

# Type 15 Anti Submarine Frigate

## H.M.S. Relentless

### 1964

### 1/350 Scale

HMS Relentless started life during WW2 as an 'R' Class Destroyer of the War Emergency program. She was laid down by John Brown and Company on the Clyde on 20th June 1941 and Launched 15th July 1942. Commissioned 30th November 1942 she spent the most of WW2 on anti submarine duties patrolling the South Atlantic and Indian Ocean.

After the war ended, HMS Relentless was placed in reserve first at Chatham then at Harwich until 1949 when she was taken in hand at Portsmouth Dockyard for conversion to a Type 15 Anti Submarine Frigate which lasted until January 1951. From 1951 HMS Relentless was leader of the 3rd Training Squadron and took part in the Queens Coronation review in 1953. She served in the Londonderry Squadron for a greater part of the 1950s and then at Devonport for the remainder of her career. In 1954 Relentless was involved in a collision with HMS Vigilant whilst manoeuvring at night in bad weather of the coast of Scotland. The damage was considerable in the wardroom area, though fortunately no one was seriously hurt.

From 1956 to 1964 Relentless was held in reserve in the Scottish Gareloch, Chatham and later Rosyth before being recommissioned to fill in as a replacement for HMS Duchess that was loaned to Australia as a replacement for HMAS Voyager that was lost in the HMAS Melbourne incident.

HMS Relentless spent time in group deployments to the Mediterranean from 1965 and also was used to patrol the Caribbean Islands as West Indies Guard Ship. She also spent time off East Africa and was employed on the Beira Patrols during the Rhodesian blockade. Finally HMS Relentless was placed on the disposal list late in 1970 and was sold to Wards Breakers for scrapping in 1971. HMS Relentless was typical of the rebuilt wartime Destroyers converted to Type 15 Frigates with the enclosed bridge, raised hull and the fo'c'sle extended aft enclosing to sets of anti submarine mortars before a short quarterdeck. They served admirably until replaced by the Type 12s and the Leander Class Frigates.

#### Specifications

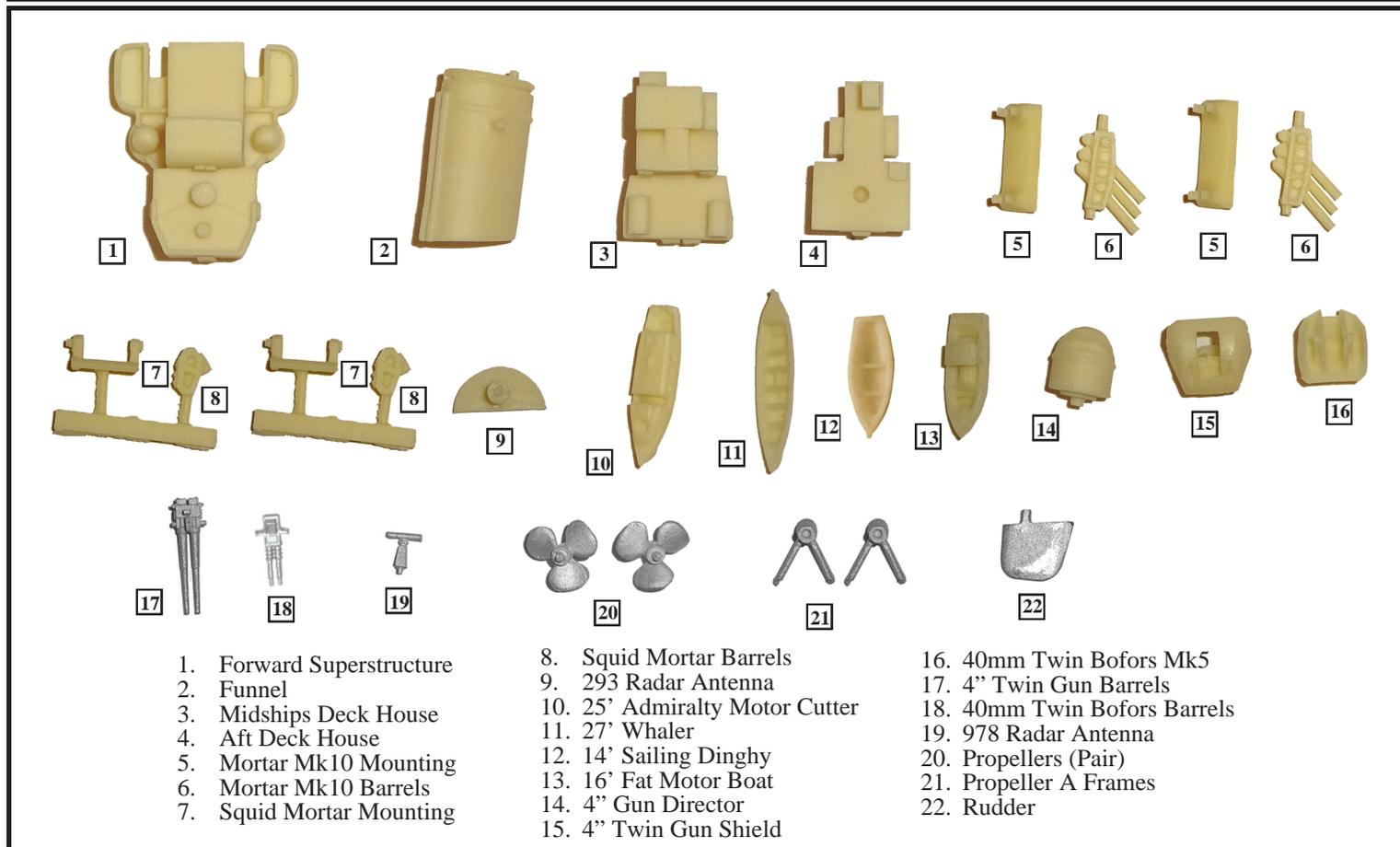
Length: 358ft 3in oa.    Beam: 37ft 9in    Displacement: 2,300 tons standard 2,700 tons full load.    Speed: 31 knots max

