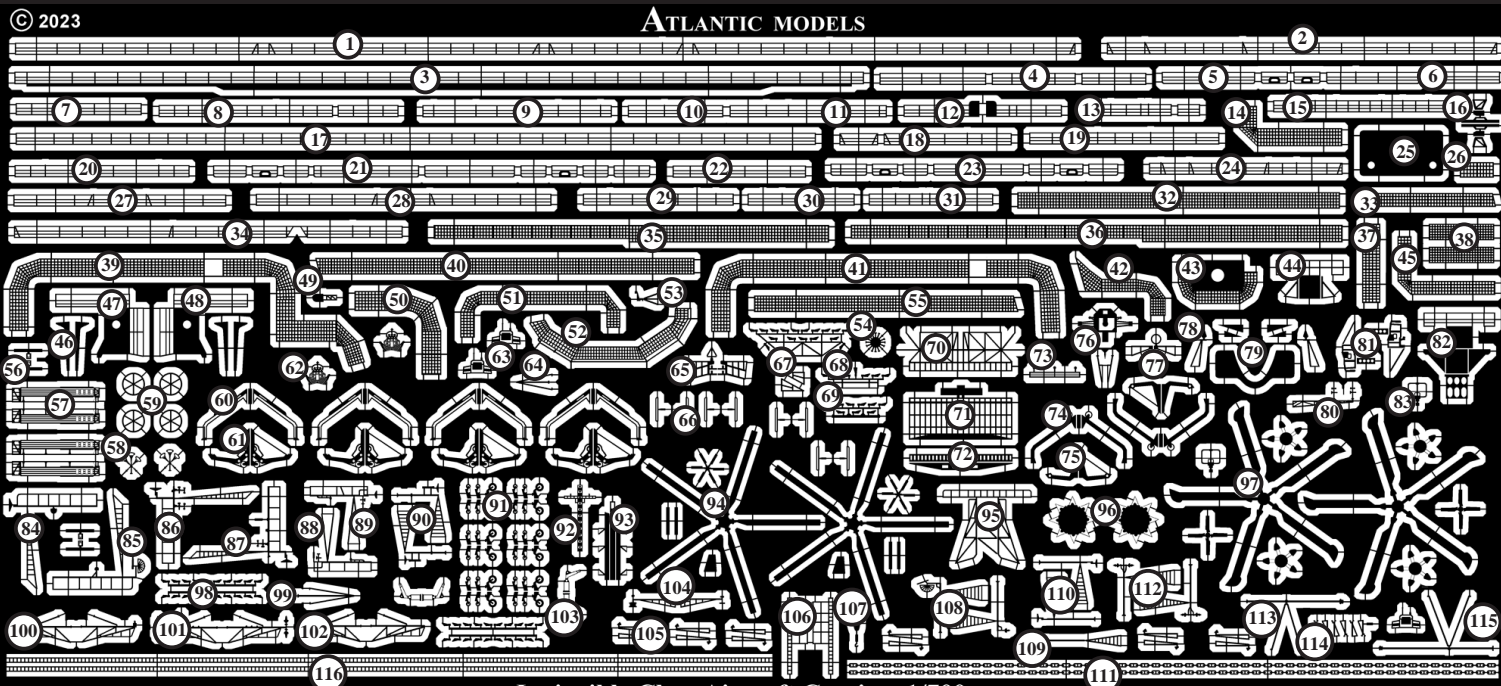


Photo Etched Parts Identification

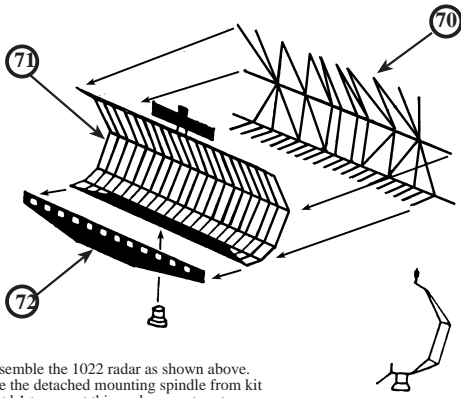


Invincible Class Aircraft Carriers 1/700

- | | | | |
|---|--|----------------------------------|--|
| 1. Railings (Alaskan Highway Stbd) | 30. Railings (Bridge Roof Stbd) | 59. Funnel Cap Grills | 88. Yardarms (Foremast Sides Early) |
| 2. Railings (Flight Deck Fwd Early) | 31. Railings (Bridge Roof Aft) | 60. Work Boat Davit Bases | 89. Yardarms (Foremast Sides Early) |
| 3. Railings (Goofers Deck) | 32. Safety Nets (2000 Extra Stock) | 61. Work Boat Davits | 90. Yardarms (Main Mast Mid Alt) |
| 4. Railings (Island Starboard) | 33. Safety Nets (Ramp Stbd Late) | 62. Ark Royal Funnel Badges | 91. Sea Harrier Undercarriage Sets |
| 5. Railings (Hull Openings Stern) | 34. Railings (Focslc Catwalk Inter) | 63. RHIB Roll Bars | 92. Main Mast Approach Light Bank |
| 6. Railings (Crane Jib Rest Late) | 35. Safety Nets (Ramp Port Early) | 64. Yardarm Stbd Bridge Wing | 93. Main Mast Approach Light Mount |
| 7. Railings (Mizzen Mast Upper) | 36. Safety Nets (Ramp Port Late) | 65. DF Antenna (Late) | 94. Sea King Helicopter Parts |
| 8. Railings (Mizzen Mast Lower) | 37. Safety Nets (Forward Flight Deck) | 66. Radar Sensor Antennas | 95. Main Mast Top Front Yard (Early) |
| 9. Railings (Mizzen Fwd Platform) | 38. Safety Nets (Bow Goalkeeper) | 67. Aft Floodlight Gantry | 96. Main Mast ECM Antennas (Late) |
| 10. Railings (Main Mast Upper Platforms) | 39. Safety Nets (Stern Late Fit) | 68. Fwd Upper Floodlight Gantry | 97. Merlin Helicopter Parts |
| 11. Railings (Main Mast Top Fwd Platform) | 40. Safety Nets (Flight Deck Stbd Late) | 69. Fwd Lower Floodlight Gantry | 98. Island Port Floodlight Strips |
| 12. Railings (Main Mast Lower Platforms) | 41. Safety Nets (Stern Early Fit) | 70. 1022 Radar Antenna Back | 99. Yardarm (Aft Funnel Early) |
| 13. Railings (Bridge Rear Platform) | 42. Safety Nets Flight Deck Fwd Inter) | 71. 1022 Radar Antenna Screen | 100. Yardarms (Fore Funnel Front) Late |
| 14. Safety Nets (Stbd Goalkeeper Deck) | 43. Safety Nets (Stbd 20mm Deck) | 72. 1022 Radar Transducer Face | 101. Yardarms (Fore Funnel Rear) Late |
| 15. Railings (Aft Funnel Platform) | 44. 1022 Tower (Front Platform Late) | 73. 996 Radar Antenna Face | 102. Yardarms (Aft Funnel Front) Late |
| 16. Forward Radar Antenna | 45. Safety Net (Stbd Phalanx Deck) | 74. Huntress Davit Base | 103. Gemini Inflatable Launch Cranes |
| 17. Railings (Spare Stock) | 46. Fwd SCOT Platform Supports | 75. Huntress Davits | 104. Yardarms (Main Mast Top Platform) |
| 18. Railings (Stbd Goalkeeper Deck) | 47. Fwd SCOT Platform Port | 76. 996 Radar Platform | 105. Flood Light Booms |
| 19. Railings (Island Aft Late) | 48. Fwd SCOT Platform Stbd | 77. Df Antenna (Early) | 106. Caged Vertical Ladders |
| 20. Railings (Port Chaff Deck Late) | 49. 1022 Tower Antenna (Late) | 78. Aft Funnel Platform Antennas | 107. Ships Crane Hook |
| 21. Railings (Hull Openings Port Side) | 50. Safety Nets (Port Aft Goalkeeper) | 79. Aft Funnel Platform (Late) | 108. Yardarms (Main Mast Lower) |
| 22. Railings (Sea Dart Stbd) | 51. Safety Nets Ramp Front (Late) | 80. Ramp Port Yardarm (Early) | 109. Yardarm (Aft Funnel Port Early) |
| 23. Railings (Hull Openings Stbd Side) | 52. Safety Nets Ramp Front (Early) | 81. DAPS Unit Assembly | 110. Yardarms (Main Mast Middle) |
| 24. Railings (Aft SCOT Platform) | 53. Antenna Aft Superstructure (Late) | 82. DAPS Platform Assembly | 111. Anchor Chain |
| 25. Mizzen Forward Platform | 54. Telescopic Antenna Fwd | 83. Bowman DF Antennas (Late) | 112. Yardarms (Main Mast Upper) |
| 26. Safety Net (Sea Dart Launcher) | 55. Safety Nets (Flight Deck Stbd Early) | 84. Yardarms Foremast Aft (Late) | 113. Jack Staff |
| 27. Railings (Forward 909 Platform) | 56. 1006 Nav Radar Antennas | 85. Yardarms Foremast Aft (Late) | 114. Main Mast Nightmare Antennas |
| 28. Railings (Aft 909 Platform) | 57. Accommodation Ladders (Stowed) | 86. Yardarms Foremast Fwd (Late) | 115. Ensign Staff |
| 29. Railings (Bridge Roof Port) | 58. Illustrious Funnel Badges | 87. Yardarms Foremast Fwd (Late) | 116. Vertical Ladder Stock |

