

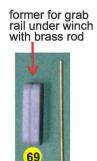
1/48 scale Decal placement Instructions RAF Sea King HAR.3, 22 & 202 Sqn. RAF

Set # WRA 48018

What you get

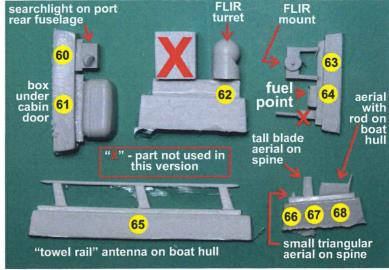
In addition to the Generic Conversion Set to turn a Hasegawa Sea King into a Westland built aircraft, additional resin parts are provided which are specific to the RAF Sea King HAR.3.

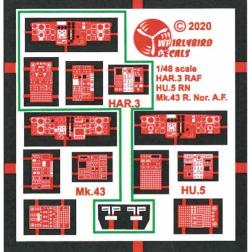
Additional resin parts for RAF HAR.3





small swept blade aerials under boat hull



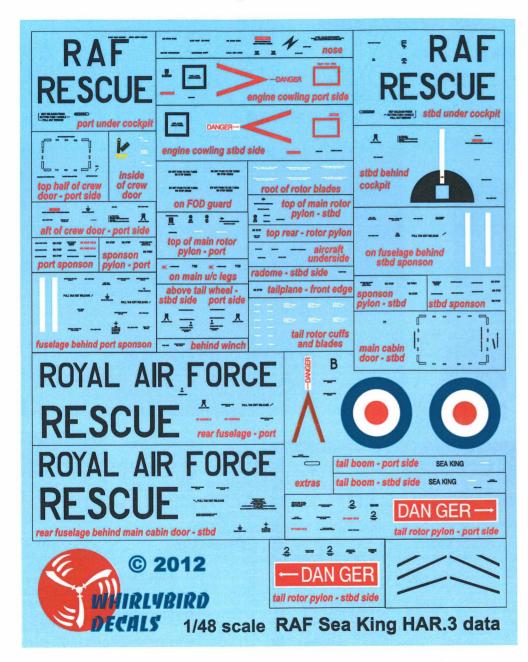


etched parts for HAR.3 cockpit and instruments inside green line to make grab rail under winch, bend the 30 thou brass wire supplied round the former - part 69





Decal sheet for stencils and generic markings

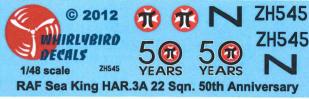


In addition, decals are provided for the slinging stripes on the main rotor blades

Decals are provided for 2 aircraft.

ZH545 of 22 Sqn.

Initially formed at Fort Grange, Gosport, on 1 September 1915, 22 Sqn. served in France during the First World War, only to be disbanded in 1919. It was



reformed in 1923, and saw service in WW2 both in the UK and the Far East in the antishipping role. Disbanded again in 1945, 22 Sqn. was reformed in 1955, this time as a search and rescue unit equipped with Whirlwinds. It is in this guise that No. 22 Squadron exists today, having flown Wessex helicopters for a number of years before receiving Sea Kings in the mid-1990s.

ZH545, the Sea King depicted in these decals, was given special markings in 2005 to mark 50 years of 22 Sqn. as a Search and Rescue unit.

XZ589 of 202 Sqn.

No. 202 Squadron was reformed on 1 September 1964 by the renumbering of No. 228 Squadron RAF at RAF Leconfield. The squadron began operating in its search and rescue role using the Westland Whirlwind HAR.10 helicopter with flights at RAF Acklington,



RAF Ouston, RAF Coltishall and RAF Leuchars. The squadron moved to RAF Finningley during September 1976 with flights at RAF Boulmer, RAF Leconfield, RAF Coltishall, RAF Lossiemouth and RAF Brawdy. The squadron re-equipped with Westland Sea King HAR.3s from July 1978 (operating the Westland Wessex HAR.2 as an intermediate type while its Sea Kings were sent to the Falklands War), moving its HQ to RAF Boulmer on the closure of Finningley in 1989, and then to RAF Valley during April 2008.

The RAF Search and Rescue Force was established in 1941 in light of the number of Allied aircrew lost in the English Channel during the Battle of Britain. An emergency meeting was convened by Air Marshal Sir Arthur "Bomber" Harris which subsequently created the Directorate of Air Sea Rescue on 6 February 1941. This later became the RAF Search and Rescue Force.

Its primary role is the recovery of downed military aviators, but in peacetime, its aircraft are available all year round for use in civilian distress incidents. Since 1973, over 95% of the rescues carried out by 202 Squadron have been civilian incidents. The rescues carried out over the years by 202 Squadron have included a wide variety of incidents involving rescuing casualties from aircraft, fishing trawlers, ferries, oil rigs, mountainous terrain, cliffs and the waters surrounding Scotland.

XZ589, the 202 Sqn. Sea King depicted in these decals, was given special markings in 2011 to mark 70 years of Life Saving by the RAF Search and Rescue Force.

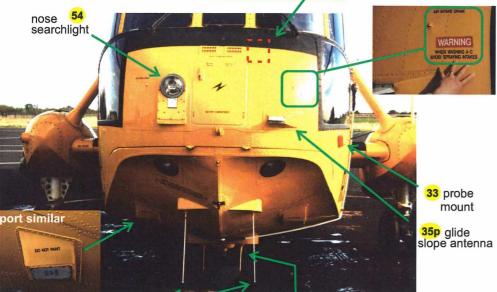
Use the photographs provided as a guide to decal placement, as well as construction notes.

Most of the photographs are of XZ593, photographed at RAF Leconfield on 17th October 2002 October when she was an aircraft of "E" Flight, 202 Sqn. However, as time went on, the equipment fit was upgraded, and where possible this in noted in the Instruction Sheet.





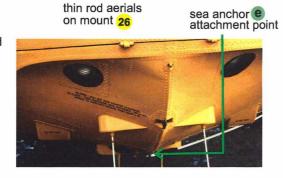
NOTE: active optical blade tracker box 30 fitted later - not on XZ593 in 2002



thin rod aerials on mounts 42 NB: mounts are handed



NOTE: different data on this aircraft







NOTE BLACK patches to prevent the sea anchor cable from damaging paintwork (sea anchor cable not always fitted - check references)

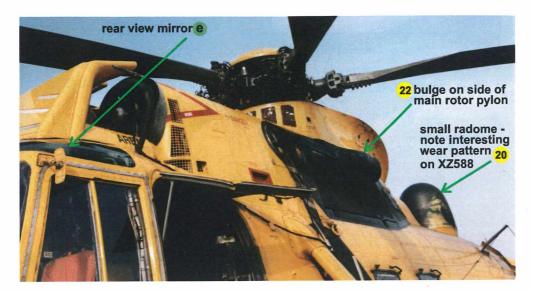




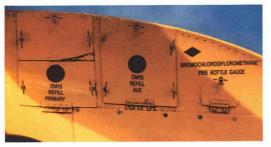


2 different aircraft are pictured here - note differences in maintenance markings, e.g. one has a BLACK surround to the fuel filler, the other does not.