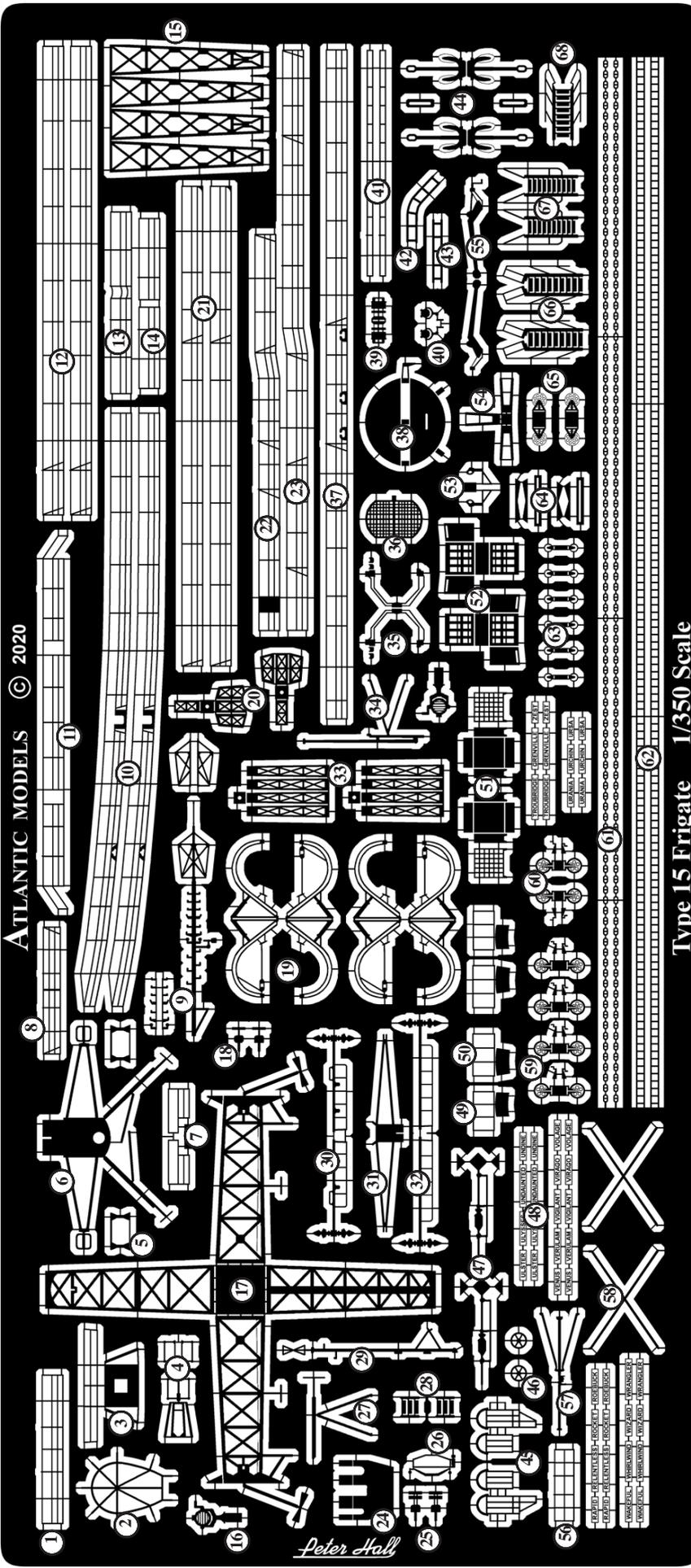
Armanent: 1 Twin 4" Mk19 Gun Mounting    1 Twin 40mm Bofors Gun Mounting  
2 x Limbo A/S Mortar Mk10 Mountings

#### General Precautions

This kit contains a mixture of resin and photo etched metal small parts, of which some of the resin parts have been attached to sprues for ease of casting. Care must be taken when detaching the parts from the sprues, to remove the flash without causing damage. When cleaning off the excess material using files or abrasive paper, it is recommended that a mask is worn as resin dust can be harmful to health if inhaled.

#### RESIN & WHITE METAL PARTS



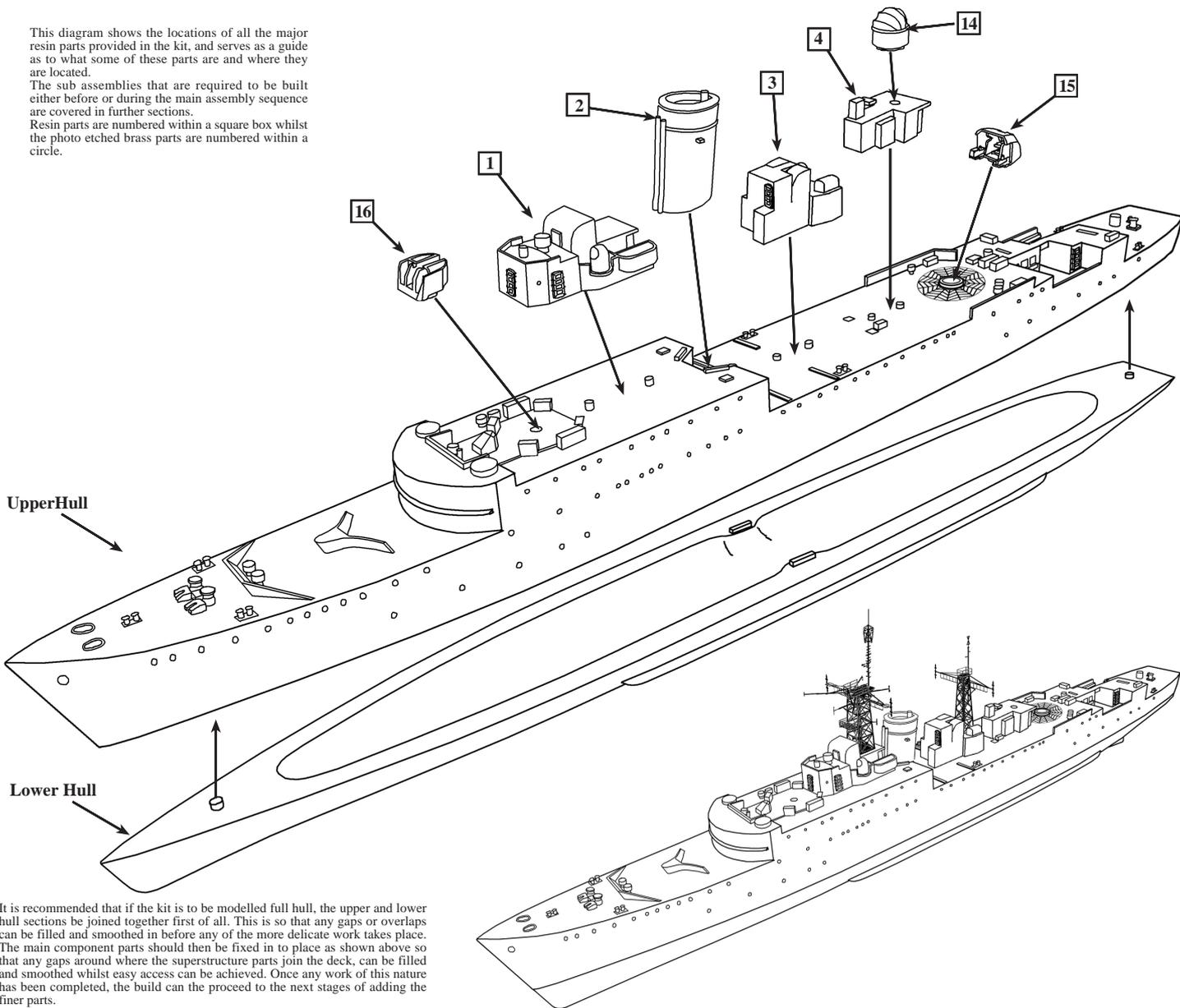


Type 15 Frigate 1/350 Scale

- |                                      |                                   |                                       |                                      |
|--------------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|
| 1. Railings (Aft Deck House)         | 18. 4" Gun Layers Seats           | 35. 277 Radar Antenna Yoke            | 62. Fuel Can Stowage                 |
| 2. Funnel Cap Grill                  | 19. Boat Davits                   | 36. 277 Radar Antenna                 | 63. Funnel Sirens                    |
| 3. Fore Mast Nav Radar Platform      | 20. Forward Whip Aerial Bases     | 37. Railings (Quarterdeck)            | 64. Nav Radar Pylon                  |
| 4. MCDF Antenna & Bracket            | 21. Railings (Main Deck Midships) | 38. 293 Radar Antenna (Aft)           | 65. Decoy Crane                      |
| 5. Signal Platform Supports          | 22. Railings (Main Deck Aft Port) | 39. 293 Radar Antenna Mounting        | 66. Railing (Main Mast Top Platform) |
| 6. Fore Mast Top Platform            | 23. Railings (Main Deck Aft Stbd) | 40. Signal Lamps                      | 67. Ensign Staff                     |
| 7. Railings (Forward Deck House)     | 24. 40mm Bofors Gun Shield        | 41. 4" Gun Enclosure Handrails        | 68. Boat Restraining Straps          |
| 8. Railings (Fore Mast Top Platform) | 25. 40mm Bofors Gun Layers Seats  | 42. Squid Mortar Loading Track (Stbd) | 59. Cable Reels                      |
| 9. Fore Mast Top Pole Antenna Array  | 26. 40mm Bofors Gun Sights        | 43. Squid Mortar Loading Track (Port) | 60. Hawsers Reels                    |
| 10. Railings (Foc's le)              | 27. Foremast Forward Yardarm      | 44. Anchors                           | 61. Anchor Chain                     |
| 11. Railings (Bridge Roof)           | 28. Bridge Roof Ladders           | 45. 4" Gun Flare Rocket Rails         | 62. Vertical Ladder Stock            |
| 12. Railings (Superstructure Sides)  | 29. Main Mast top Pole Antenna    | 46. Squid Mounting Hand Wheels        | 63. Cordage Reels                    |
| 13. Railings (Director House)        | 30. Fore Mast Side Yardarms       | 47. Dan Buoys                         | 64. Small Boat Cradles               |
| 14. Railings (Director House)        | 31. Main Mast Yardarm Stays       | 48. Ships Name Plates                 | 65. Hose Reels                       |
| 15. Main Mast Lattice                | 32. Main Mast Yardarms            | 49. Funnel Antenna Platforms          | 66. Inclined Ladders (Hull Step)     |
| 16. Large Searchlight                | 33. Aft Whip Aerial Bases         | 50. Funnel Siren Platforms            | 67. Inclined Ladders (Forward)       |
| 17. Fore Mast Lattice Assembly       | 34. Jack Staff                    | 51. Signal Flag Lockers               | 68. Inclined Ladder (Aft)            |