- Do not remove the etched parts from the fret until you are ready to use them.
- Before assembly, soak the etched parts in a suitable solvent, such as white spirit, to de-grease the surfaces for painting. It is recommended that the entire fret be primed with an acrylic automotive primer, such as Halfords Grey Primer before assembling any of the parts.
- Cyanoacrylate adhesive (Super glue) or contact adhesive such as a white PVA glue may be used. These can be applied with a pin or piece of stretched sprue.
- When removing parts from the fret, place the fret on a hard surface, such as a smooth ceramic tile, in order to prevent parts bending whilst cutting through the holding tabs. It is suggested that a No.10 rounded type of modelling knife blade is used for this purpose.
- When shaping or bending a part, a straight edged blade such as a chisel blade will give a good sharp corner, or alternatively an Atlantic Models Folding Tool ATT 01 or ATT 02 may be found to be useful
- If a part is bent incorrectly, lay it on a hard flat surface and roll it flat with a cylindrical object such as a modelling knife handle.

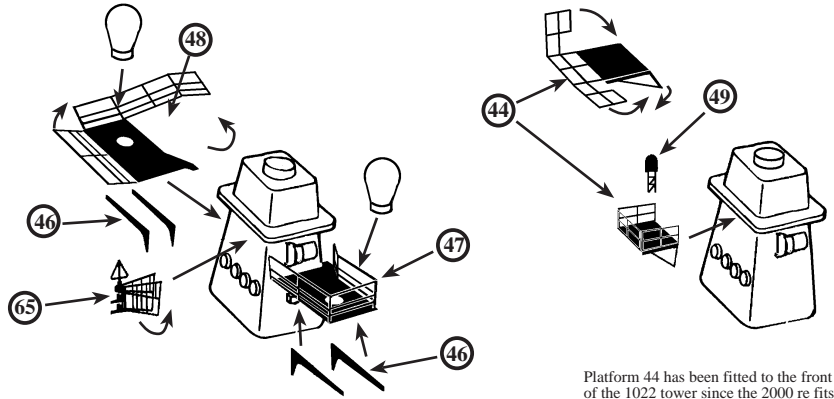
1022 Radar Antenna Assembly



Assemble the 1022 radar as shown above. Use the detached mounting spindle from kit part b1 to mount this replacement on to. This Assembly replaces kit part b1.

Side Profile

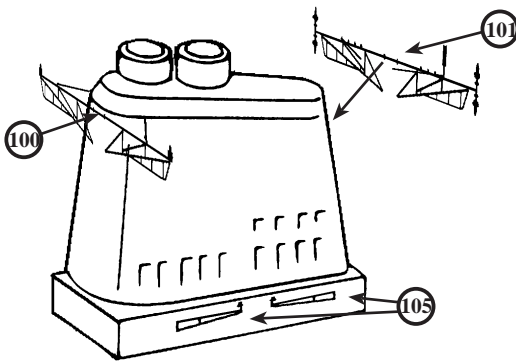
1022 Radar Tower Platform Alternatives



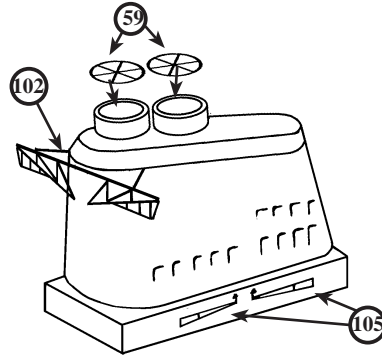
SCOT Platforms 10 and 11 were fitted to the sides of the 1022 radar tower of all three ships of the class from 1990 onwards. HMS Illustrious and HMS Invincible had them removed again after their 2000 re fits. To model HMS Invincible as 1992 onwards us the kit of Illustrious as the necessary changes have been included.

Platform 44 has been fitted to the front of the 1022 tower since the 2000 re fits of HMS Illustrious and HMS Ark Royal. The two ships are now virtually identical.

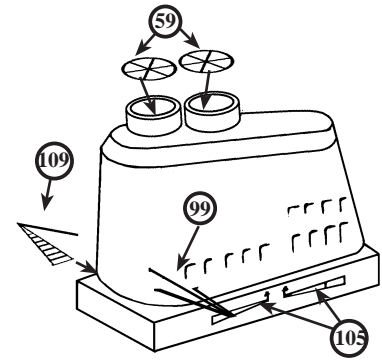
Funnel Yardarm Variations



Because of the radical sensor fit to the main mast of HMS Illustrious, some of the antenna were moved to yards mounted on the funnels. These were fitted from the mid 1990s and the locations of parts are shown above.