Port side - upper fuselage









grab handles at top corners of windows @

Port side - middle fuselage

This aircraft has the PULL TAB EXIT RELEASE markings in YELLOW on a BLACK panel. Also a BLACK panel surrounding the refuelling point.

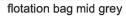


The image to the left shows a Sea King before a FLIR turret was fitted. NOTE the release cable for the cargo hook below the forward window (on a BLACK area to protect the yellow paintwork) and the position of the cable mounts for the underslung load

The images to the right show an aircraft equipped with a FLIR turret. See later for full installation instructions











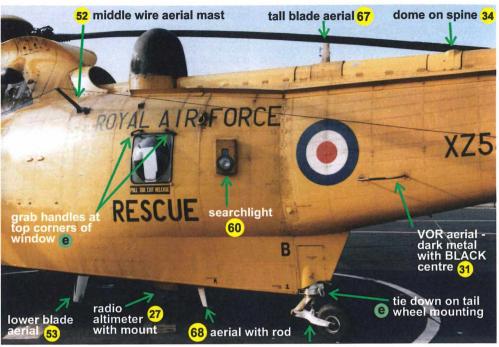
cal tie down on main u/c leg e

Colour of main undercarriage leg -NOTE combination of WHITE and LIGHT AIRCRAFT GREY



wheel hub LIGHT AIRCRAFT GREY

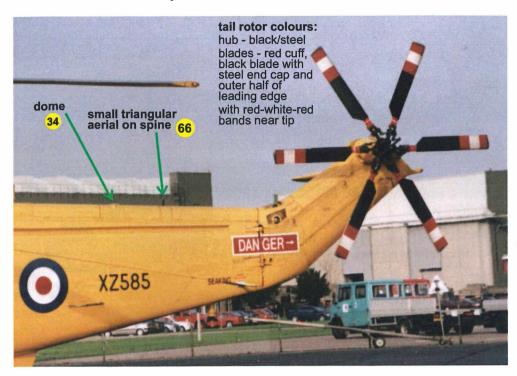
Port side - middle fuselage continued

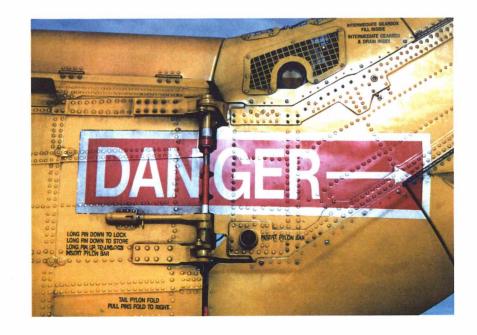


tail wheel leg and hub - light grey

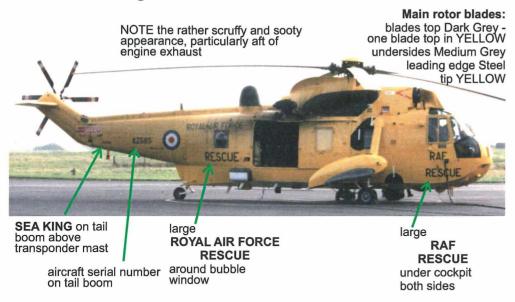


Tail rotor and mast - port side





Starboard side - general views





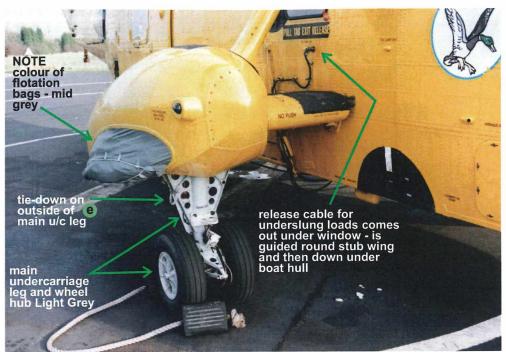
XZ585 getting ready for take-off







Starboard side - middle fuselage











Starboard side - middle fuselage continued





very worn "chop here" markings round cabin door window

searchlight on 38 winch framework

spotlight aft of winch 39

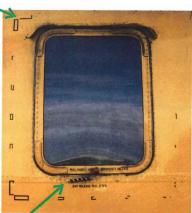


aircraft serial above refuelling point

relocate main refuelling point to behind cabin door 64

box behind 61 cabin door

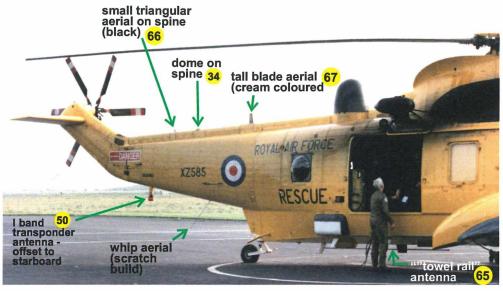
NB: aircraft with a late equipment fir do not have the box behind the cabin door 61 or the towel rail antenna 65

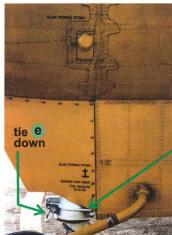


handle under cabin door window



Starboard side - tail boom and tail rotor pylon







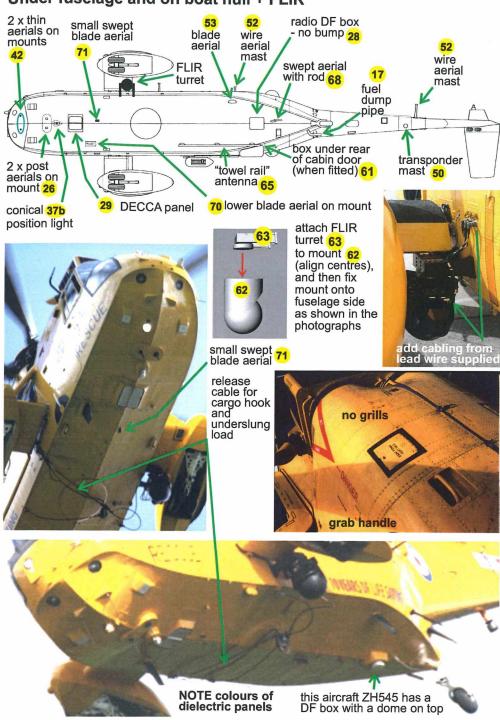
NOTE mixture of colours on tail wheel unit - white and light grey





