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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).

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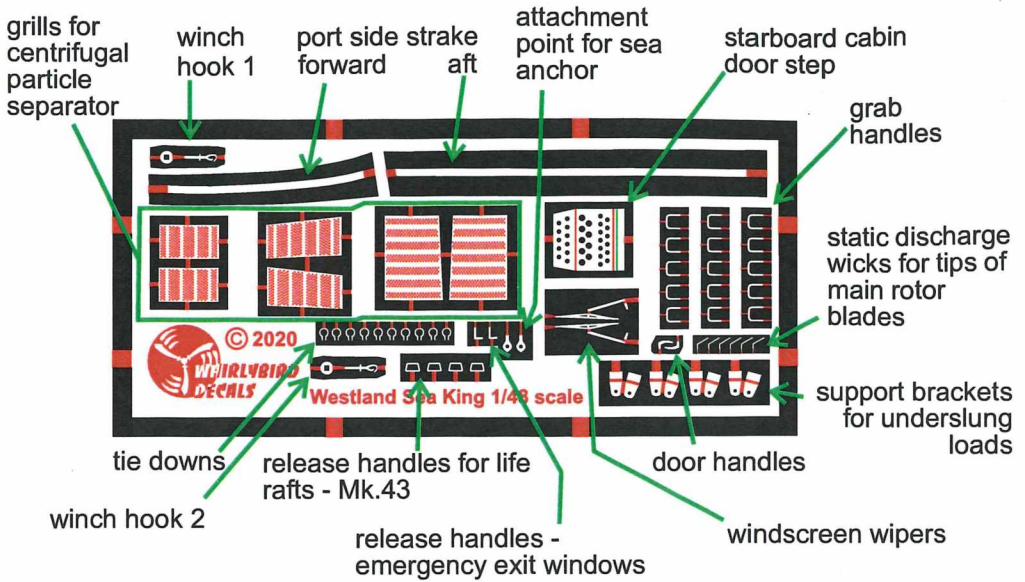
WHIRLYBIRD

*custom decals for
the discerning
modeller*

WGP48001

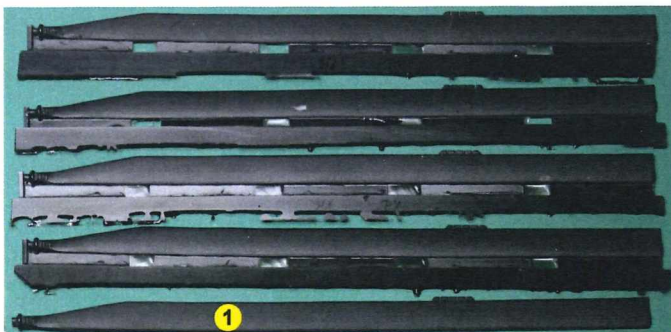
What is provided: the etched brass frets

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

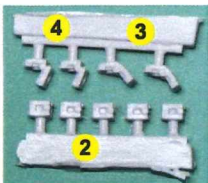


In addition, there is an additional etched brass fret which provides instrument console detail for 3 versions - select the appropriate instrument panels etc. for the version you are making.

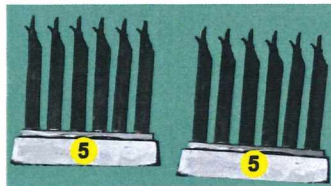
What is provided: the resin parts



main rotor blades

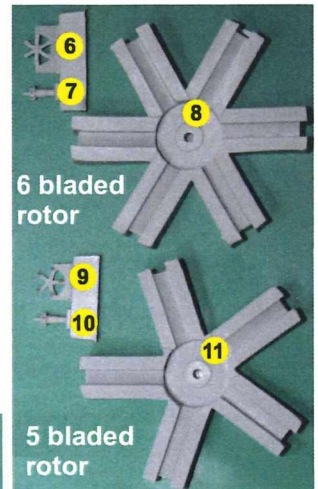


main rotor mounts - folded and spread

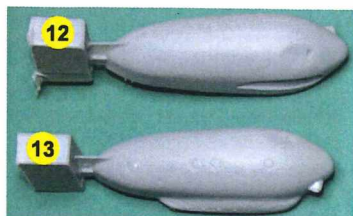


tail rotor blades

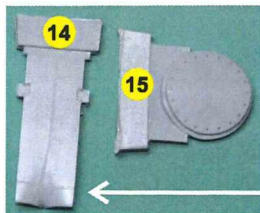
tail rotor jigs



What is provided: the resin parts (continued)



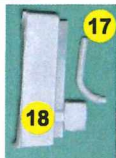
12 sponsons - port and starboard



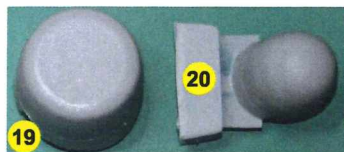
14 sonar well cover
15 engine cowling - top



16 port engine cowling - front



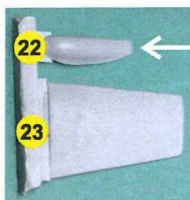
17 fuel dump pipe
18 refuelling point



19 radomes - large and small



21 centrifugal particle separator



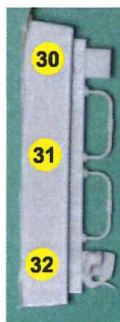
22 bulge - port main rotor pylon
23 short tail plane