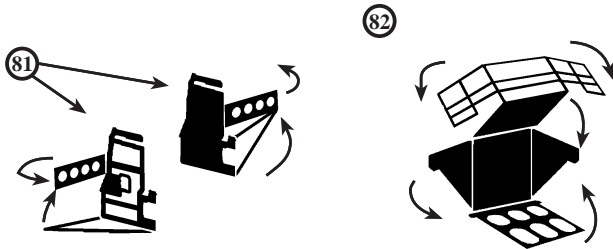


All three carriers had this type of yard fitted to the aft funnel during the 1990s. The floodlight booms 105 were fitted to each funnel on both sides. They can be fitted flush or swung out 90° in the operating position.



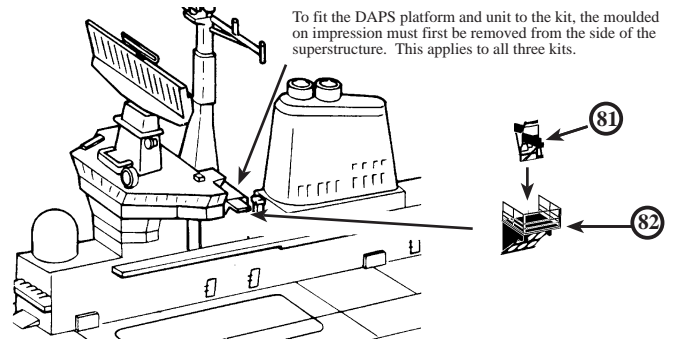
HMS Invincible and HMS Illustrious were fitted with this type of yardarm on the aft funnel during their first years in the 1980s. This is how the funnel yards for the HMS Invincible kit should be fitted.

DAPS Lighting Unit Assembly



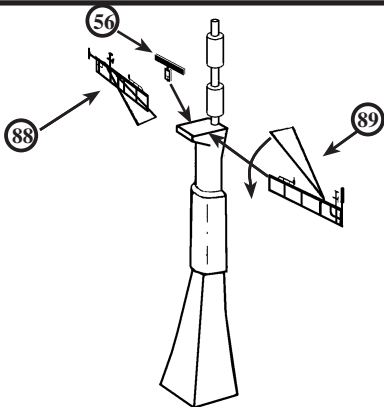
A 1980s model of HMS Illustrious can be modelled from the Invincible kit using the DAPS unit, parts 81 and 82 as shown above. This system was also fitted to HMS Invincible after she was brought up to the same standard as HMS Illustrious after the Falklands conflict.

DAPS Platform Location

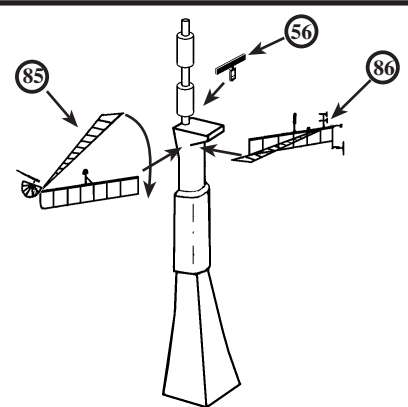
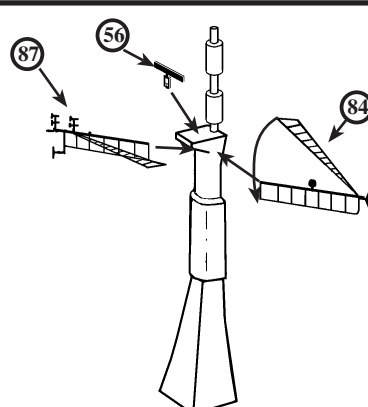


To fit the DAPS platform and unit to the kit, the moulded on impression must first be removed from the side of the superstructure. This applies to all three kits.

Fore Mast Yardarm Variations

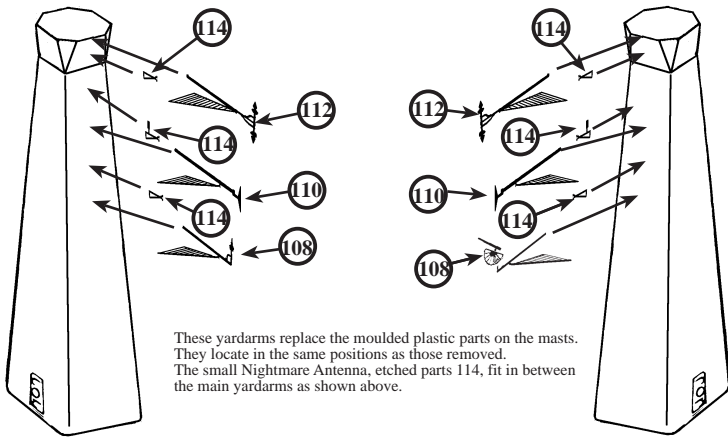


Replacement yardarms for the masts have been provided in the set. To fit these as shown, the moulded on impressions must first be removed from the kit parts. Fold the support frame over the yard arms until they are positioned as shown on item 88. Etched part 56 replaces kit parts b25. All three ships had this fit until year 2000.

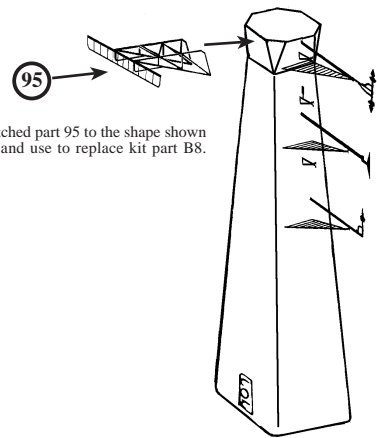


During the year 2000 re fits of HMS Illustrious and HMS Ark Royal, the main mast yard arms were removed to allow for countermeasures to be fitted. Some of the Antenna were moved to the Foremast by fitting additional yards as shown above so they extended at 45° to the Fore and Aft line. The after pair of yards were also fitted lower than the front pair. The laddered support frames fold down so that they sit to the rear of the yards and not either side as earlier fittings.

Main Mast Yardarm Fittings

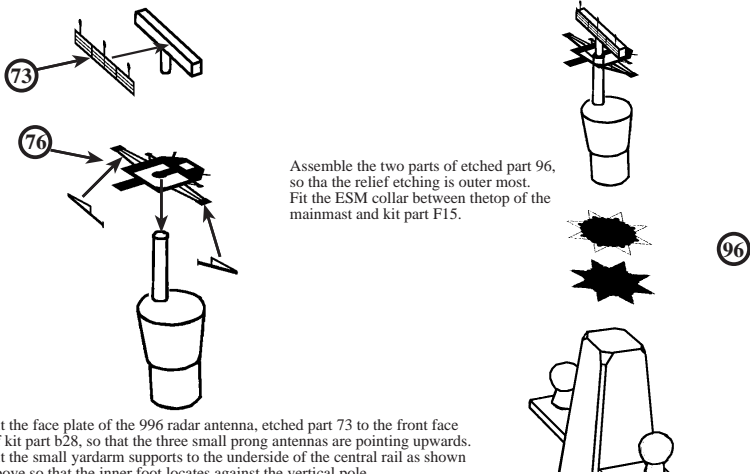


These yardarms replace the moulded plastic parts on the masts. They locate in the same positions as those removed. The small Nightmare Antenna, etched parts 114, fit in between the main yardarms as shown above.