NOTE how dirty the rear fuselageand tail rotor pylon are

Under fuselage and on boat hull + FLIR



Miscellaneous views and cargo hook







NOTE stencilling on main and tail rotor blades - see decal sheet

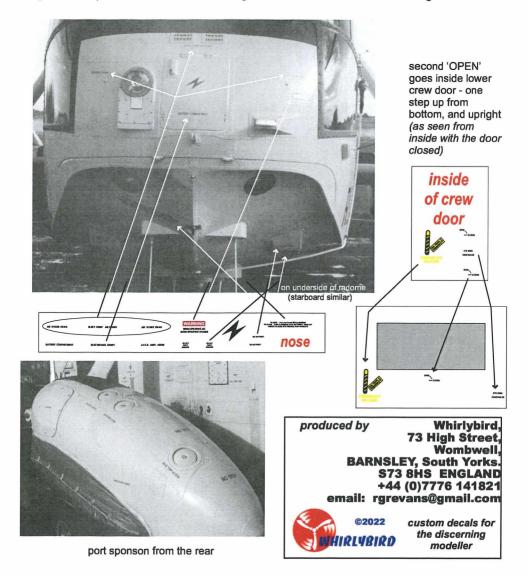


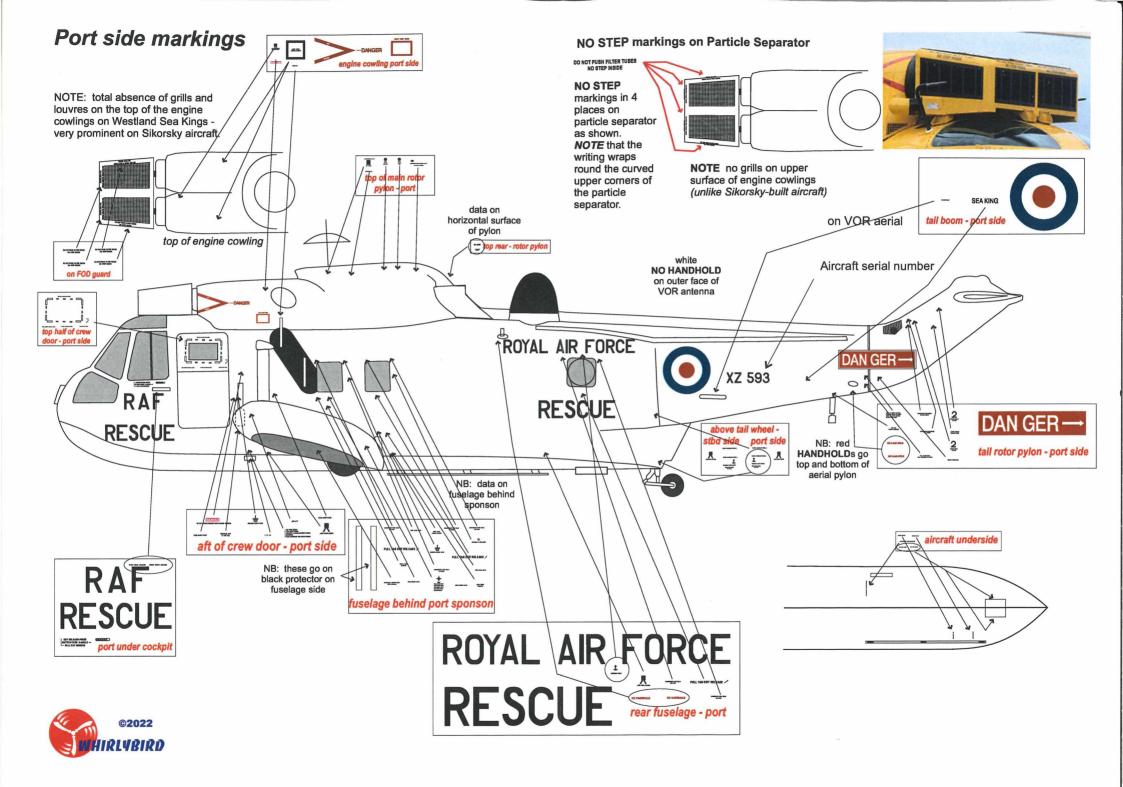


1/48 scale Decal placement Instructions RAF Sea King HAR.3, 22 & 202 Sqn. RAF Set # WRA 48018

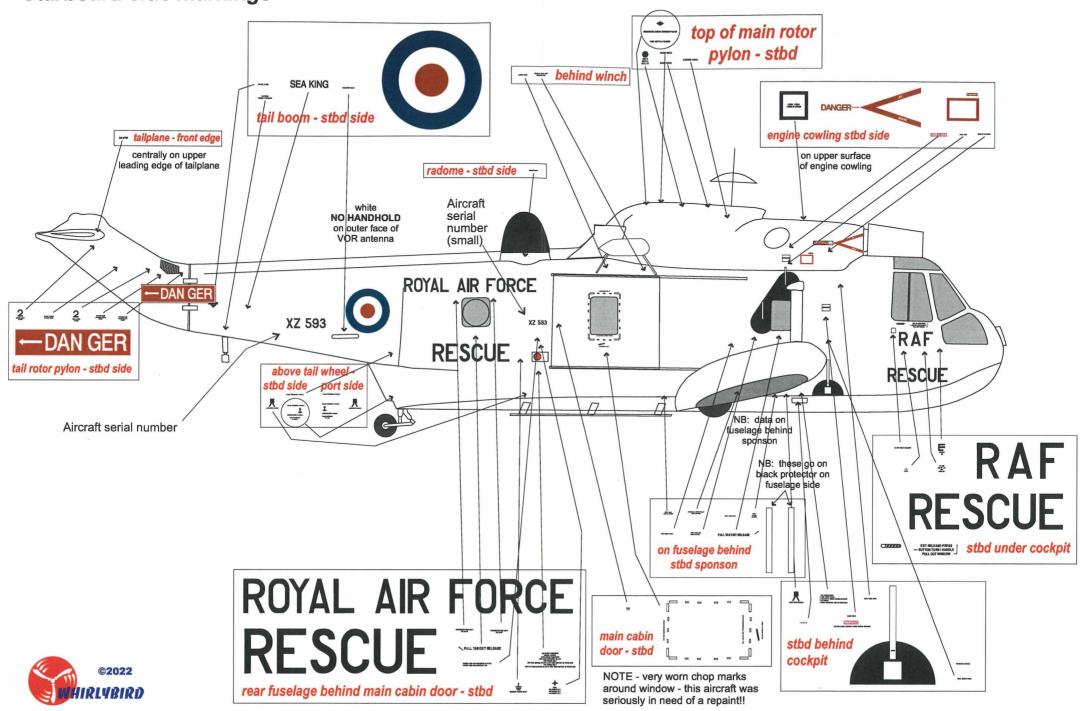
This Decal Placement Instruction sheet complements the main Westland Sea King Generic Instruction Sheet and the version specific Instruction Sheet for the RAF Sea King HAR.3, and it should be used in conjunction with them.

