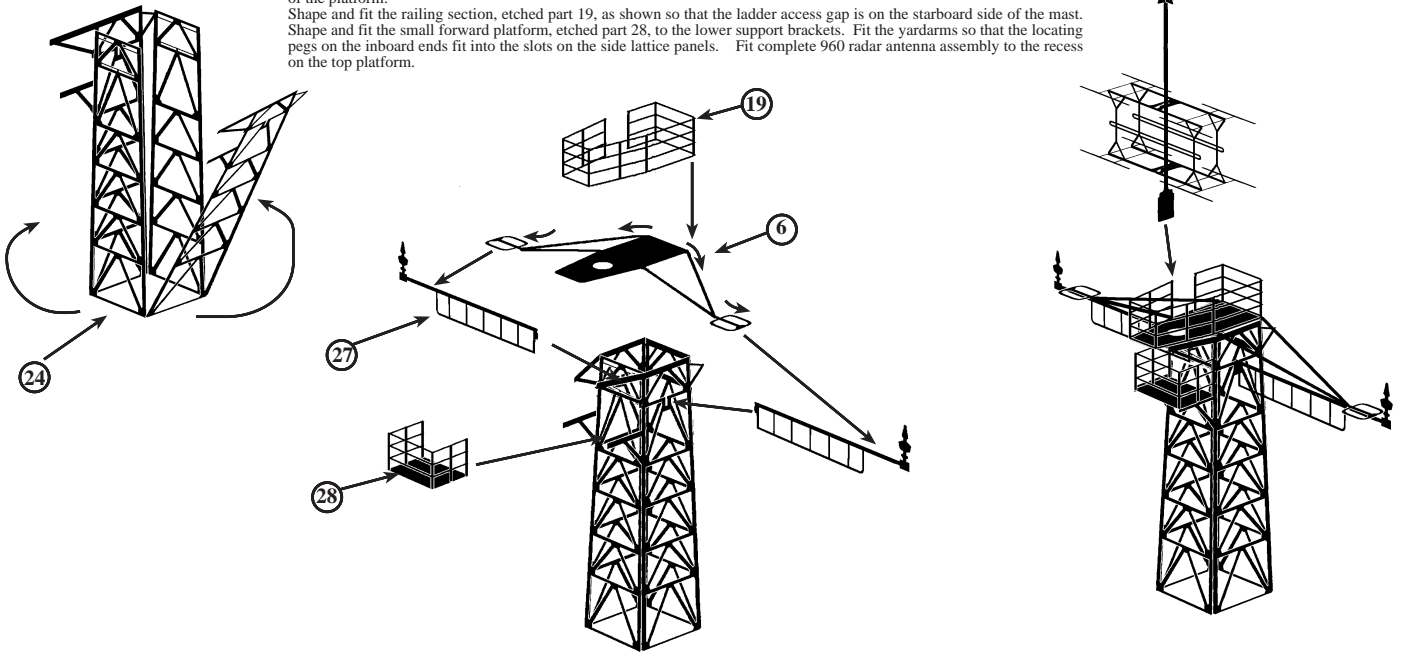
## Bridge Fittings





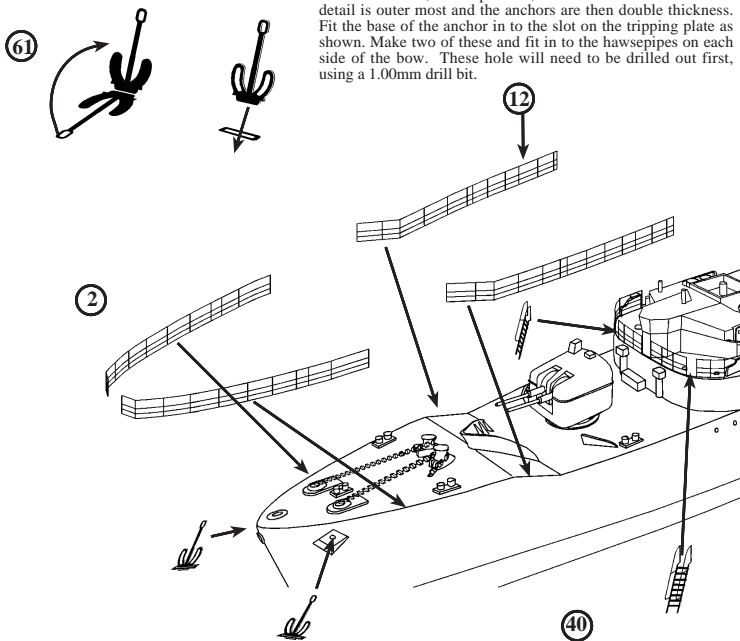
## Main Mast Assembly

Fold up the four lattice panels of etched part 24, so that they are all at 90° to each other, then secure the edges in to place. Fit the top platform, etched part 6, so that the forward angled supports on the mast are bent inwards to fit under the edge of the platform. Shape and fit the railing section, etched part 19, as shown so that the ladder access gap is on the starboard side of the mast. Shape and fit the small forward platform, etched part 28, to the lower support brackets. Fit the yardarms so that the