Fold etched part 95 to the shape shown above and use to replace kit part B8.

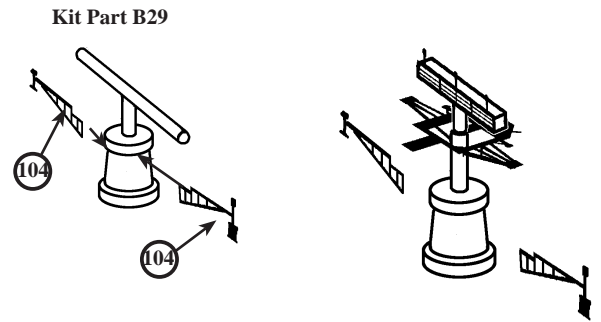
Main Mast Top Array (Illustrious & Ark Royal Late Fit)



Assemble the two parts of etched part 96, so that the relief etching is outer most. Fit the ESM collar between the top of the mainmast and kit part F15.

Fit the face plate of the 996 radar antenna, etched part 73 to the front face of kit part B28, so that the three small prong antennas are pointing upwards. Fit the small yardarm supports to the underside of the central rail as shown above so that the inner foot locates against the vertical pole

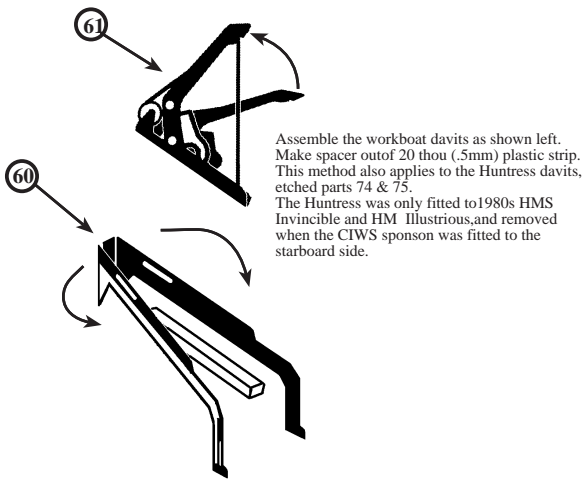
Main Mast Top Fittings (Early)



Kit Part B29

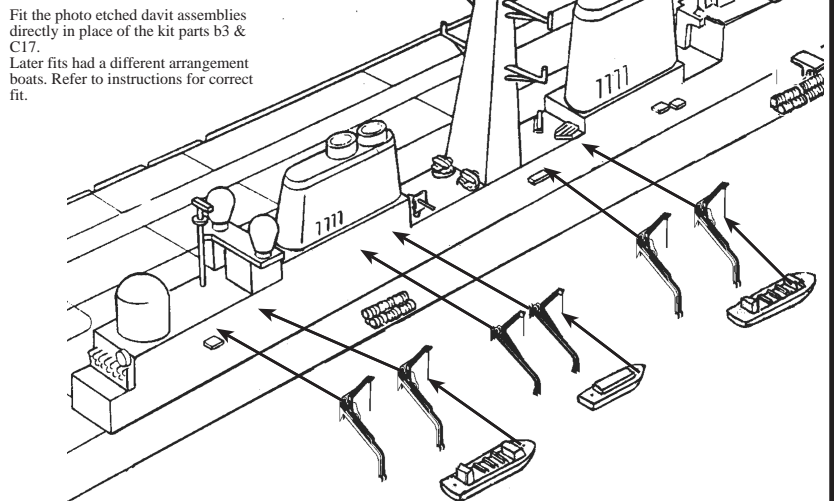
Fit the top platform yards 104 as shown above to kit part B28 after first removing the moulded on items. If HMS Invincible is to be modelled in its 1992 fit, using an HMS Illustrious kit, the earlier Main Mast should be used, kit parts B3 & B4, along with the top part B28, that has been modified with etched part 76, as shown right.

Workboat Davit Assembly



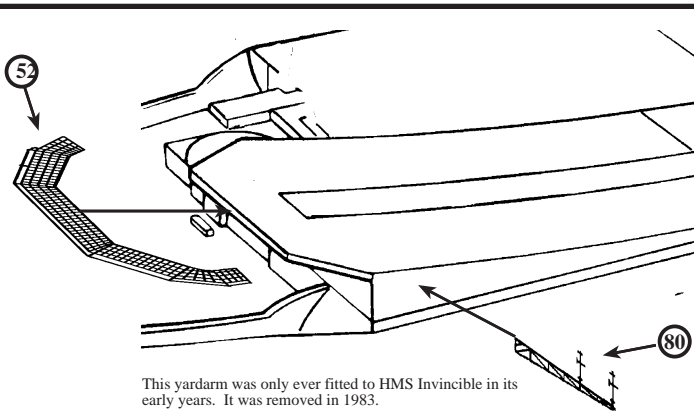
Assemble the workboat davits as shown left. Make spacer out of 20 thou (.5mm) plastic strip. This method also applies to the Huntress davits, etched parts 74 & 75. The Huntress was only fitted to 1980s HMS Invincible and HM Illustrious, and removed when the CIWS sponson was fitted to the starboard side.

Workboat Davit Locations



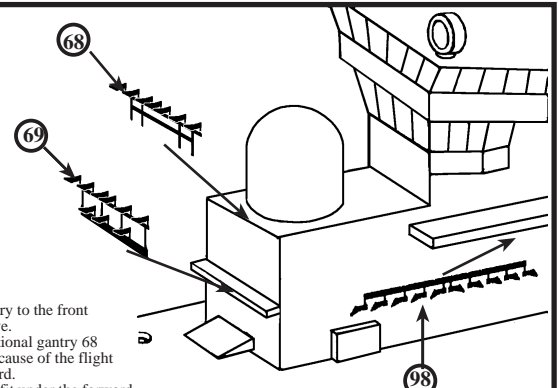
Fit the photo etched davit assemblies directly in place of the kit parts B3 & C17. Later fits had a different arrangement boats. Refer to instructions for correct fit.

Ramp Port Side Yardarm Location



This yardarm was only ever fitted to HMS Invincible in its early years. It was removed in 1983.