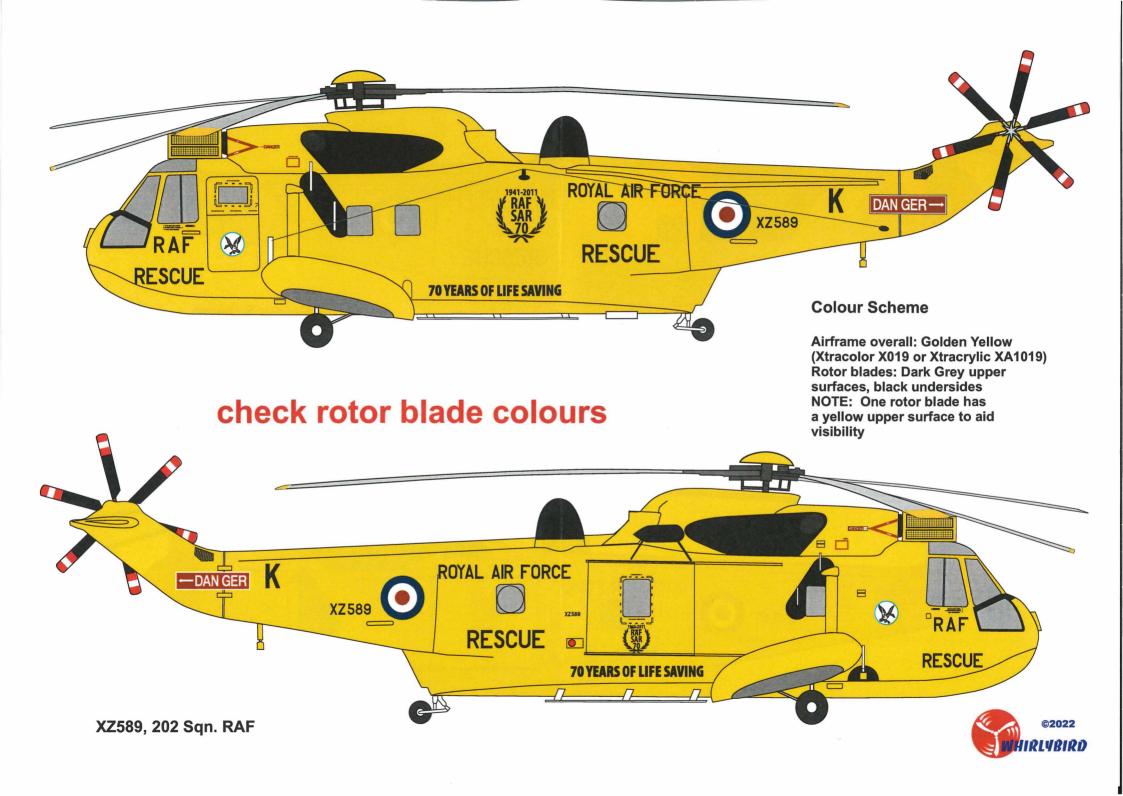
It details the maintenance and data stencils found on the airframe of Sea King HAR.3 XZ593 as photographed at RAF Leconfield on 17th October 2002 where it was part of "E" Flight, 202 Sqn. Most of the data markings are common to all RAF Sea Kings.

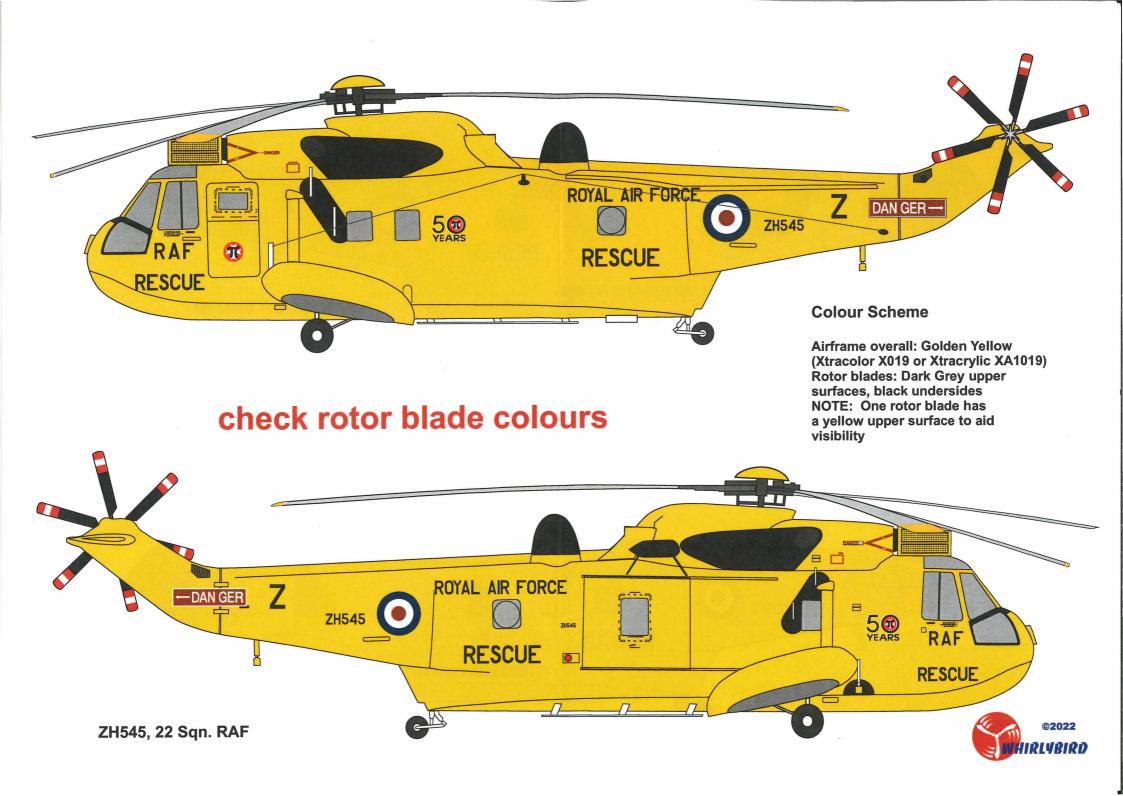




Starboard side markings







on fuselage behind

stbd sponson

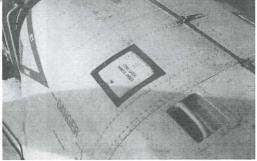
NOTE: the white stripes are applied over the vertical black 'walkway' on the fuselage side above the sponsons as foot guides when climbing up to the service platform around the engines.