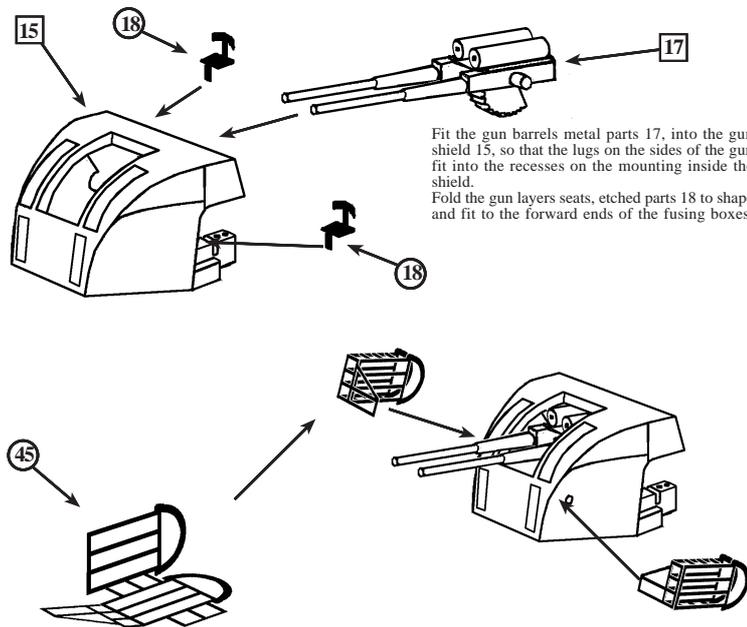
## Main Structural Components

This diagram shows the locations of all the major resin parts provided in the kit, and serves as a guide as to what some of these parts are and where they are located.  
 The sub assemblies that are required to be built either before or during the main assembly sequence are covered in further sections.  
 Resin parts are numbered within a square box whilst the photo etched brass parts are numbered within a circle.



It is recommended that if the kit is to be modelled full hull, the upper and lower hull sections be joined together first of all. This is so that any gaps or overlaps can be filled and smoothed in before any of the more delicate work takes place. The main component parts should then be fixed in to place as shown above so that any gaps around where the superstructure parts join the deck, can be filled and smoothed whilst easy access can be achieved. Once any work of this nature has been completed, the build can proceed to the next stages of adding the finer parts.

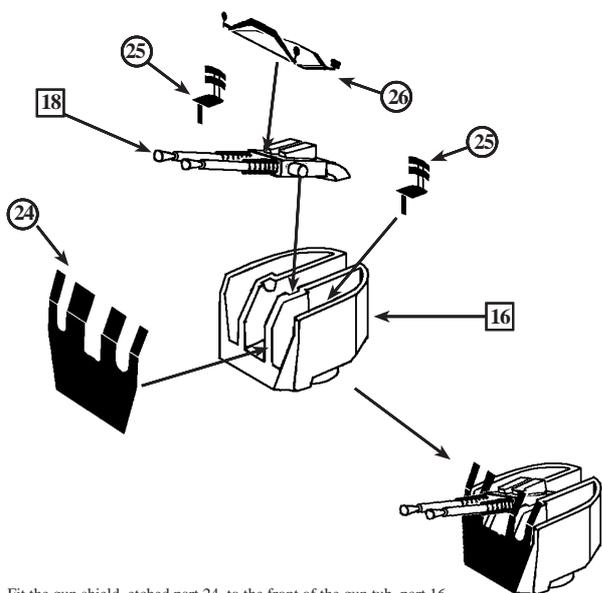
### Twin 4" HA/LA Gun Mounting



Fit the gun barrels metal parts 17, into the gun shield 15, so that the lugs on the sides of the gun fit into the recesses on the mounting inside the shield.  
 Fold the gun layers seats, etched parts 18 to shape and fit to the forward ends of the fusing boxes.

Fold the Flare Rocket Rails, etched parts 45, to shape by steps of 90° until the edge of the small top frame locates against the top edge of the outer rail frame as shown above left. Fold the front frame to 90° and secure into place. Make these as a mirrored image pair and fit them to the sides of the gun shield.

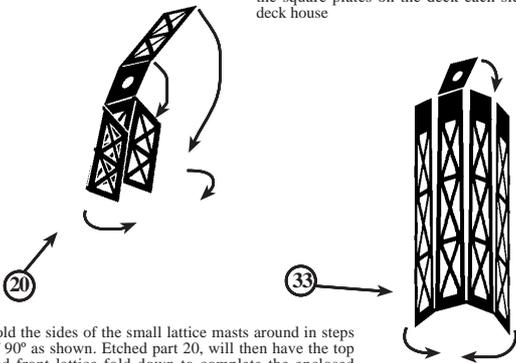
### Twin 40mm Bofors Mk5 Assembly



Fit the gun shield, etched part 24, to the front of the gun tub, part 16 as shown above, then bend the top section rearwards slightly.  
 Shape the Gun Layers Seats as shown and then fit so the stalk locates against the step on the deck inside. Fold up the gun sights to 90° on the mounting frame, then fit to the top of the gun barrels as shown.  
 Fit the gun barrels, metal part 18, into the gun tub so that the side lugs locate into the recesses in the central mounting.

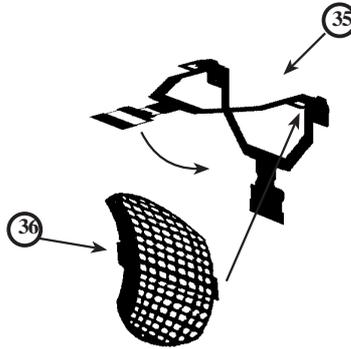
### Whip Aerial Mast Assembly

The small lattice whip aerial masts, etched parts 20, locate to the square raised plates on the deck forward of the funnel outboard of the flag lockers. The tall whip aerial masts, etched parts 33, locate to the square plates on the deck each side of the aft deck house.



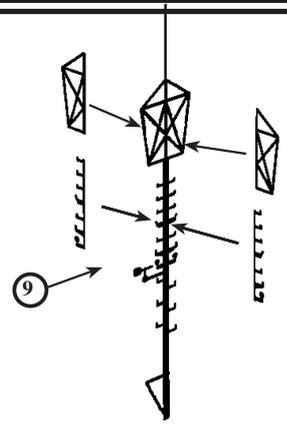
Fold the sides of the small lattice masts around in steps of 90° as shown. Etched part 20, will then have the top and front lattice fold down to complete the enclosed assembly. Secure the edges with super glue. Etched part 33 folds around until the vertical edges meet. Secure the mating edges with super glue then fold the top plate down to fit against the top edges. Secure into place.