Forward Floodlight Gantry Assembly

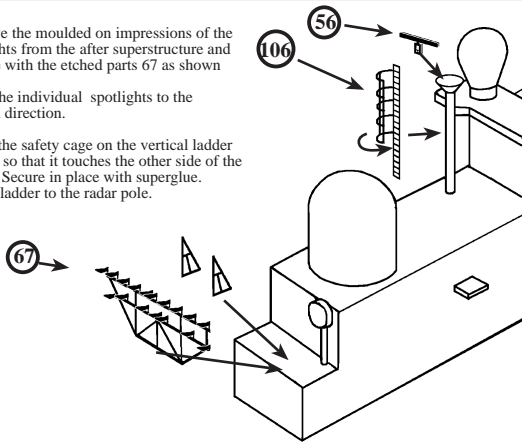


Fit the forward spotlight gantry to the front superstructure as shown above. HMS Illustrious has the additional gantry 68 fitted after her 2000 re fit because of the flight deck extending further forward. Use strips of spotlights 98 to fit under the forward and aft sections of the port superstructure overhang.

Island Aft Floodlight Gantry Assembly

Remove the moulded on impressions of the spotlights from the after superstructure and replace with the etched parts 67 as shown below.
Twist the individual spotlights to the desired direction.

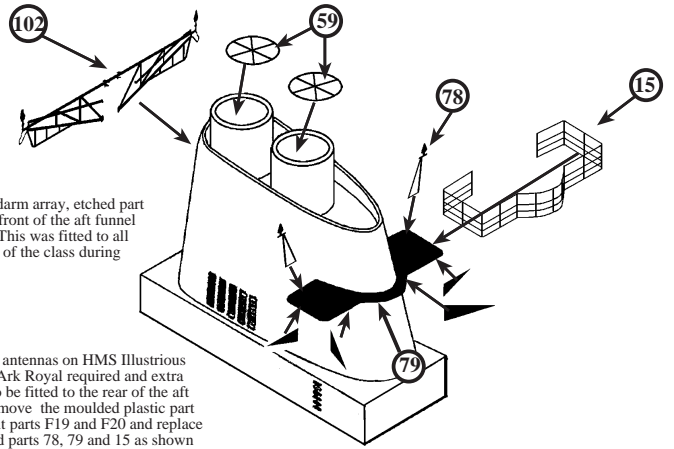
Curve the safety cage on the vertical ladder around so that it touches the other side of the ladder. Secure in place with superglue.
Fit the ladder to the radar pole.



Late Aft Funnel Platform Assembly

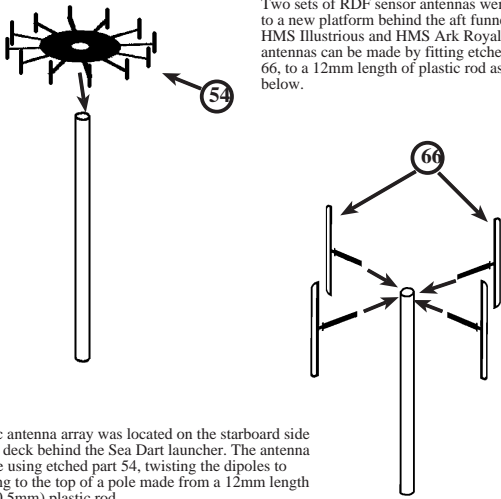
Fit the yardarm array, etched part 102 to the front of the aft funnel as shown. This was fitted to all three ships of the class during the 1990s.

Additional antennas on HMS Illustrious and HMS Ark Royal required an extra platform to be fitted to the rear of the aft funnel. Remove the moulded plastic part from the kit parts F19 and F20 and replace with etched parts 78, 79 and 15 as shown above right.



Telescopic and Radar Sensor Antennas

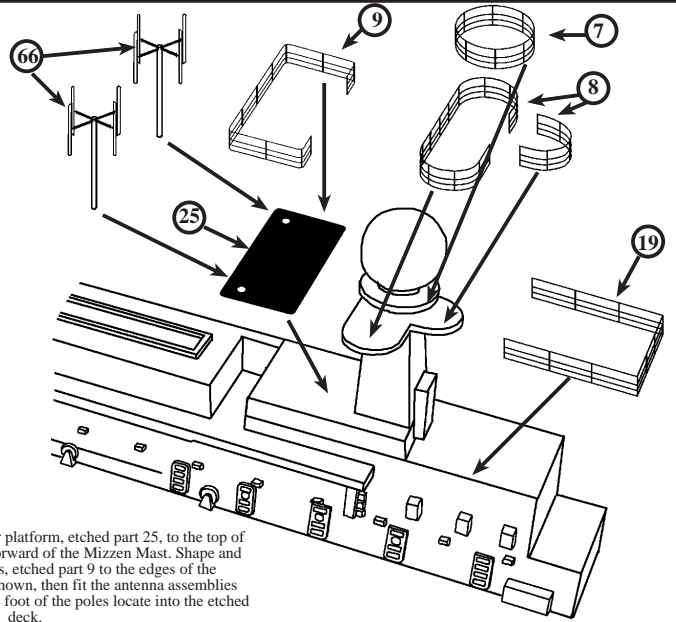
Two sets of RDF sensor antennas were fitted to a new platform behind the aft funnel on HMS Illustrious and HMS Ark Royal. These antennas can be made by fitting etched parts 66, to a 12mm length of plastic rod as shown below.



A telescopic antenna array was located on the starboard side of the flight deck behind the Sea Dart launcher. The antenna can be made using etched part 54, twisting the dipoles to 90° the fitting to the top of a pole made from a 12mm length of 20thou (0.5mm) plastic rod.

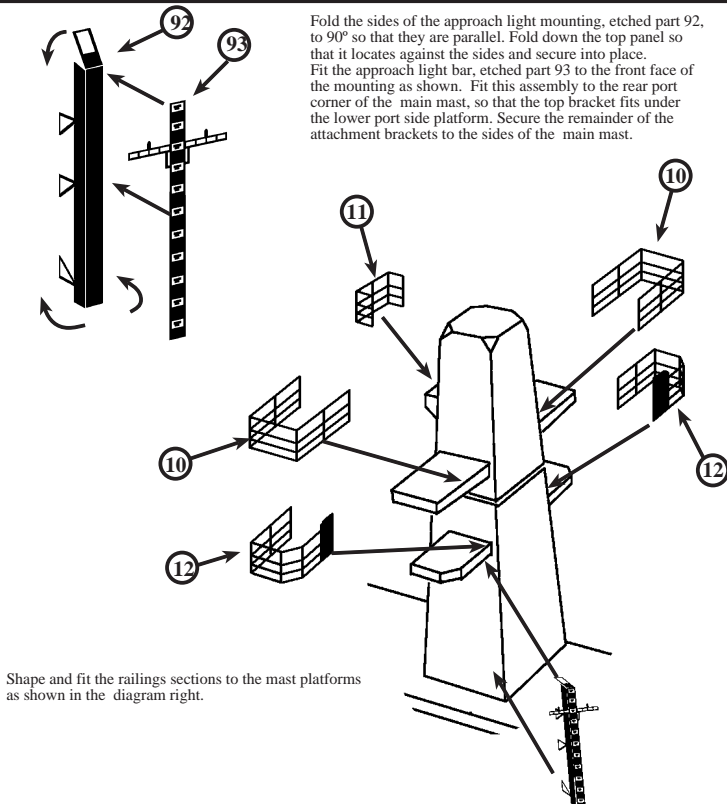
Island Aft Railing and Antenna Platform Locations

Fit the sensor platform, etched part 25, to the top of kit part G5 forward of the Mizzen Mast. Shape and fit the railings, etched part 9 to the edges of the platform as shown, then fit the antenna assemblies 66 so that the foot of the poles locate into the etched circles on the deck.