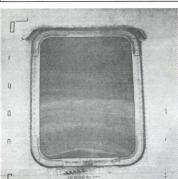




NOTE: total absence of grills and louvres on the top of the engine cowlings on Westland Sea Kings - very prominent on Sikorsky aircraft.

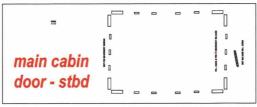






NOTE - very worn chop marks around window - this aircraft was seriously in need of a repaint!!

engine cowling port side



-- behind winch















XZ596 is illustrated here simply to show the positioning of the large RAF & RESCUE titles, plus the roundel and serial on the tail boom. XZ593 was

ROYAL AIR FORCE RESCUE

rear fuselage behind main cabin door - stbd

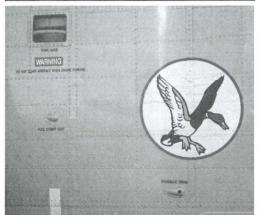






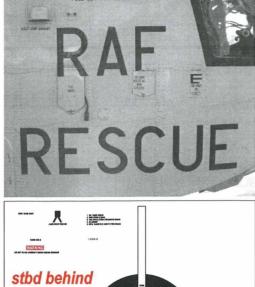
RAF **RESCUE**

- BUTTOLTURE (MADDRE) stbd under cockpit









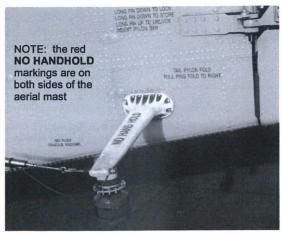




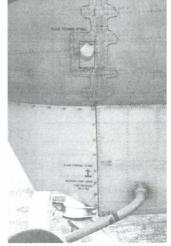
top rear - rotor pylon



NOTE: safety poster inside cabin on port side above window behind radar cabin also note coiled cables for intercom system.







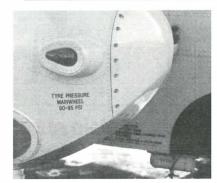
NOTE: heavy staining on rear fuselage and around fuel dump pipe also note 2 dark metallic bands around fuel dump

above tail wheel -

port side

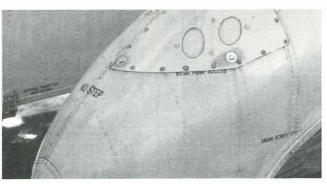
stbd side

pipe, tie-down on tail wheel leg and strengthening plates where tail boom meets rear fuselage.





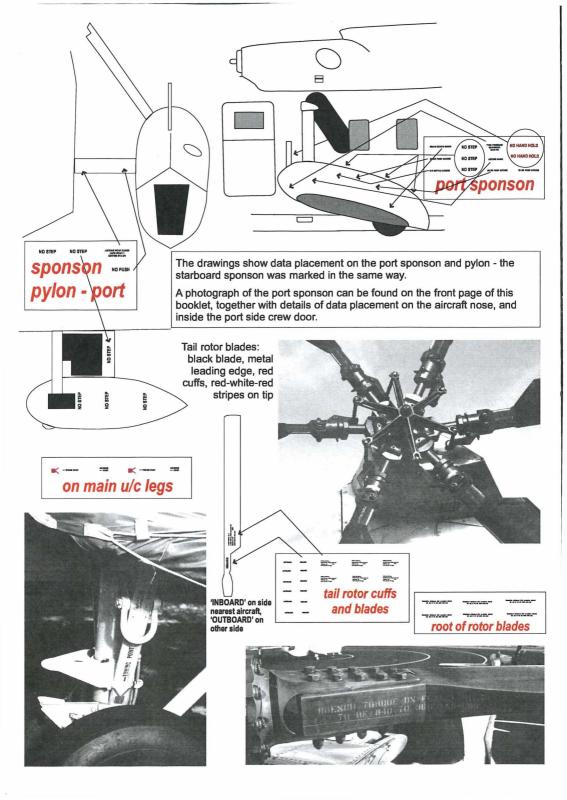
cockpit

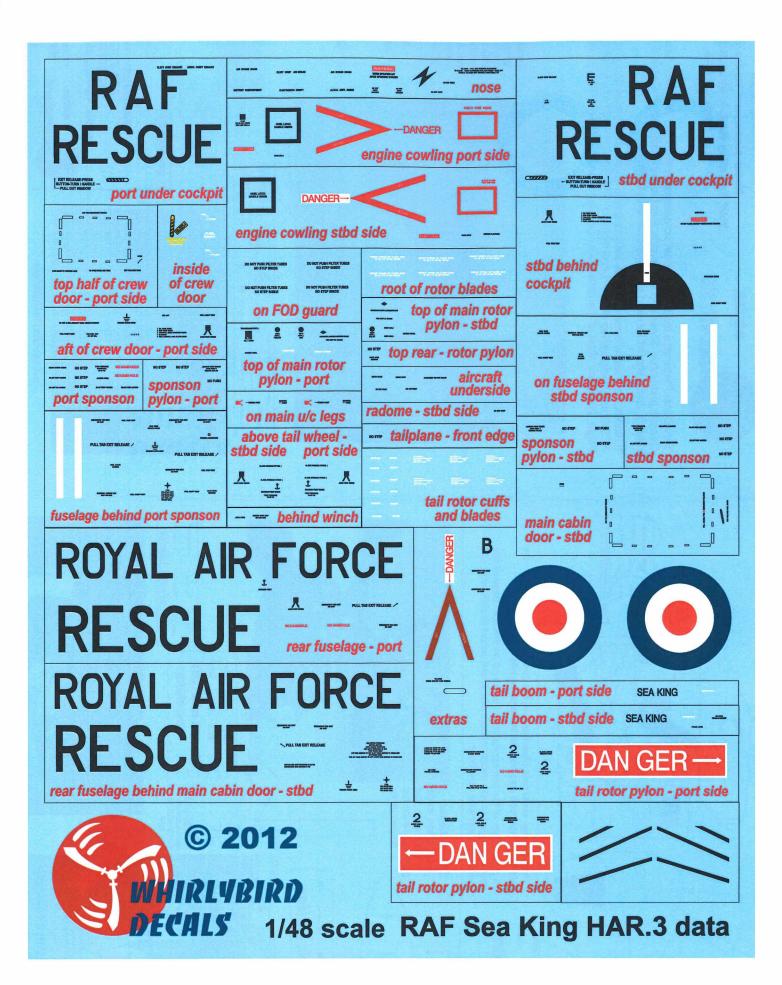


Many, if not all, of the RAF's Sea King HAR.3s are now fitted with a searchlight on the port rear fuselage just aft of the port rear bubble window. The precise location can be worked out using the ROYAL AIR FORCE lettering as reference. This light can swivel, and is controlled using a joystick beside the observer's seat.

The mount is golden yellow (the overall airframe colour), and the searchlight itself is medium grey.