locating pegs on the inboard ends fit into the slots on the side lattice panels. Fit complete 960 radar antenna assembly to the recess on the top platform.



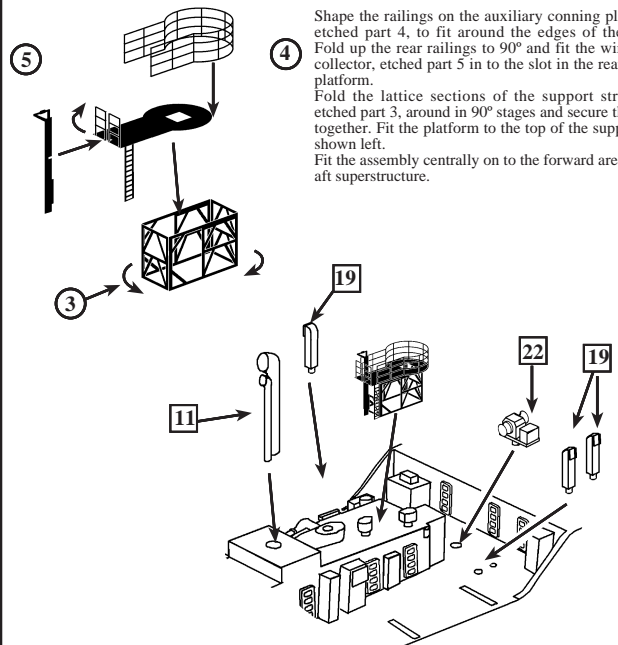
## Anchor and Foccle Fittings

Fold the anchors, etched parts 61, 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.

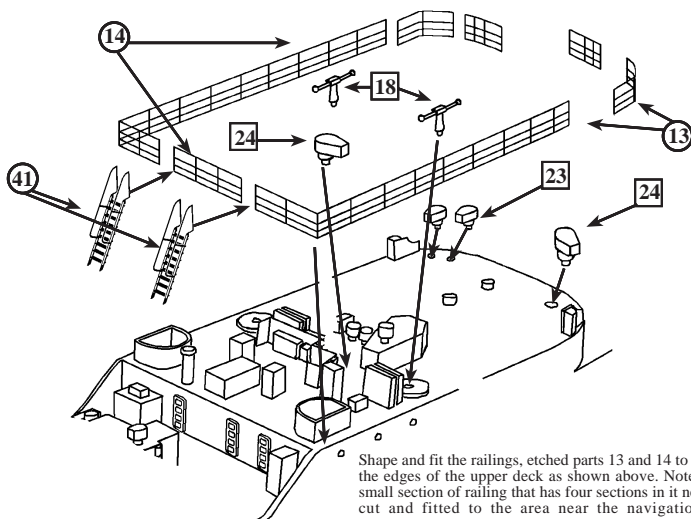


## Auxiliary Conning Position Assembly

Shape the railings on the auxiliary conning platform, etched part 4, to fit around the edges of the deck. Fold up the rear railings to 90° and fit the wire mast collector, etched part 5 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.