Late Main Mast Railing and Approach Light Assembly

Fold the sides of the approach light mounting, etched part 92, to 90° so that they are parallel. Fold down the top panel so that it locates against the sides and secure into place.
Fit the approach light bar, etched part 93 to the front face of the mounting as shown. Fit this assembly to the rear port corner of the main mast, so that the top bracket fits under the lower port side platform. Secure the remainder of the attachment brackets to the sides of the main mast.

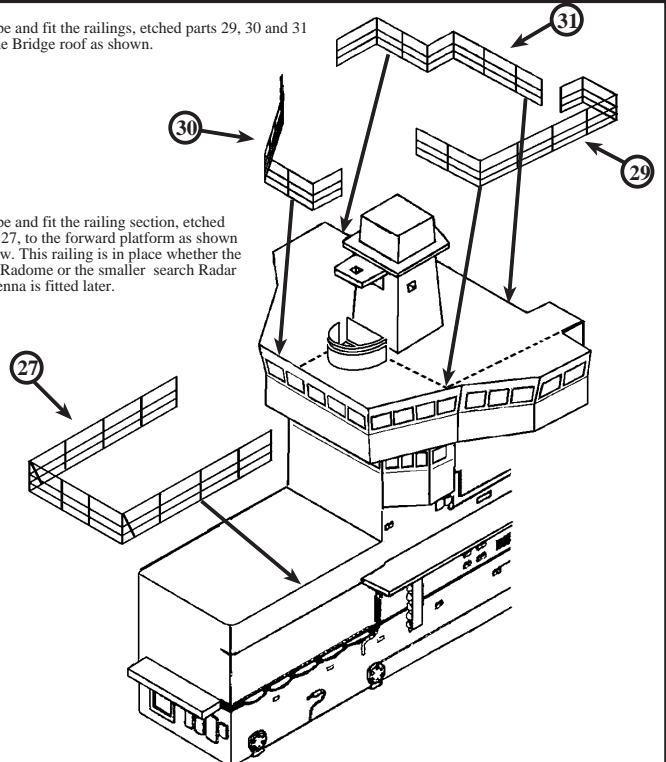


Shape and fit the railings sections to the mast platforms as shown in the diagram right.

Bridge Roof Railing Location

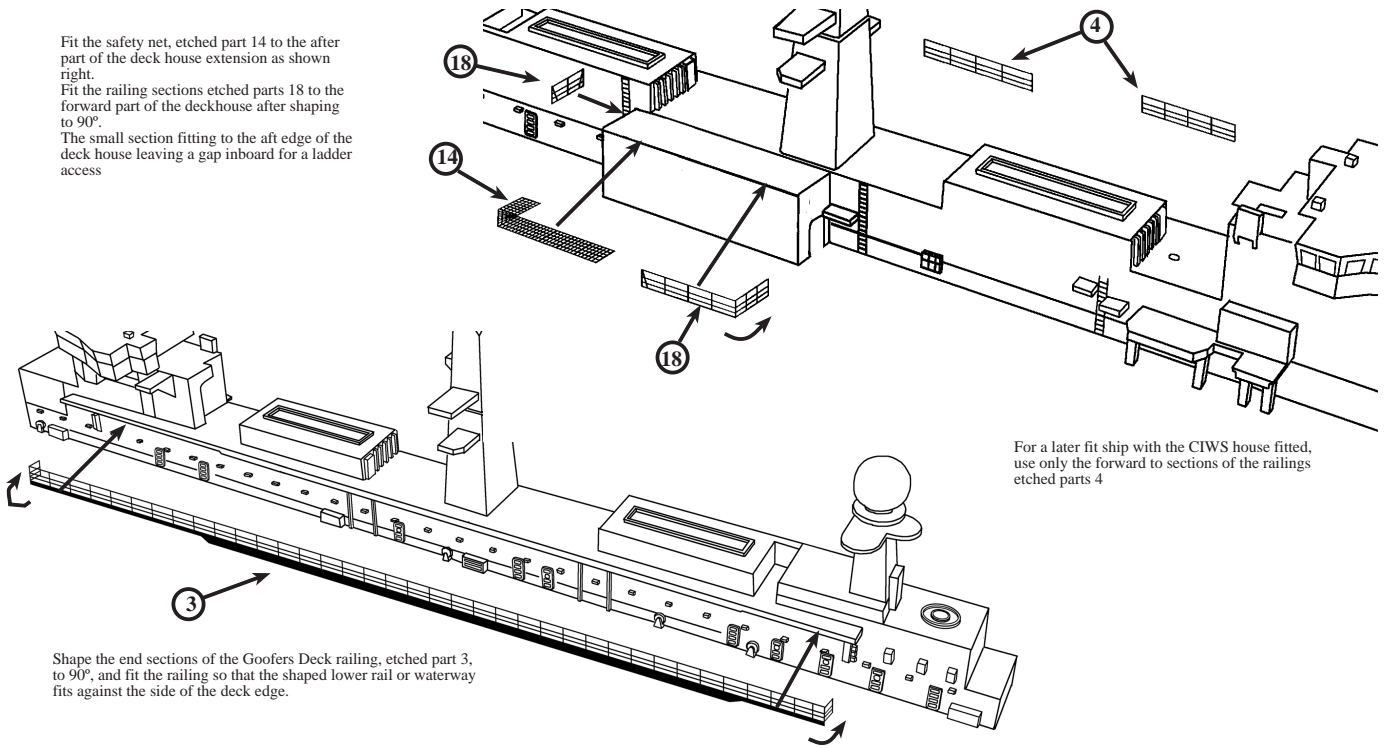
Shape and fit the railings, etched parts 29, 30 and 31 to the Bridge roof as shown.

Shape and fit the railing section, etched part 27, to the forward platform as shown below. This railing is in place whether the 909 Radome or the smaller search Radar Antenna is fitted later.