1/48 scale



Westland Sea King Conversion Set including Resin, vac-formed plastic and Etched Brass Generic Instruction Sheet

(for use with the Hasegawa and Revell 1/48 Sea King kits)

General Introduction

Westland Helicopters, which had a long-standing licence agreement with Sikorsky Aircraft to allow it to build Sikorsky's helicopters, extended the agreement to cover the Sikorsky SH-3 Sea King soon after the Sea King's first flight in 1959. Westland proceeded to develop the Sea King independently, integrating a significant proportion of components from British suppliers.

Key changes include the use of a pair of Rolls-Royce Gnome turboshaft engines to replace the original General Electric T58s, and the implementation of an automatic flight control system. As a result, despite appearances, Westland's Sea King is a very different aircraft, with a different crew arrangement, and operations being controlled by an observer rather than the pilot, as well as fitting a search radar.

Royal Navy anti-submarine variants include the HAS2, HAS5 and HAS6. Westlands also developed an airborne early warning version of the Sea King, with the addition of the Thorn-EMI ARI 5980/3 Searchwater radar attached to the fuselage on a swivel arm and protected by an inflatable dome. This allowed the radar to be lowered below the fuselage during flight and for it to be raised for landing. They entered operational service in 1985, being deployed by 849 Naval Air Squadron as Sea King AEW.2s. Three Sea King HAS5/6s were later converted as part of the ASaC Mk7 programme, bringing the Mk7 fleet to 13.

A dedicated search and rescue (SAR) version, the HAR.3, was developed for the RAF Search and Rescue Force, entering service in 1978 to replace the Westland Whirlwind HAR.10. On SAR variants, the cabin was enlarged by moving the rear cabin bulkhead further aft. Other upgrades and changes made to SAR Sea Kings include the addition of radar warning receivers, a cargo hook for the underslung carriage of goods, and the redesigning of the cockpit for compatibility with night vision goggles.

Another Westland variant was the Westland Commando, operated by the Royal Navy as the HC4. The Commando had capacity for up to 28 fully equipped troops, and was fitted with folding blades common to the ASW variants. The HC4 'Commando' became an important asset for amphibious warfare and troop transport duties.

Westland produced a total of 330 Sea Kings; export customers include the armed forces of India, Germany, Belgium, Australia, Norway, Egypt, Qatar and Pakistan.

This set is designed to work with all versions of the Hasegawa 1/48 Sea King kit (also those issued by Revell ©).

It will enable the modeller to convert the Hasegawa kit into a Westland example, and provides most of the airframe and avionics differences required. Not all parts provided here are used for every version, and any additional details required will be provided in the version-specific conversion sets (of which this set will be a part).

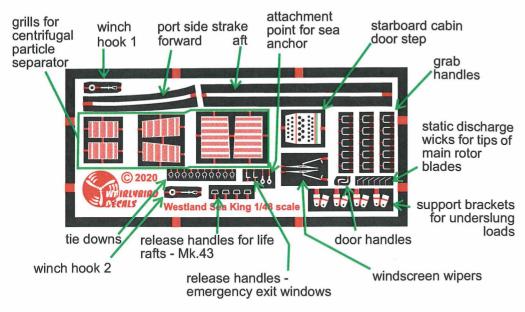
produced by Whirlybird,
73 High Street,
Wombwell,
BARNSLEY, South Yorks.
\$73 8HS ENGLAND
+44 (0)7776 141821
sales@whirlybirdmodels.com
Website:
www.whirlybirdmodels.com

the discerning

modeler

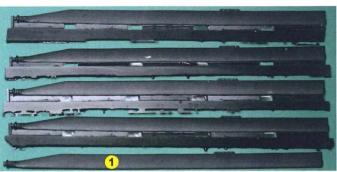
What is provided: the etched brass frets

NOTE: etched brass drawings are reduced in scale to 66.667% of original size to fit page



In addition, there is an additional etched brass fret which provides instrument console detail for 3 versions - select the appropriate instrument panels etc. for the version you are making.

What is provided: the resin parts



main rotor blades





6 bladed rotor 10

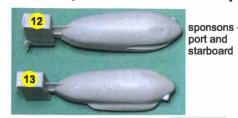
tail rotor jigs

tail rotor blades

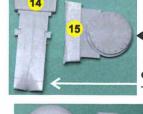
5 bladed

rotor

What is provided: the resin parts (continued)







sonar well cover engine cowling



port engine cowling front



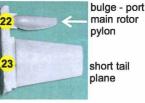
refuelling [point

20

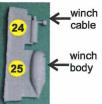
radomes large and small

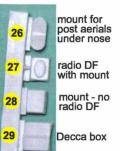


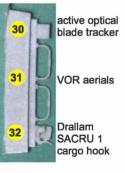
centrifugal particle separator

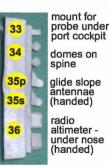


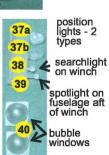
short tail



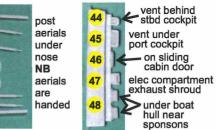














aerial mast on port sponson I band transponder antenna upper VHF/UHF antenna

aerial masts on port fuselage side

lower VHF/UHF antennae

nose searchlight



console and shroud

56 forward winch mount



mount for cargo hook



lower blade aerial on mount

NOTE: in the Instruction Sheets for our 1/48 Sea King Sets, resin parts are labelled by the part number in BLACK on a YELLOW background. x

Etched brass parts are denoted by the letter "e" on a GREEN background

NB: Read the Hasegawa and Whirlybird Instruction Sheets before commencing assembly. This will hopefully avoid errors or misunderstandings.

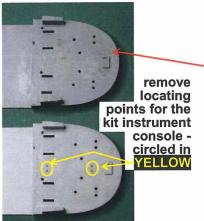
This Instruction Sheet aims to point out the difference in construction between the Hasegawa kit and what is necessary to produce a model of a Westland built Sea King - resin part numbers in YELLOW circle, etched brass parts by "e" on GREEN

A. Modify kit parts

The Hasegawa kit provides parts for a Sikorsky-built Sea King. The fuselage halves in particular require modification to depict a Westland-built aircraft. To see which areas of the fuselage need to be modified, consult the separate sheet Fuselage Modification - Westland Sea King (Generic aircraft) in conjunction with the Instruction Sheet for the particular variant you wish to model.

B. Cockpit area

NB: resin console 55 replaces kit items Q1, B31 and E1



See Version Instructions for Cockpit instruments

Add etched brass (e) instruments to resin console - replaces kit item Q3 after painting as desired

Then add the completed instrument console to the painted cockpit area locate front end HERE

Add etched brass instruments to overhead console B3 (e)

If desired, replace kit items B4, B5, B21, B22 (yaw pedals) with etched brass items provided.