### IFF and 277 Radar Antennas



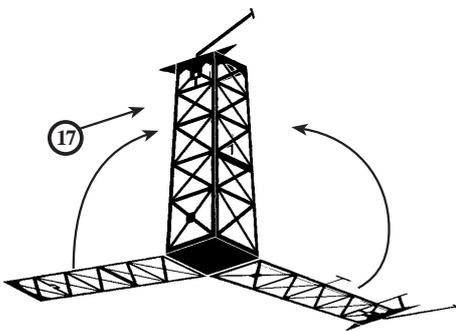
Fold the 277 antenna mounting yoke, etched part 35, over so that it is double thickness. Fit the lugs on the sides of the scanner, etched part 36, so that they fix in between the layers of the yoke at the fork ends. When secure glue the layers of the yoke together.

### Fore Mast Top Array



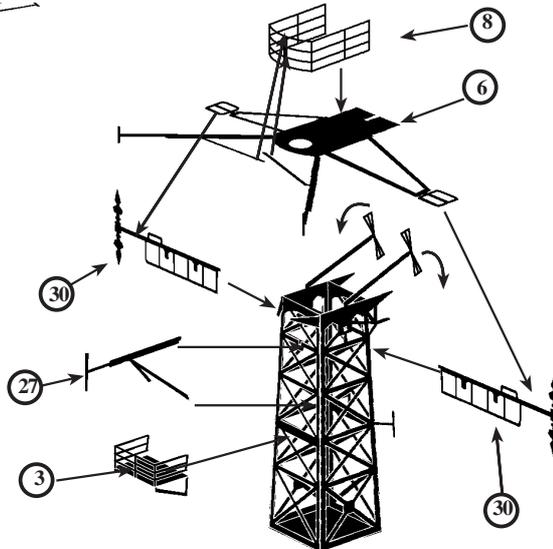
To make the fore mast top antenna array, fit the two smaller sections centrally to the sides of the main antenna, so that they form a cross when viewed from above.

### Foremast Assembly and Location



Fold the four lattice panels upwards beyond 90° so that the edges come together. Secure into place.

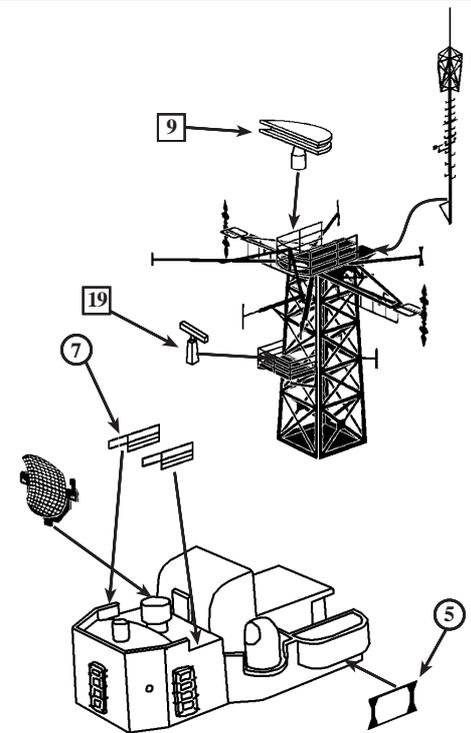
Shape the railing section, etched part 8, to fit around the edges of the mast top platform. Before fitting the railings into place, fit the mast top pole, etched part 9 to the slot at the rear of the mast platform. The foot of the top pole fits between the two rear supports that are fixed on the side lattices and are folded inwards. The flat top of the angled bracket fits under the mast platform. Fit the 293 Radar Antenna, resin part 9, to the front of the mast platform as shown. Fit the Nav Radar Antenna, metal part 19, to the small platform on the front of the fore mast.



Fit the mast platform, etched part 6, to the top edges of the fore mast lattice assembly. Feed the two angled yards on top of the sides of the mast through the middle of the side yardarm stays. Secure the platform into place.

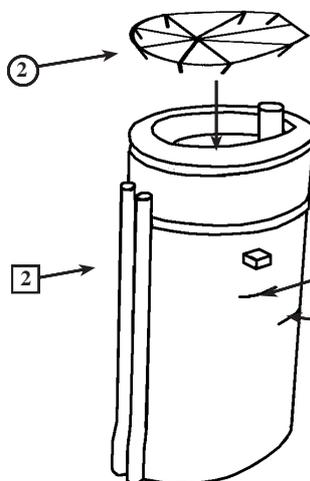
Fit the side yardarms, etched parts 30, into the slots provided on the sides of the mast. Fold the stays down until the centre bar fits onto the outer end of each yardarm. Secure into place.

Twist the V shaped stay on the front yardarm, etched part 27 around to 90° then fit the yardarm into the slot on the front of the mast. Fold the stays inwards until the feet come against the corners of the mast. Secure into place. Shape and fit the Nav Radar Platform, etched part 3, to the thicker horizontal bar on the front of the mast as shown right.

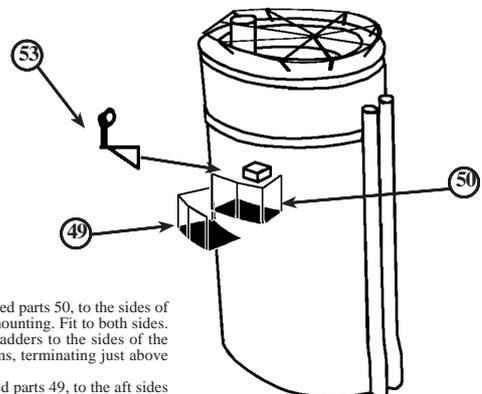


When the forward superstructure, part 1, is fixed into place, fit the signal platform supports, etched parts 5 underneath the outer edges of the platforms on each side. Fit the railings, etched parts 7 to each side of the 277 radar platform.

### Funnel Fittings



Fold the short legs on the Funnel Cap Grill, etched part 2, underneath at an angle as shown left, ad fit to the rim of the funnel cap.

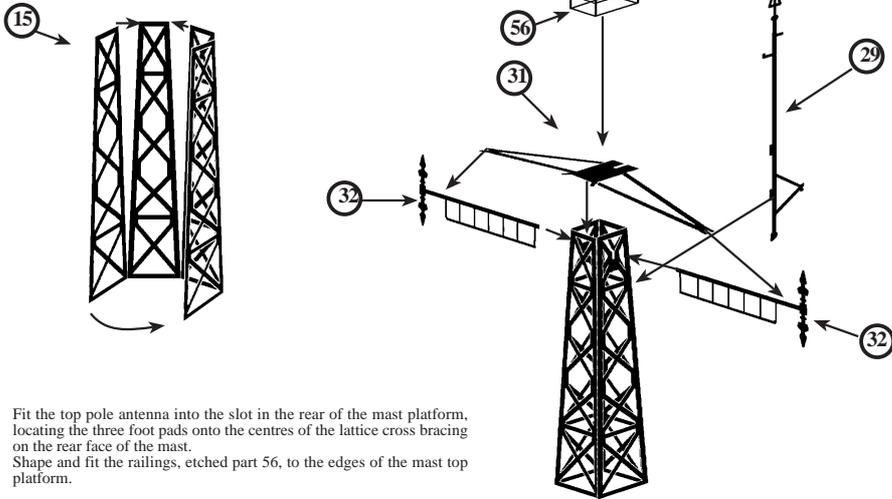


Fit the larger of the two platforms, etched parts 50, to the sides of the funnel just below the whip aerial mounting. Fit to both sides. It is now the best time to fit vertical ladders to the sides of the funnel to the rear of the aerial platforms, terminating just above the level of the platforms.