Island Mid Section Railing Locations (Late Fit)

Fit the safety net, etched part 14 to the after part of the deck house extension as shown right.
 Fit the railing sections etched parts 18 to the forward part of the deckhouse after shaping to 90°.
 The small section fitting to the aft edge of the deck house leaving a gap inboard for a ladder access



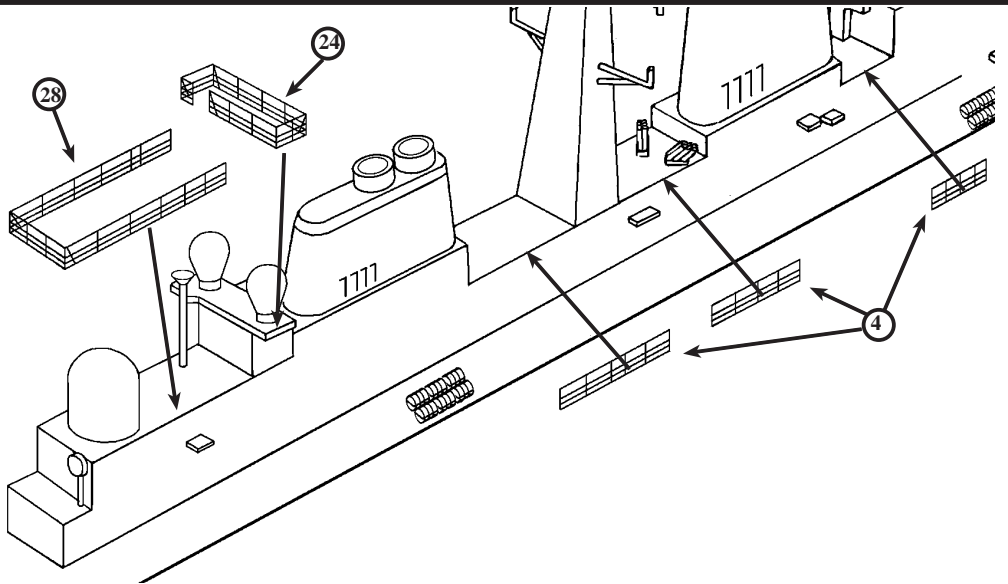
For a later fit ship with the CIWS house fitted, use only the forward to sections of the railings etched parts 4

Shape the end sections of the Goofers Deck railing, etched part 3, to 90°, and fit the railing so that the shaped lower rail or waterway fits against the side of the deck edge.

Island Starboard Railing Location (Early Fit)

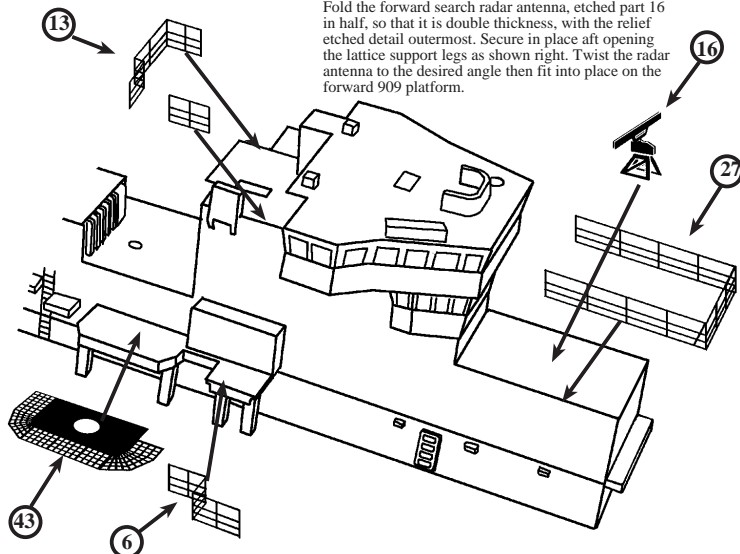
For the early fit pre 1990 ships, fit all three sections of railing etched parts 4 to the openings on the starboard side of the island.

Shape and fit the aft 909 Radome platform railings etched part 28 to the edges of the deck as shown. Shape and fit the SCOT platform railing section etched part 24, to the edges of the platform, with a gap left for the radar antenna pole bracket.

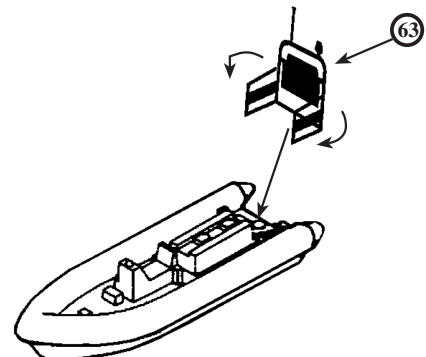


Island Forward Late Fittings Locations

Fold the forward search radar antenna, etched part 16 in half, so that it is double thickness, with the relief etched detail outermost. Secure in place aft opening the lattice support legs as shown right. Twist the radar antenna to the desired angle then fit into place on the forward 909 platform.

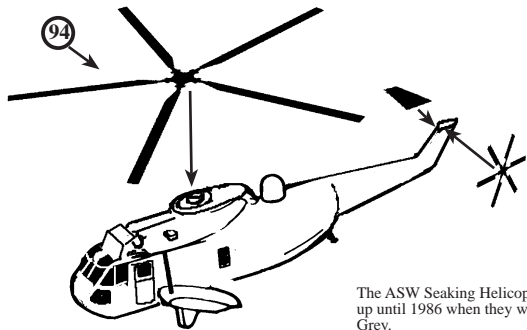


RHIB Roll Bar



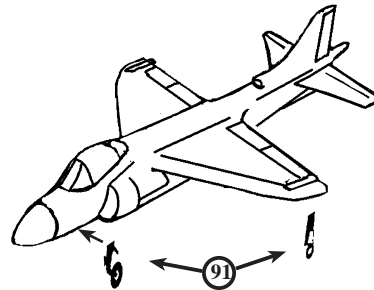
Fold the side frames of the self-righting gear, etched parts 63, to 90° so that they are parallel, then fit into the rear of the boat, kit assembly b59 in the kit instructions.

Sea King Helicopter Rotors Assembly



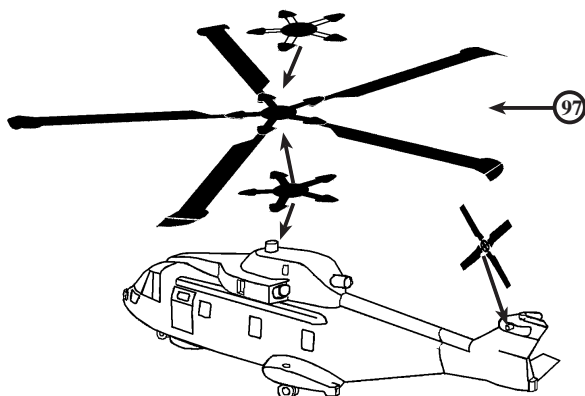
The ASW Seaking Helicopters were painted RAF Blue/Grey up until 1986 when they were changed gradually to Medium Sea Grey. The AEW Sea Kings were initially painted Dark Sea Grey but were also changed to Medium Sea Grey after 1987.

Sea Harrier Undercarriage Fittings



The Sea Harriers were originally painted Extra Dark Sea Gray upper surfaces and White undersides, but after 1981 were changed to Dark Sea Grey all over. During 1982 HMS Illustrious 809 NAS Sea Harriers were Medium Sea Grey. In 1994 the Mk 2 Sea Harriers were changed to Medium Sea Grey.