Build rest of cockpit area as per Instruction sheet. (Cockpit Assembly section numbers depend on which version of the Hasegawa Sea King kit you use as donor kit)

Use kit decal for part B34

C. Fuselage build

Finish fuselage interior as described in the Hasegawa kit instruction sheet, except as detailed overleaf, adding cockpit bulkhead (part B52 and rear cabin bulkhead (part B58).

Add detail and paint as desired (the normal Sea King interior colours are those listed in the Hasegawa Instruction Sheets, but replacing FS36231 with Medium Sea Grey)

Add steps to inside of port side crew access door part B30

Engine exhausts parts B56, B57

Bush for main rotor shaft parts B19, B20

C. Fuselage build continued

Assemble fuselage as shown in the Hasegawa Instruction Sheet except:

- Replace part B45 with the port side front engine cowling supplied 16
- Omit parts MA1 on the aircraft nose plate



Use resin part supplied 14 instead of kit part B50 (ensure all grills in part B50 or replacement are filled in - they were not present on the Westland built aircraft)

Photograph above is of an RAF HAR.3 note no grills



Add the bulge 22 to the port side of the main rotor pylon (on all Westland-built aircraft) in the position shown on the Fuselage Modification - Westland Sea King (Generic aircraft) sheet

Photograph above is of a RN HAS.6 note how the bulge is faired in

Boat hull

Consult the separate sheet Boat Hull Modification - Westland Sea King (Generic aircraft) in conjunction with the Instruction Sheet for the particular variant you wish to model to see what areas need to be modified.

Sponsons

With the exception of some Royal Navy HAS.6 aircraft and some Indian Navy Sea Kings, most Westland built Sea Kings have standard length sponsons. 12 port. 13 starboard

Use the replacement resin sponsons supplied. Kit part C25 has already been included in the replacement sponsons - but add parts C5 and R1 near the rear of the wheel wells (use kit parts B46, B47, B48, B49, R10 and R11 for the stub wings, and parts B23, B24, B28 & B29 for the support struts). Add main undercarriage members and wheels as shown in the Hasegawa Instruction Sheet.

starboard sponson fill hole

kit part one of the clear parts on kit sprue R. and glue it on top of where the hole was

goes on outboard

side of sponson)

remove a clear plastic "overflow" cylinder from



"overflow"

cylinder to form a light. kit part R1 (always

cockpit window from kit sprue R

C. Fuselage build continued

FOD Guard

Two different FOD guards can be seen on Westland Sea Kings - the older "plank" type, and the newer Centrifugal Particle Separator type. Check which is applicable to the aircraft you intend to model.

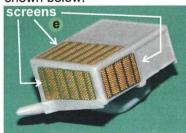
The older "plank" FOD guard is supplied in the Hasegawa kit - parts B43, B44. Follow Hasegawa Instructions for assembly and installation.





Centrifugal Particle Separator (CPS)

Add the etched brass screens to the resin CPS unit 21 as shown below:



etched brass screens - paint CPS unit and screens separately before installation (screens usually very dark grey - see references). Repeat on port side.

Tailplane

Westland built Sea Kings used the original, shorter version of the tailplane - therefore omit parts L1, L2 and L12, and use the resin tailplane supplied 23 (it does not use a support strut)



C. Fuselage build continued - fuselage common features

Westland Sea Kings have different avionics and equipment fits depending on the needs and requirements of the individual users.

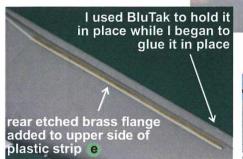
However, some features are common to all versions, and are covered in this section - for the individual users, see the appropriate Instruction Sheet.

Port tail boom and rear fuselage

strake on port tail boom and rear fuselage - this is supplied as 2 pieces of etched

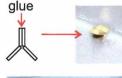
brass and a thin plastic strip.

then add the etched brass parts of the flange

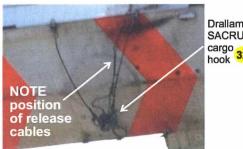


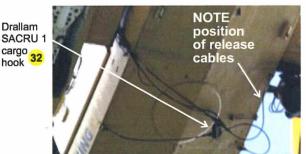
underslung load mounts (etched brass) e

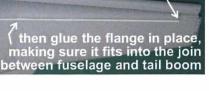




Glue the attachment points to the bottom corner of the fuselage, spacing them either side of the sonar well cover, and ensuring that the weight of the suspended load hangs vertically under the rotor head.







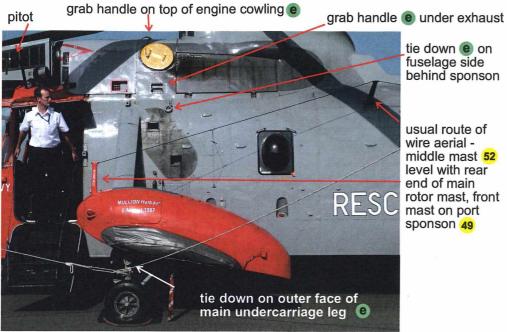
details on port tail boom



use the etched brass pieces to mark out where

to add the plastic strip to form the flange

C. Fuselage build continued - fuselage common features middle port fuselage



usual route of wire aerial -

middle mast 52 level with rear end of main rotor mast, front mast on port sponson 49

front port fuselage



fold through 90° along etched line

probe under port cockpit 33 knee window



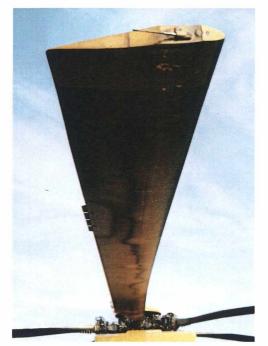
C. Fuselage build continued - fuselage common features starboard front fuselage





D. Main rotors

Since the early 1980s, Westland Sea Kings have usually been equipped with composite main rotor blades, to replace the original Sikorsky metal ones. As a result, the main rotor blades on Westland-built aircraft look quite different from those supplied in the kit.

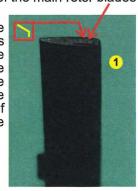






drill hole in raised area on the end face of the main rotor blades

e then glue the etched brass static discharge wick into the hole you have just made in the end face of each rotor blade



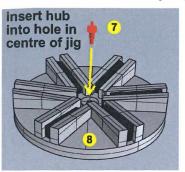
The Hasegawa Instruction Sheet gives quite clear instructions for the assembly of the main rotor (the section number will depend on which version of the Hasegawa kit you use).

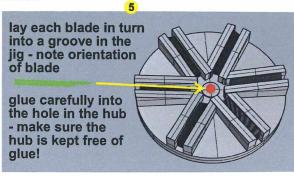
Follow these instructions, but substitute the Whirlybird main rotor blades 1 for kit parts C14, and Whirlybird parts 2 for kit parts B8, B14, B15, C18. C19, C20 to make a spread main rotor. For as folded main rotor, substitute Whirlybird parts 3 and 4 for kit parts B9, B10, B11, B12, B15, B16, B17, B18.