Shape and fit the siren platforms, etched parts 49, to the aft sides of the funnel, so that they come up against the rear edge of the vertical ladder and are slightly lower than the aerial platforms. Fit the funnel sirens, etched parts 53, above the siren platforms.

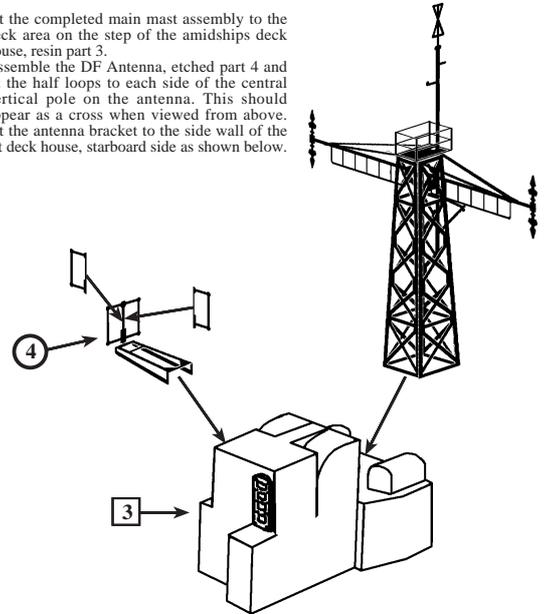
## Main Mast Assembly and Location

Fold the main mast lattices, etched part 15, around in stages of 90°. Bring the edges together and secure into place.  
Fit the mat top platform, etched part 31, to the top edges of the mast as shown right. Fit the yardarms, etched parts 32, into the slots on the sides of the mast. Fold the stays down until the forked ends fit on to the outer ends of the yardarms. Secure into place.



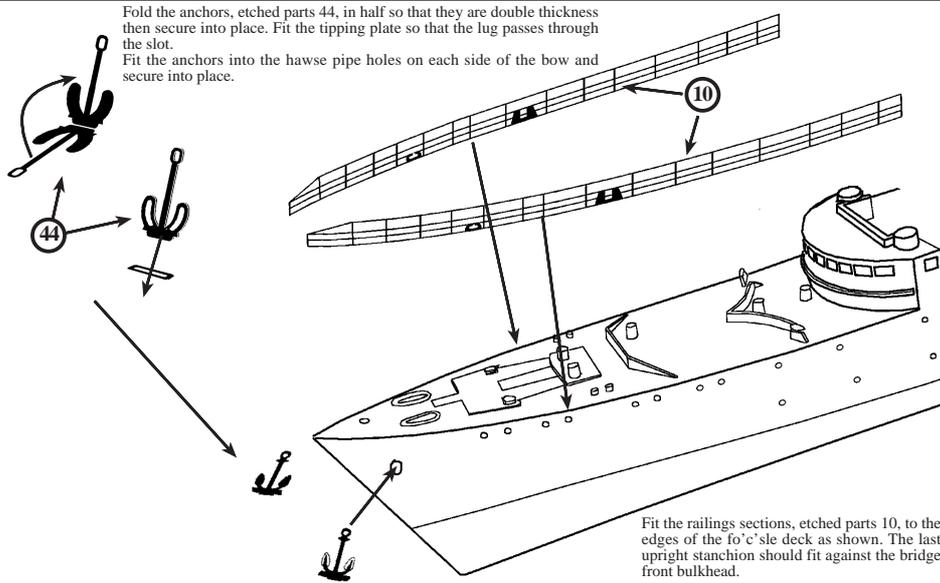
Fit the top pole antenna into the slot in the rear of the mast platform, locating the three foot pads onto the centres of the lattice cross bracing on the rear face of the mast.  
Shape and fit the railings, etched part 56, to the edges of the mast top platform.

Fit the completed main mast assembly to the deck area on the step of the amidships deck house, resin part 3.  
Assemble the DF Antenna, etched part 4 and fit the half loops to each side of the central vertical pole on the antenna. This should appear as a cross when viewed from above.  
Fit the antenna bracket to the side wall of the aft deck house, starboard side as shown below.



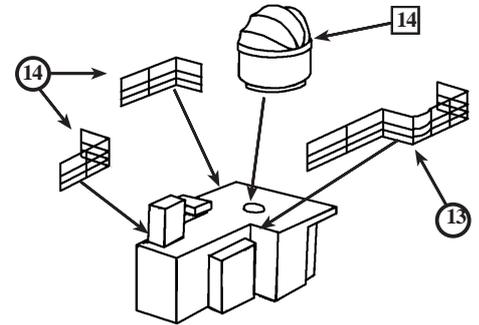
## Fo'c'sle Railings Location and Anchor Assembly

Fold the anchors, etched parts 44, in half so that they are double thickness then secure into place. Fit the tipping plate so that the lug passes through the slot.  
Fit the anchors into the hawse pipe holes on each side of the bow and secure into place.



Fit the railings sections, etched parts 10, to the edges of the fo'c'sle deck as shown. The last upright stanchion should fit against the bridge front bulkhead.

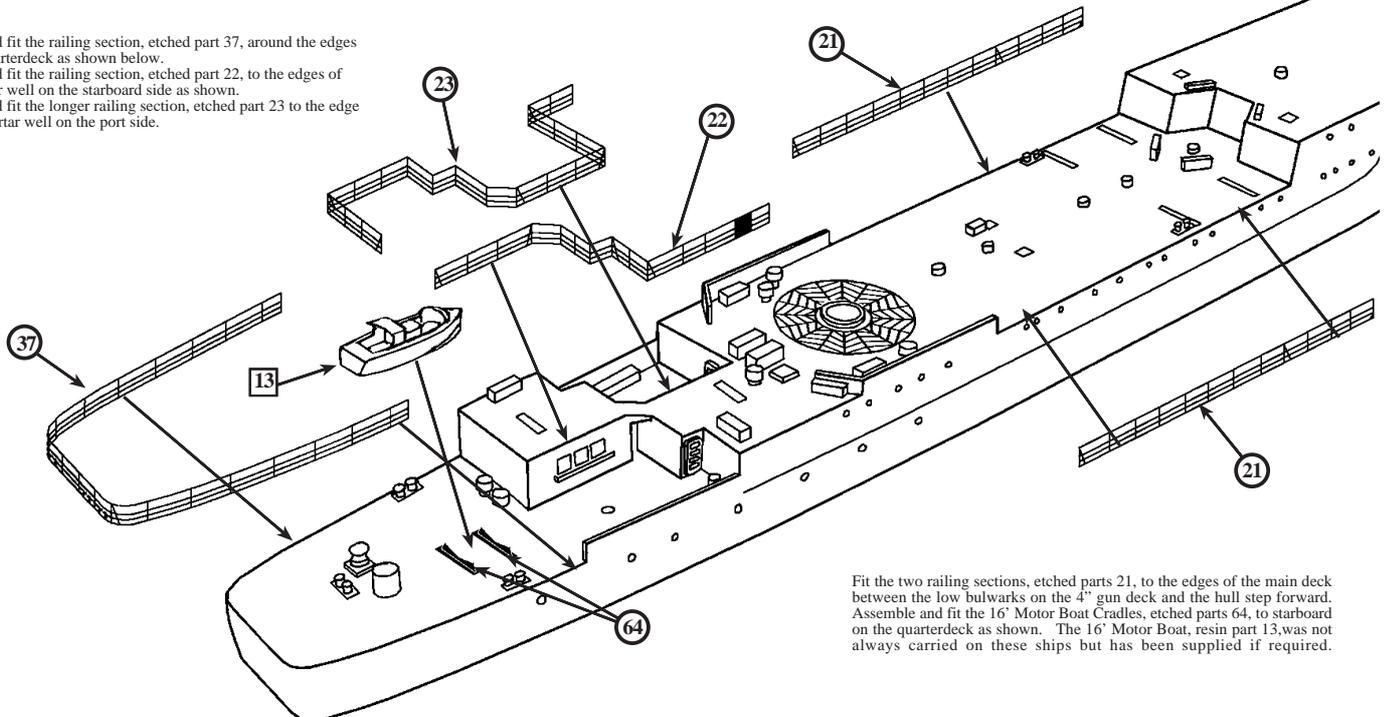
## Aft Deck House Fittings



Shape and fit the railing sections, etched parts 14, to the starboard edges of the aft deck house roof.  
Shape and fit the railing section, etched part 13, to the port edges of the aft deck house roof.  
Turn the last sections of railing inwards to allow the Gun Director to fit into place and have the radar opening exposed between the two aft stanchions.