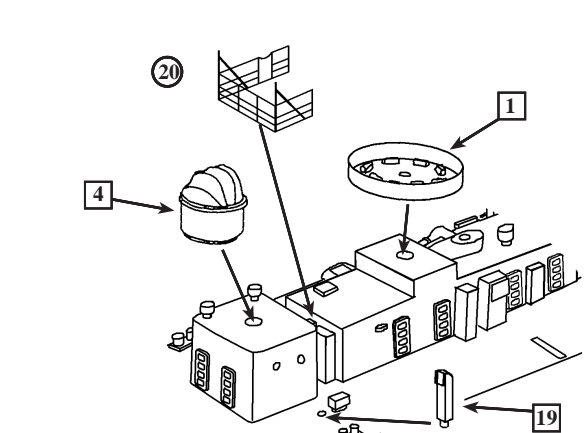


## Upper Deck Railing Location



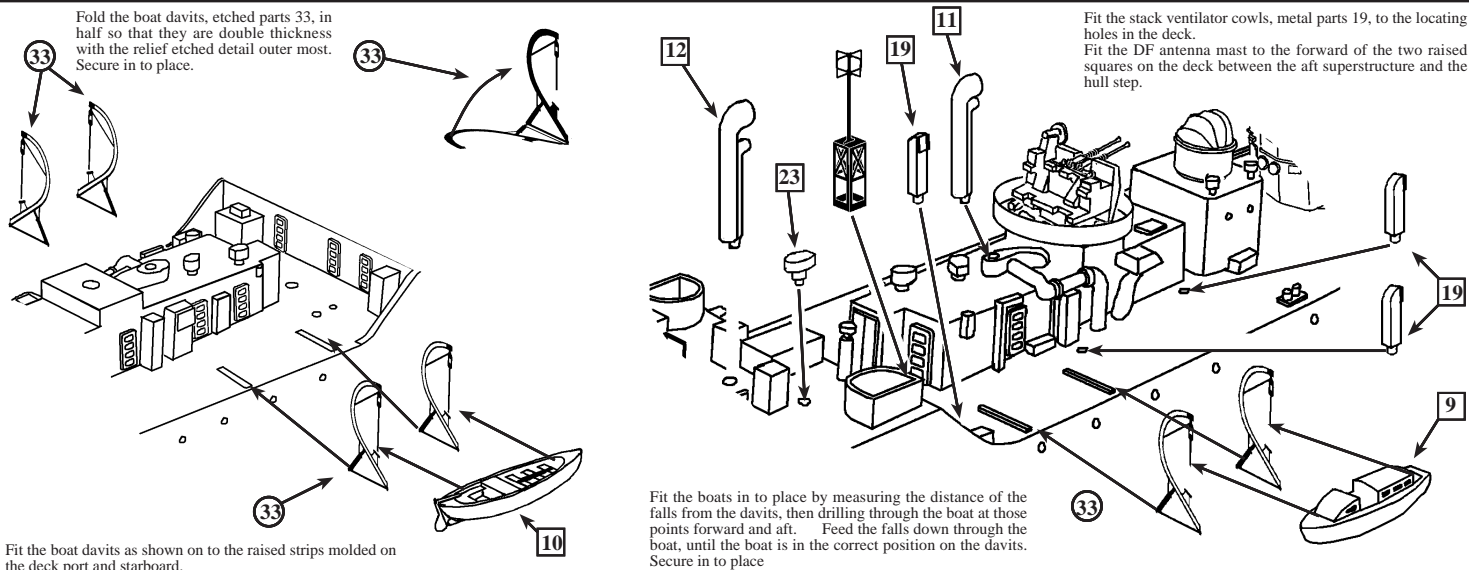
Shape and fit the railings, etched parts 13 and 14 to fit around the edges of the upper deck as shown above. Note, that the small section of railing that has four sections in it needs to be cut and fitted to the area near the navigation lights.

## Aft Superstructure Fittings



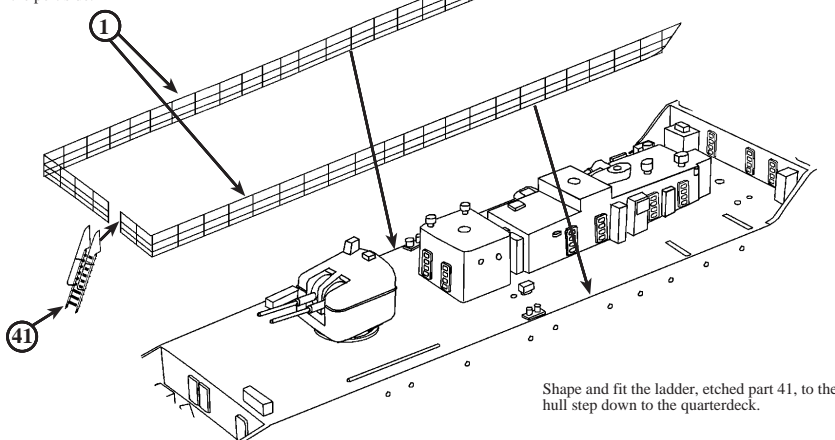
Shape and fit the railing section, etched part 20, to the edges of the rear area of the aft superstructure. A section of vertical ladder stock can be cut and fitted to the side of the superstructure below the open part of the railing.