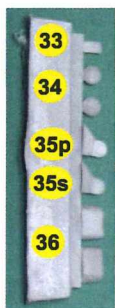
24 winch cable
25 winch body



26 mount for post aerials under nose
27 radio DF with mount
28 mount - no radio DF
29 Decca box



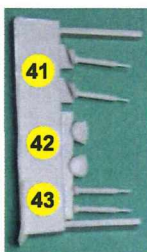
30 active optical blade tracker
31 VOR aeriels
32 Drallam SACRU 1 cargo hook



33 mount for probe under port cockpit
34 domes on spine
35p glide slope antennae (handed)
35s radio altimeter - under nose (handed)
36



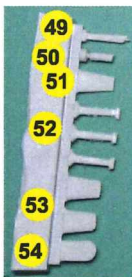
37a position lights - 2 types
37b
38 searchlight on winch
39 spotlight on fuselage aft of winch
40 bubble windows



41 post aeriels under nose
42 NB aeriels are handed
43



44 vent behind stbd cockpit
45 vent under port cockpit
46 on sliding cabin door
47 elec compartment exhaust shroud
48 under boat hull near sponsons



49 aerial mast on port sponson
50 I band transponder antenna
51 upper VHF/UHF antenna
52 aerial masts on port fuselage side
53 lower VHF/UHF antennae
54 nose searchlight



55 cockpit instrument console and shroud



56 forward winch mount



57 mount for cargo hook
70 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 **e**

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**.**

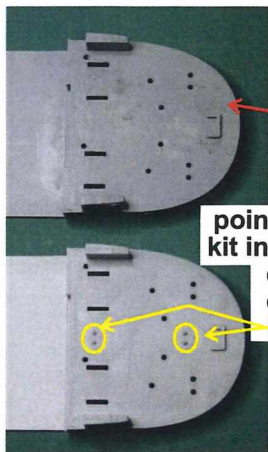
A. Modify kit parts

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.

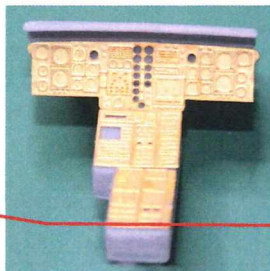
B. Cockpit area

See Version Instructions for Cockpit instruments

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



remove locating points for the kit instrument console - circled in **YELLOW**



Add etched brass 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 - fuselage common features

starboard front fuselage

e grab handle under exhaust

grab handle

e on top of engine cowling

pitot

tie down **e** aft of sponson strut

cover over outlet **44**

e grab handle

cover over outlet **47**



tie down on outer face of main undercarriage leg

lower blade aerial on mount **70**

starboard middle fuselage

tie down **e**

to make cargo hook

57

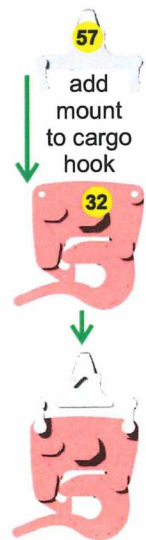
add mount to cargo hook

32



fuel dump pipe **17**

handle under window **e**



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

kit part C5

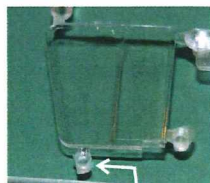
13

fill hole

remove a clear plastic "overflow" cylinder from one of the clear parts on kit sprue R, and glue it on top of where the hole was to form a light.

kit part R1 (always goes on outboard side of sponson)