## Aft Railings Location

Shape and fit the railing section, etched part 37, around the edges of the quarterdeck as shown below.  
Shape and fit the railing section, etched part 22, to the edges of the mortar well on the starboard side as shown.  
Shape and fit the longer railing section, etched part 23 to the edge of the mortar well on the port side.

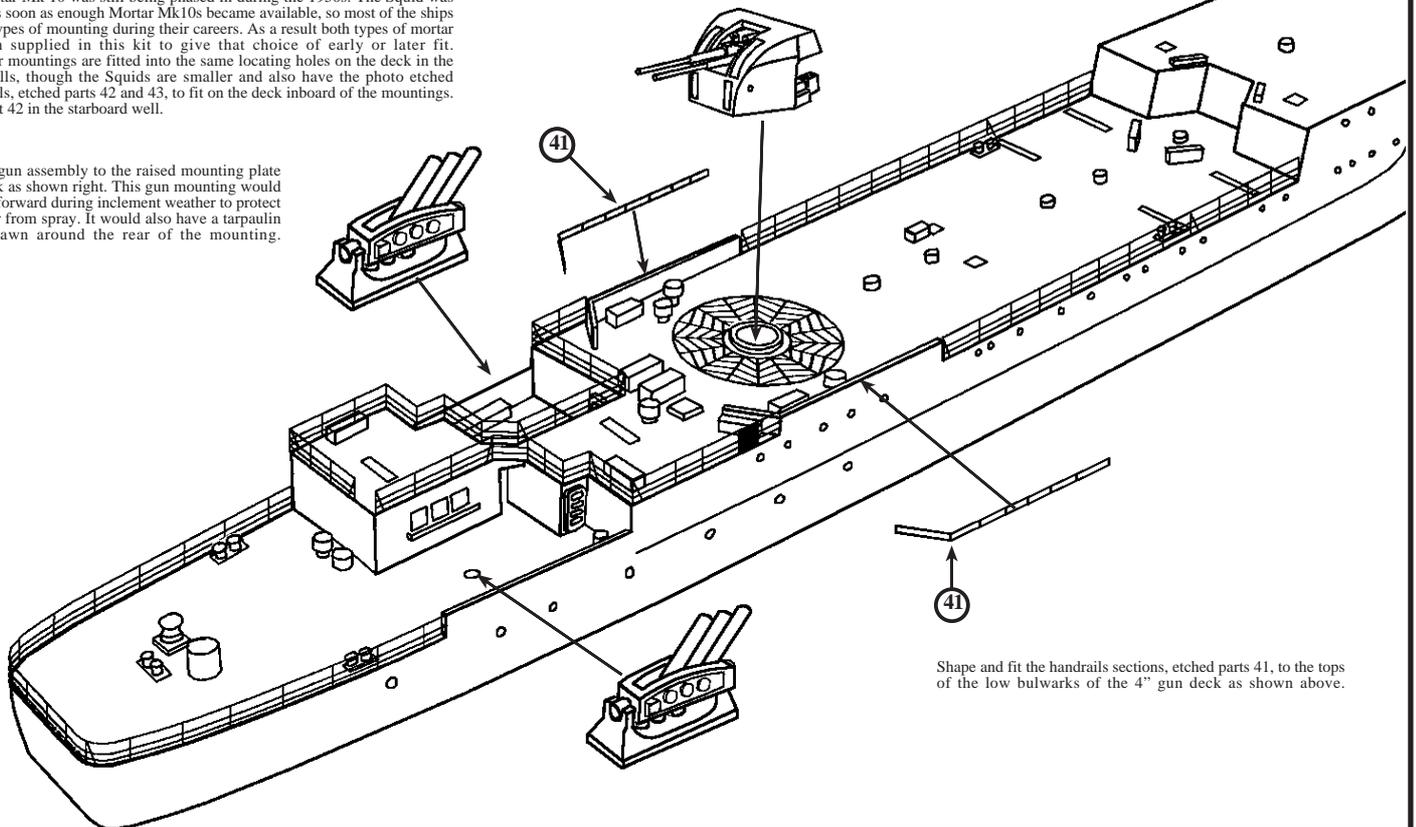


Fit the two railing sections, etched parts 21, to the edges of the main deck between the low bulwarks on the 4<sup>th</sup> gun deck and the hull step forward. Assemble and fit the 16" Motor Boat Cradles, etched parts 64, to starboard on the quarterdeck as shown. The 16" Motor Boat, resin part 13, was not always carried on these ships but has been supplied if required.

## Aft Weapons Mountings Location

In the early days, the Type 15 Frigates were fitted with Squid Mortar mountings as the Mortar Mk 10 was still being phased in during the 1950s. The Squid was replaced as soon as enough Mortar Mk10s became available, so most of the ships had both types of mounting during their careers. As a result both types of mortar have been supplied in this kit to give that choice of early or later fit. The mortar mountings are fitted into the same locating holes on the deck in the mortar wells, though the Squids are smaller and also have the photo etched loading rails, etched parts 42 and 43, to fit on the deck inboard of the mountings. Etched part 42 in the starboard well.

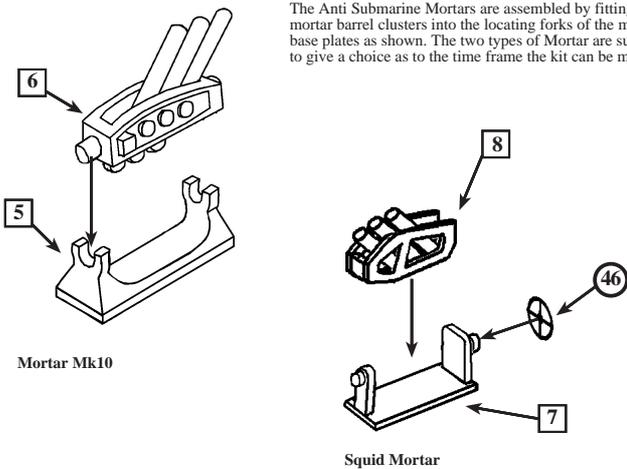
Fit the 4" gun assembly to the raised mounting plate on the deck as shown right. This gun mounting would be trained forward during inclement weather to protect the interior from spray. It would also have a tarpaulin curtain drawn around the rear of the mounting.



Shape and fit the handrails sections, etched parts 41, to the tops of the low bulwarks of the 4" gun deck as shown above.

## A/S Mortar Assembly Alternatives

The Anti Submarine Mortars are assembled by fitting the mortar barrel clusters into the locating forks of the mounting base plates as shown. The two types of Mortar are supplied to give a choice as to the time frame the kit can be modelled.