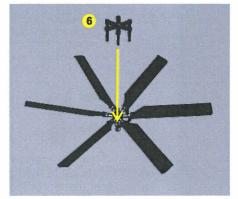
E. Tail rotors

Assembly jigs are provided for both 5- and 6-bladed tail rotors, together with tail rotor blades, 5- and 6-bladed tail rotor hubs and actuating "spiders".

Use the appropriate tail rotor parts for the aircraft you are modelling - check with the Instruction Sheet in the kit you purchased.

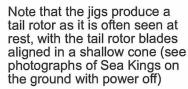






fit the "spider" tail rotor pitch actuating mechanism to the completed tail rotor

Ensure that the vertical rods of the "spider" are attached to the actuating levers at the root of each tail rotor blade

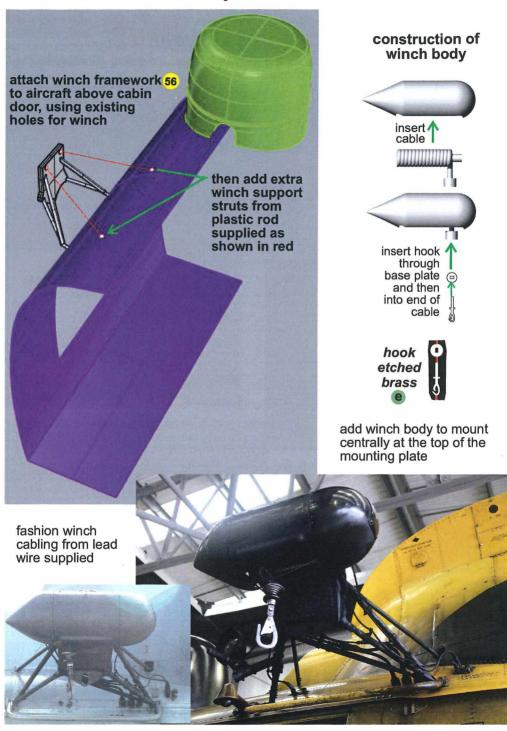




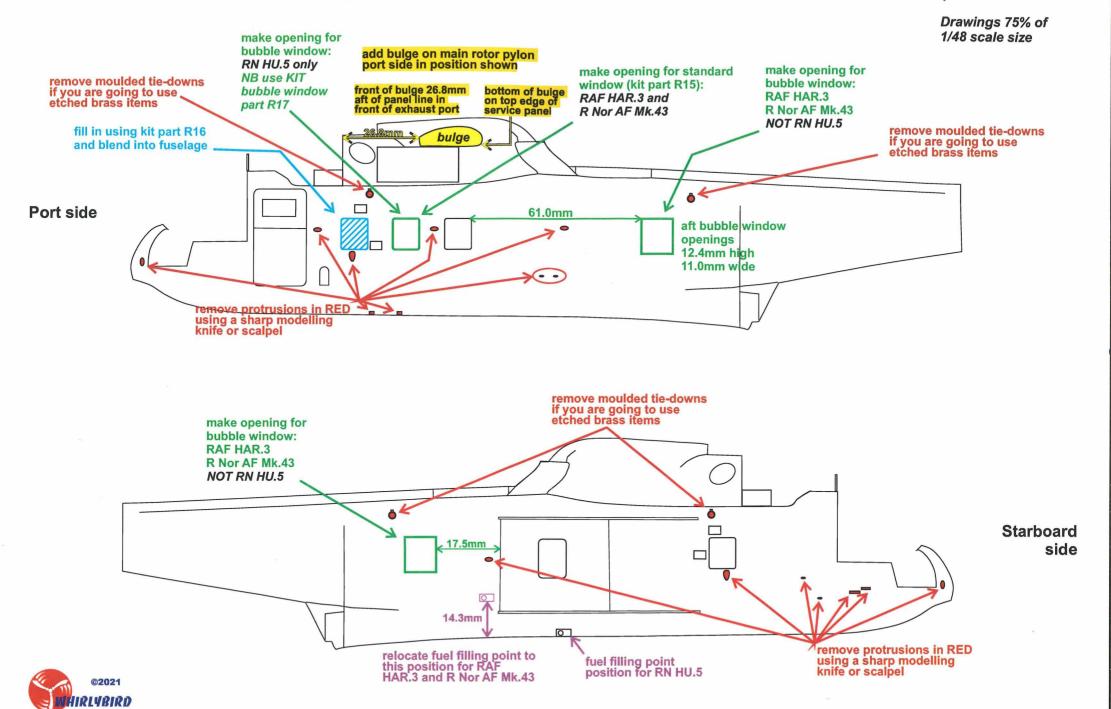




F. Forward Winch - carried by most aircraft



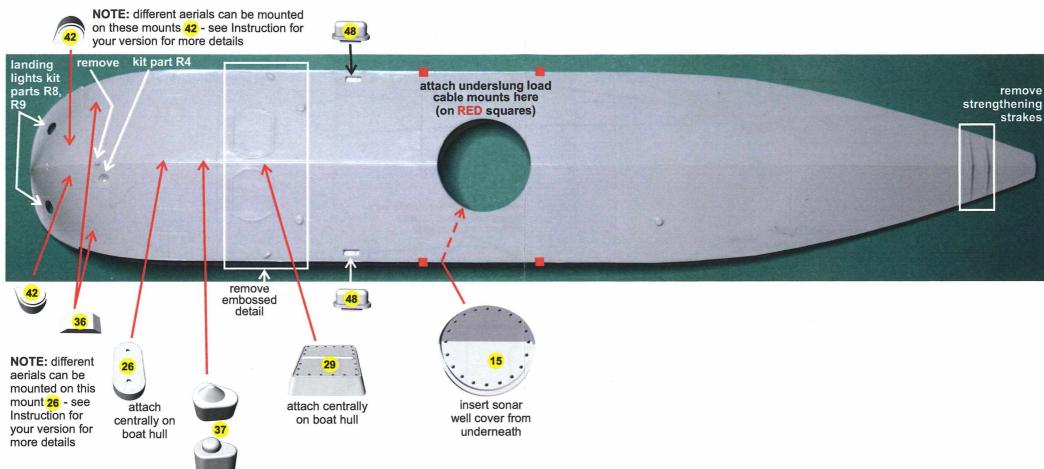
Fuselage Modification - Westland Sea King (Generic aircraft - see individual version Instruction Sheets for further details)





Boat Hull Modification - Westland Sea King (Generic aircraft - see individual version Instruction Sheets for further details)

Photograph of boat hull is 170% of 1/48 scale size



2 types of position light are provided choose the one carried by your version and attach centrally on boat hull