## Amidships Fittings and Boats Location

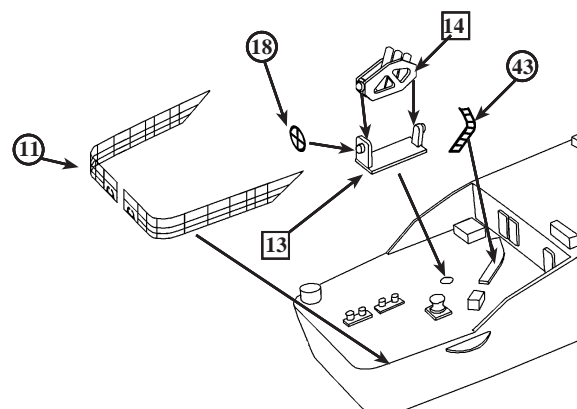


## Main Deck Aft Railing Location

Shape and fit the railing sections, etched parts 1, to the edges of the main deck aft. Not that the longer of the two sections fits on the port side.



## Quarterdeck Fittings



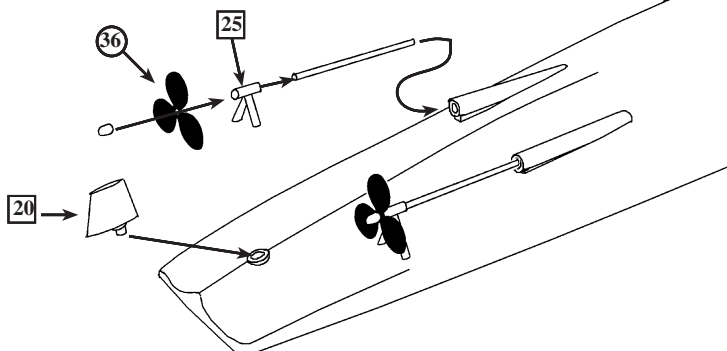
## Propeller and Rudder Assembly

Cut two 22mm lengths of 0.75mm (30 thou) diameter brass rod from the stock provided to use as propeller shafts.

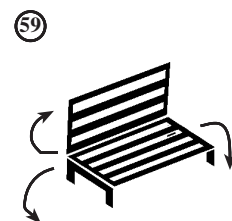
Cut the front of the hub boss from the bearing and retain. Fit the propeller, etched part 36, centrally to the flat face on the front of the A frame bearing. Re-fit the hub boss to the front of the propeller as shown right.

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 rudder, metal parts 20, in to place centrally in the locating hole on the stern skeg.