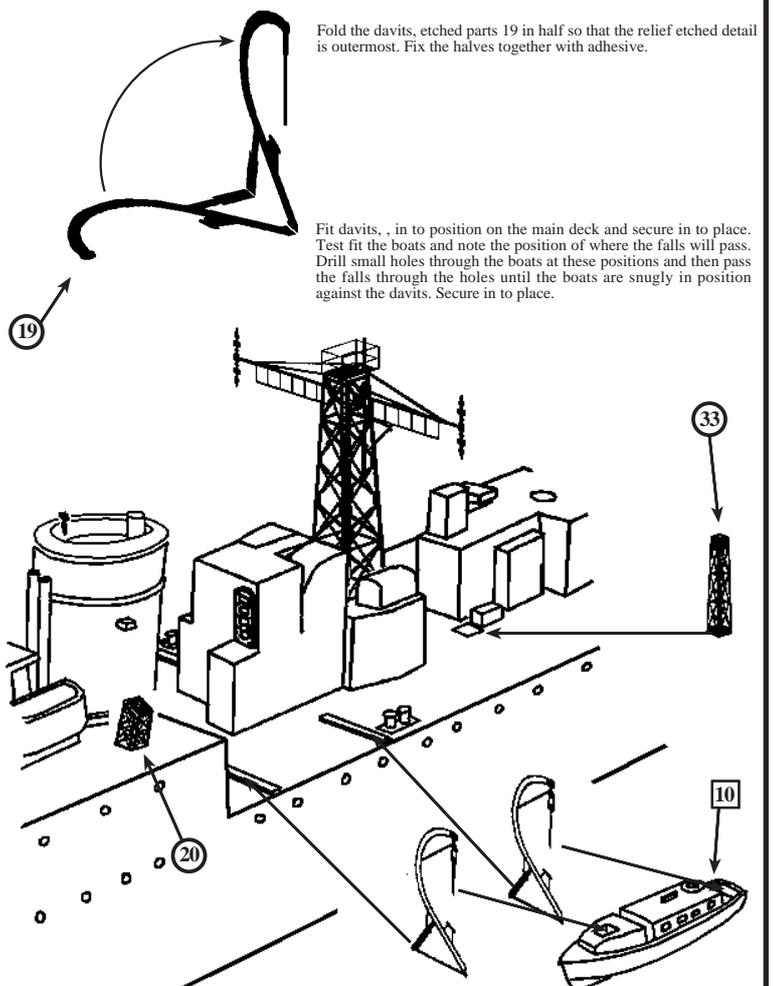


Mortar Mk10

Squid Mortar

## Port Side Boats and Deck Fittings

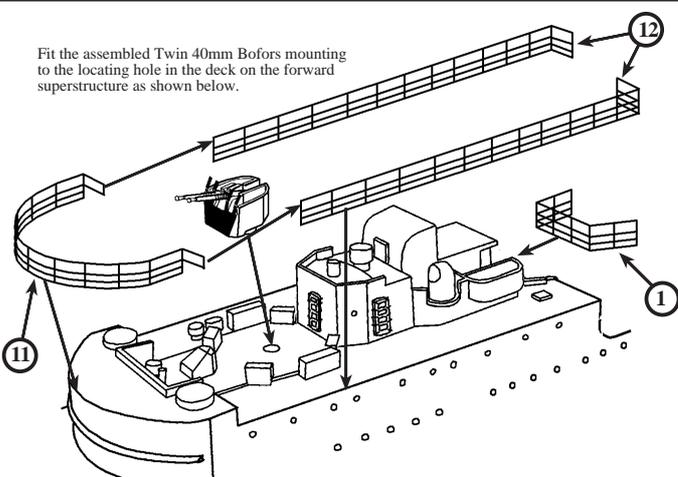
Fold the davits, etched parts 19 in half so that the relief etched detail is outermost. Fix the halves together with adhesive.



Fit davits, , in position on the main deck and secure in to place. Test fit the boats and note the position of where the falls will pass. Drill small holes through the boats at these positions and then pass the falls through the holes until the boats are snugly in position against the davits. Secure in to place.

## Forward Superstructure Railings Location

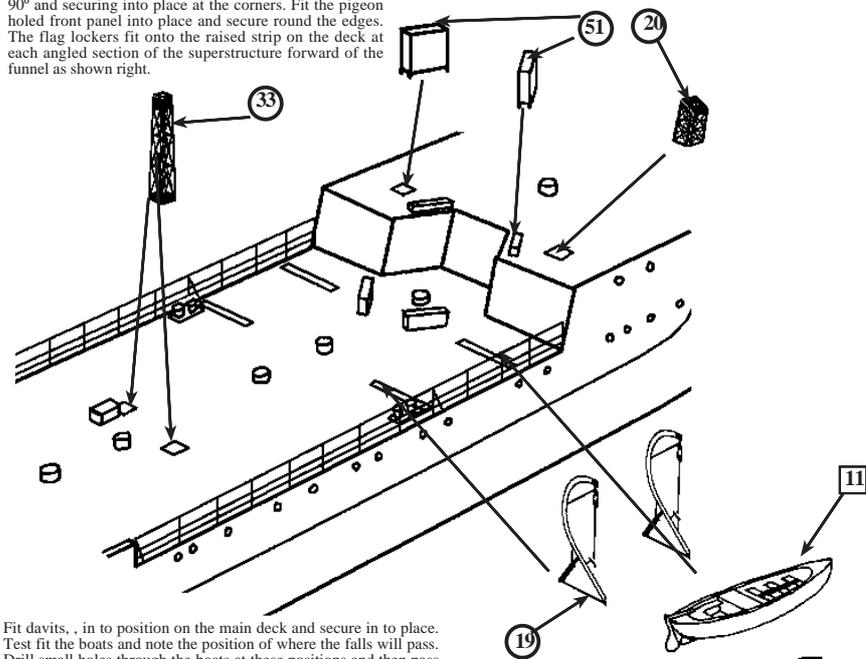
Fit the assembled Twin 40mm Bofors mounting to the locating hole in the deck on the forward superstructure as shown below.



Shape and fit the railing section, etched part 11, to the forward edge of the bridge roof. The angled end sections should feed down the step in the deck, to fit against the first stanchions of the railings sections, etched parts 12. Shape and fit the single railing section, etched part 1, to fit the edge of the angular funnel recess.

## Starboard Boats and Deck Fittings

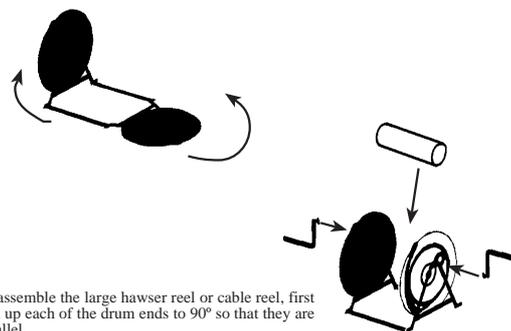
Assemble the signal flag stowage lockers, etched parts 51, by folding the sides, top and bottom of the box section to 90° and securing into place at the corners. Fit the pigeon holed front panel into place and secure round the edges. The flag lockers fit onto the raised strip on the deck at each angled section of the superstructure forward of the funnel as shown right.



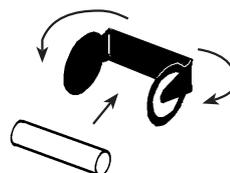
Fit davits, in to position on the main deck and secure in to place. Test fit the boats and note the position of where the falls will pass. Drill small holes through the boats at these positions and then pass the falls through the holes until the boats are snugly in position against the davits. Secure in to place.

Once the davits, etched parts 19, have been fixed into place on the raised strips on the deck, the 14' Dinghy may be fitted into place on the deck in between the davits, before the Whaler is fitted to the falls.