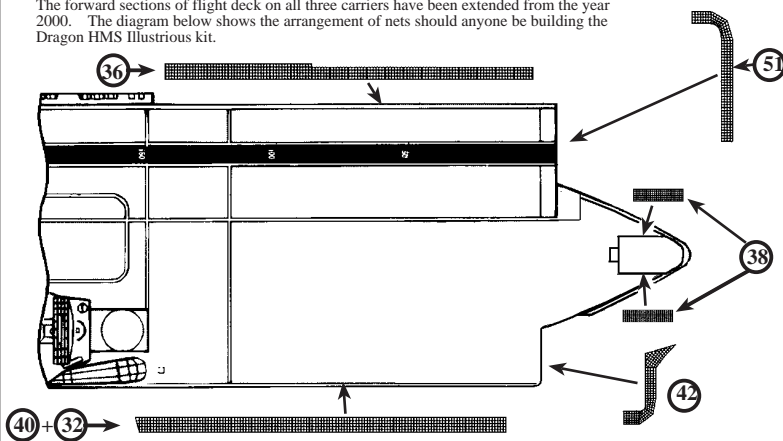
Merlin Helicopter Rotor Assembly



All Royal Navy Merlin Helicopters are in the medium Sea Grey colour scheme with low viz markings

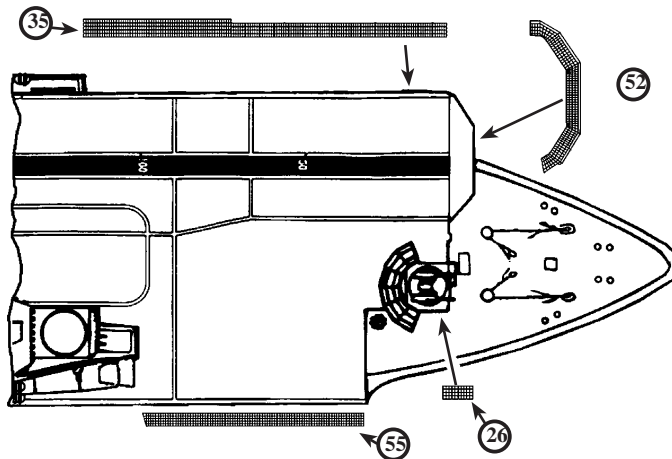
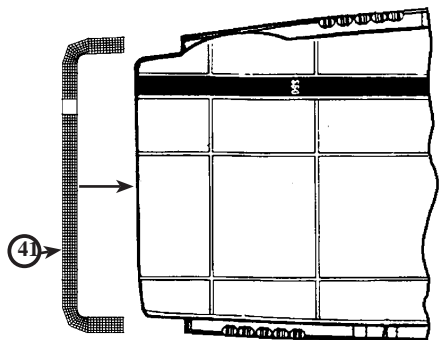
2000 Forward Extended Flight Deck Safety Net Arrangement

The forward sections of flight deck on all three carriers have been extended from the year 2000. The diagram below shows the arrangement of nets should anyone be building the Dragon HMS Illustrious kit.



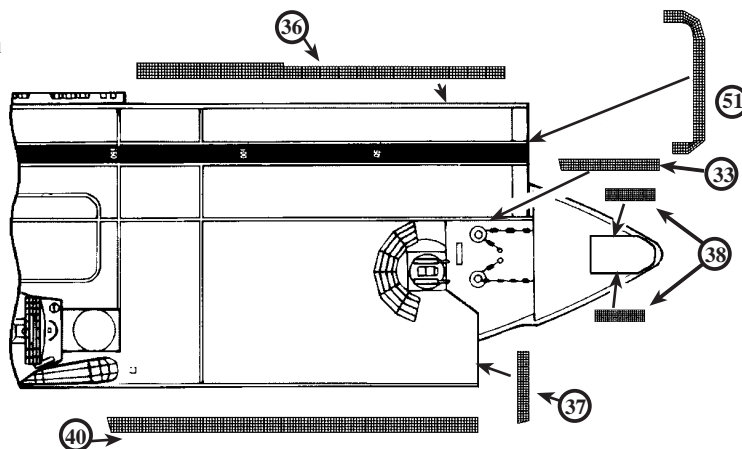
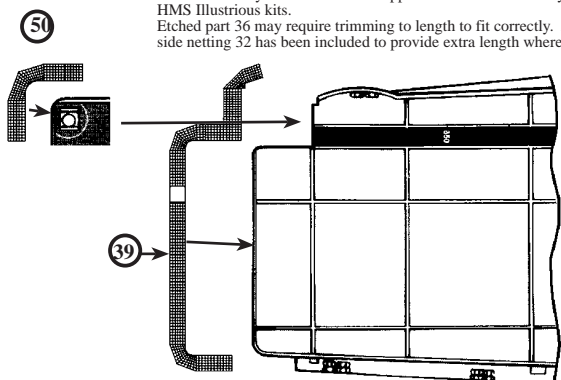
Early Flight Deck Safety Net Arrangement

This safety net arrangement applies to the Revell HMS Invincible kit and can be used if the kit is converted to 1982 Illustrious. Etched part 36 may require trimming to length to fit correctly.



Intermediate Flight Deck Safety Net Arrangement

This fit of safety nets is that which applies to the HMS Ark Royal and HMS Illustrious kits. Etched part 36 may require trimming to length to fit correctly. Additional side netting 32 has been included to provide extra length where needed.



Other Instructions

1. Etched part 17 is a length of Stock Railing with varying spaced stanchions, that will allow any areas to be fitted out, that do not have tailored to fit railings provided.
2. Etched parts 116 are stock lengths of Vertical Ladder. This allows vertical ladders to be cut to the required lengths and fitted to any bulkheads, platforms and masts as required. It may be necessary to remove some raised moulded detail from some areas that require these ladders to be fitted in lieu.
3. Etched parts 111 are stock lengths of Anchor Chain. This can be cut to length to fit around the capstans on the fo'c'sle deck and attach to the shackles on the anchors or longer lengths can be used to run from the hawse pipe holes to the surface of a sea scape diorama if the model is being portrayed at anchor.
4. The Bowman DF Antennas, etched parts 83, are provided in case anyone should wish to build the model as HMS Illustrious in her final fit. These antennas were located on small platforms at the rear base quarters of the Mizzen Mast.
5. Etched Parts 5, 21 and 23 are specially shaped sections of railing to fit the openings in the Stern, Port Side and Starboard Side of the hull respectively. The small sections of railing have been placed in the fret in sequence from fore to aft as they fit into the hull openings. The Stern Railings are symmetrical and only the left hand sets are deleted where the CIWS sponson fits.
6. Etched parts 57 are the Accommodation Ladders in the stowed position. These are handed to fit on the port and starboard side embarkation bays with the small rectangular part positioned to forward.
7. Further research will be necessary to establish the exact parts required for any one of the variety of projected fits in the time frames given with the kits available. The later Dragon kits have the most parts included to give the best range of fits for all three ships of the class, but some good reference material will help establish the details that were apparent on each individual ship at various points in time. Jacobin Plans sets are always a good reference point and are now available again from Quaycraft Model Boats. Modern Combat Ships Volume 2 Invincible Class Carriers by Paul Beaver is a good source of information.