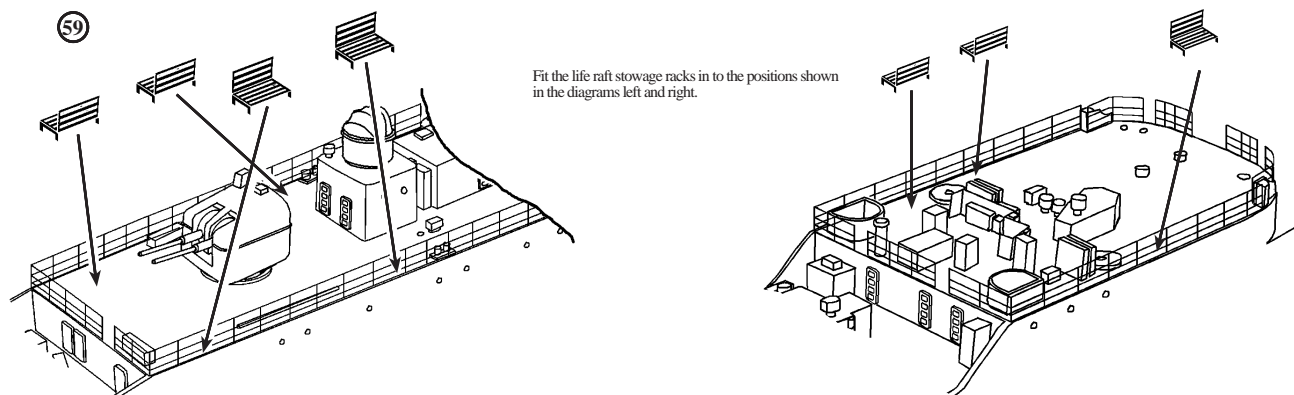


## Life Raft Stowage Assembly



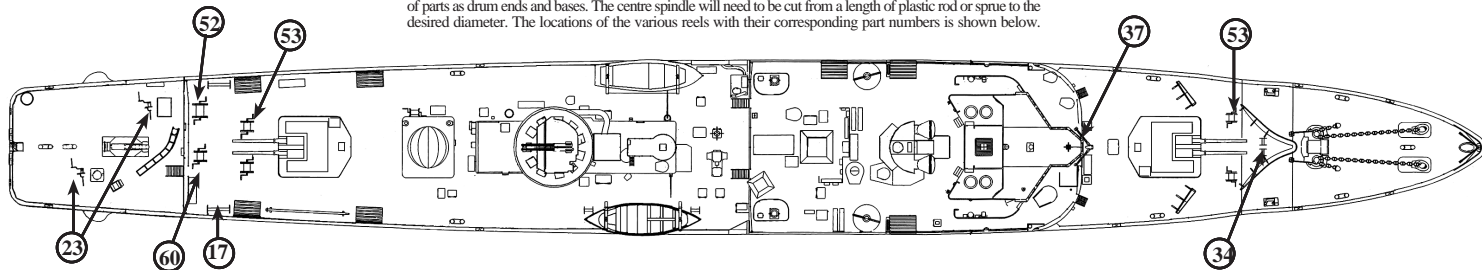
These stowage racks were used at first for storing 6' cork rafts, then later they held rolled up inflatable rafts. At all times these were covered with canvas tarpaulins except for maintenance, so the contents were speculative.

## Life Raft Stowage 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.



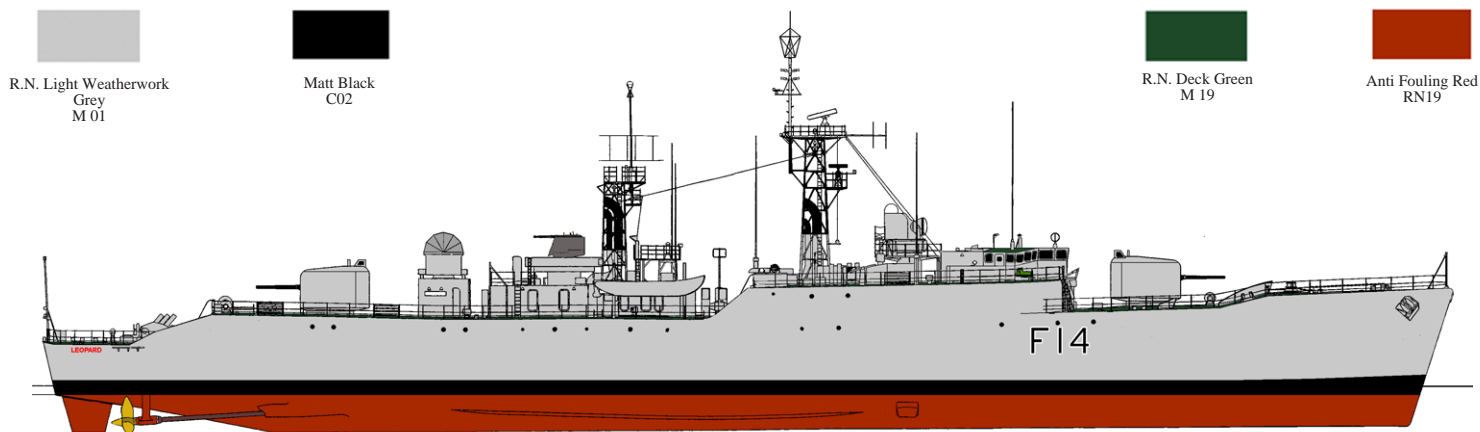
## Other Instructions

1. Stock lengths of vertical ladders, etched parts 54, 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 55, 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 31,32 and 50 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 Lynx. 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.

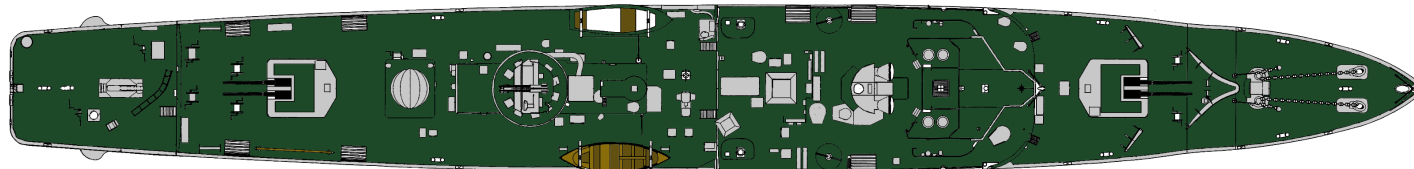
## COLOUR CHART & PAINTING GUIDE

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

### Colourcoats Range



HMS Leopard 1958



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