## Cable and Cordage Reel Assembly

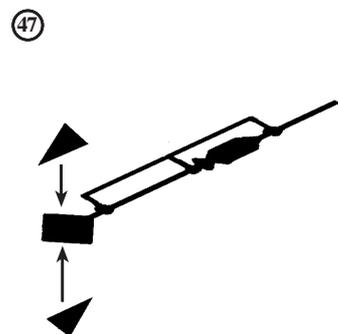


To assemble the large hawser reel or cable reel, first fold up each of the drum ends to 90° so that they are parallel. Take care that the joiner strips along the base are not damaged. Cut a length of plastic rod to fit between the ends as the centre spindle. Fit the crank handles to each end in the locating hole provided as shown, so that the cranks oppose each other.



There are several variations of cordage reel supplied in this set. The diagram shown, describes the assembly of one of the small wall mounted reels that can be found positioned on bulkheads at various points around the ships upper decks. Deck mounted reels are assembled in the same manner only turned 90°.

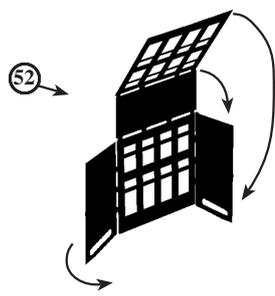
## Dan Buoy Assembly



Assemble the radar reflectors on the Dan Buoys, etched parts 47, as shown above. Fit the rectangular bracket arrangement onto the side railings on each stern quarter.

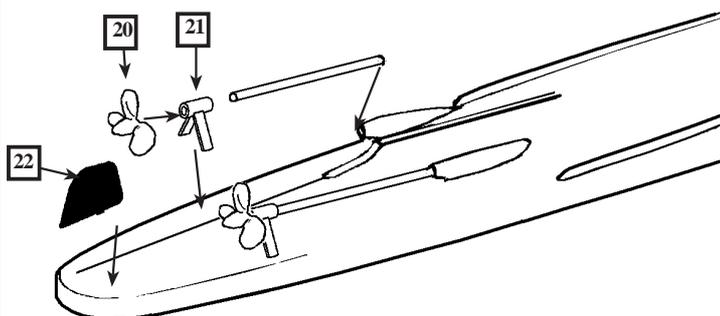
The colour of the reflector and body of the Dan Buoys varied from Dayglo Orange which was the most common, to Red and White 90° alternate sections

## 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 near the boats or towards the stern.

## Propeller and Rudder Fitting



If the ship is to be modelled as a full hulled exhibit, assemble the running gear components as shown above, using two 20mm lengths of 1mm (40thou) diameter plastic rod.

## Other Instructions

1. A decal sheet included in this kit, allows the possibility of most ships of this class to be modelled. The pennant numbers can be cut out and arranged as required to match the ships name in red that is placed on the stern quarters. There were two distinct types of bridge window on this class. The all square windows and those that had some of the windows fitted with rotary clear view panels. Both types are included in strips to fit around the front of the bridge structure. Some variants may require some cutting and repositioning, but that is easily done with a sharp craft blade.
2. Etched parts 62 are stock lengths of vertical ladders. These can be cut to the required length and fitted to the sides of deck houses and bulkheads, masts and platforms as required. Etched parts 66 are the inclined ladders fitted to the hull step at the gap in the railings forward of the boats. Etched parts 67 are the inclined ladders, that may be fitted to the bridge front on each side at the vertical ladder opening in the railings. These were not usually fitted when the ship was at sea. Etched part 68 is the Inclined Ladder that is fitted to the rear of the Port Mortar handling room for access to the handling room roof and decks forward.
3. Etched parts 61 are stock lengths of Anchor Chain. Sufficient length is supplied to allow the model to be built on a seascape at anchor with the cabin running from the hawse pipe holes to the surface of the waterscape. Also there is enough to fit one the deck from the cable locker holes around the capstans and out to the hawse pipe holes.
4. Etched parts 38 and 39 are substitute parts for the 293 Radar antenna, supplied for those who want to replace the resin kit parts.
5. Etched parts 16 are the larger Signal/ Search Lights that are fitted to the forward end of the signal platforms on each side. Etched parts 40 are the smaller standard Signal Lamps that are fitted onto the aft sides of the signal platform bulwarks.
6. There is a selection of Hose, Cable and Cordage Reels supplied on the photo etched parts set. These can be assembled and fitted at whatever location on the deck that is required. The general guide is that small cordage reels are fitted to the sides of bulkheads. Large Hawser reels would be fitted to the quarterdeck for towing, and cable reels etc. would be fitted behind the breakwaters on the focsle and amidships near the ships boats.

**Colour Chart and Painting Guide**



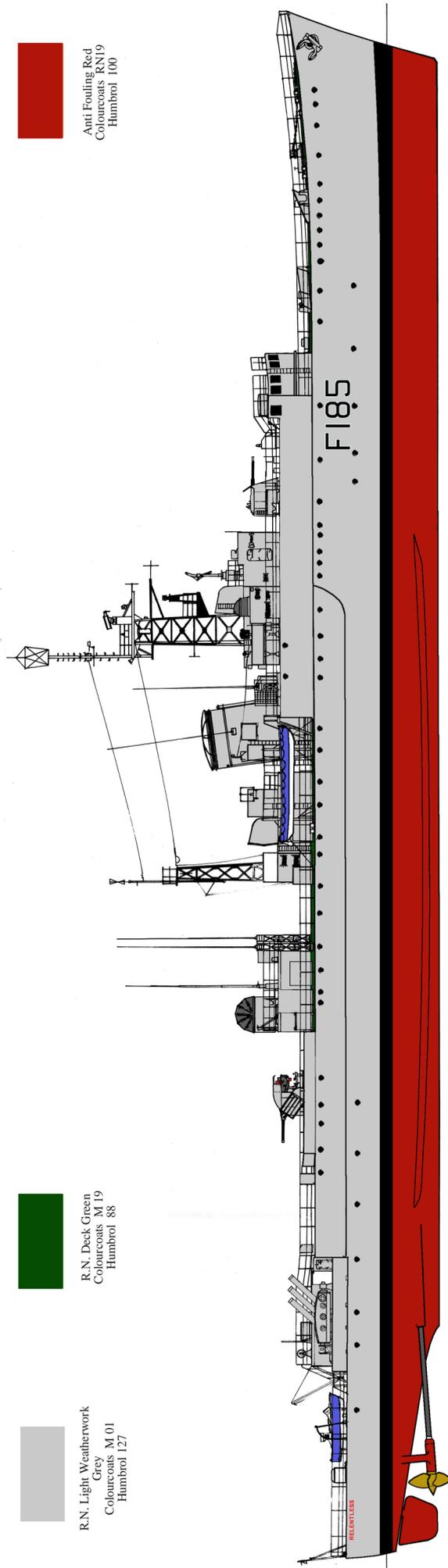
R.N. Light Weatherwork  
Grey  
Colourcoats M 01  
Humbrol 127



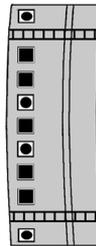
R.N. Deck Green  
Colourcoats M 19  
Humbrol 88



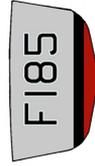
Anti Fouling Red  
Colourcoats RN19  
Humbrol 100



HMS Relentless Type 15 Frigate 1964



**Bridge Window Decal  
Location**



**Stern Pennant Number  
Location**

**Other Paint Colours Used**

- Matt Black .... Funnel Cap and Grill. Fore Mast Mid Section. Main Mast. Gun Barrels
- Dark Grey .... Director Canvas Covers
- Matt White .... Fore Mast Top. Life Raft Stowage Covers. Anchor Chains, Bollards
- Royal Blue .... Fairleads and Deck Fittings. Boats Under Water Hulls and Coachwork
- Natural Wood.... Boat Sides
- Bronze..... Boat Thwarts and Decks. 14' Dinghy. Propellers

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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>