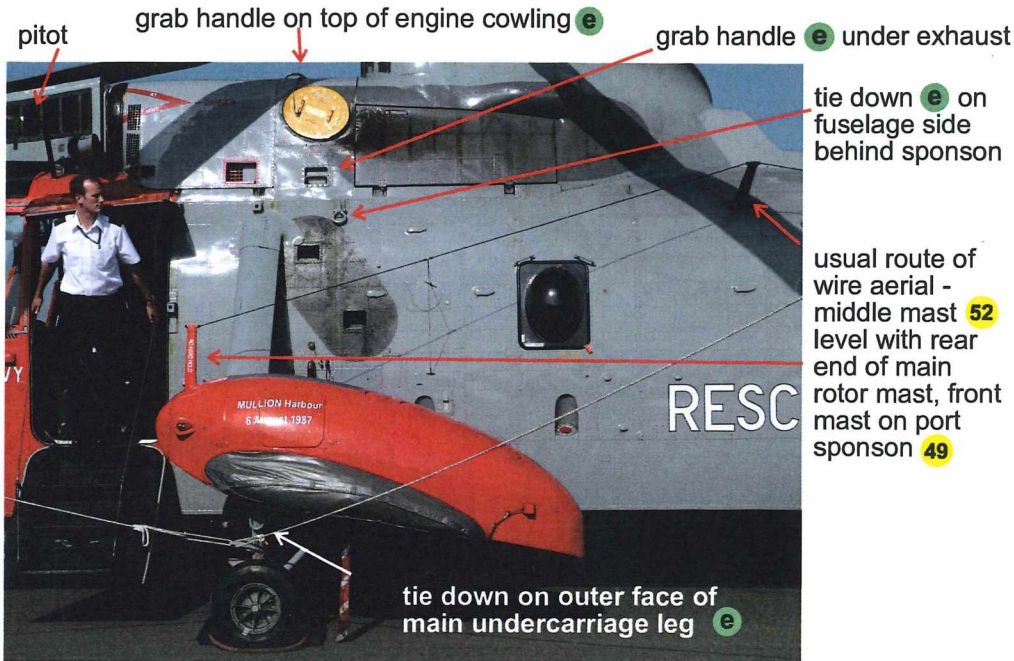
cockpit window from kit sprue R



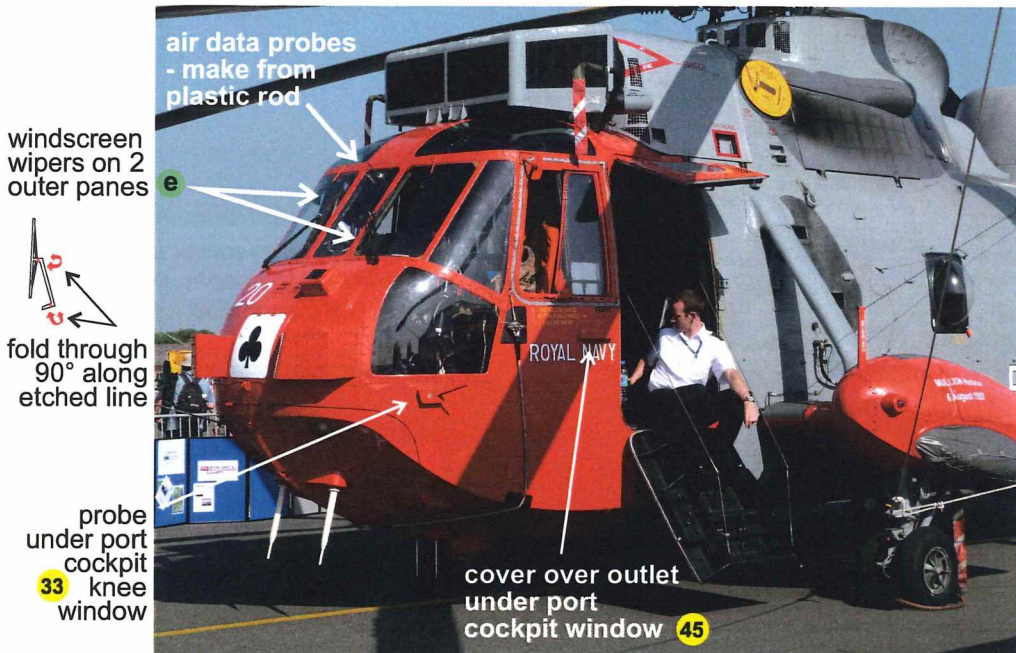
clear plastic "overflow" cylinder

C. Fuselage build continued - fuselage common features

middle port fuselage



front port fuselage



C. Fuselage build continued - fuselage common features

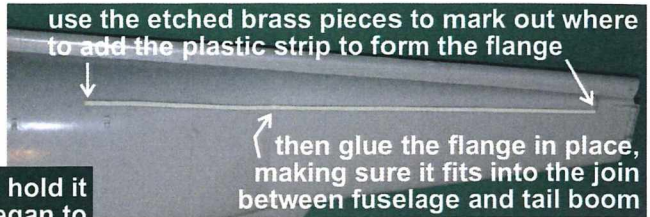
Westland Sea Kings have different avionics and equipment fits depending on the needs and requirements of the individual users.

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.

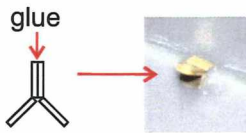
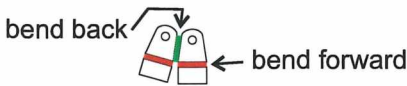
then add the etched brass parts of the flange



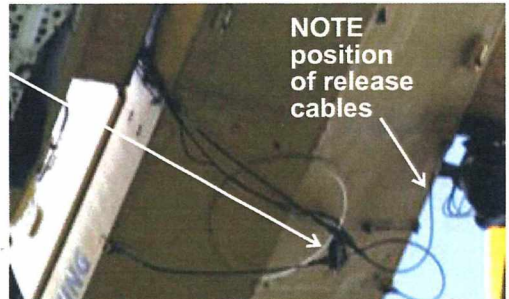
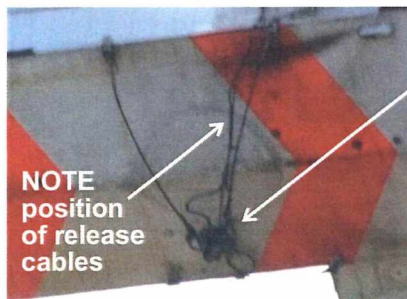
details on port tail boom



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.



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.



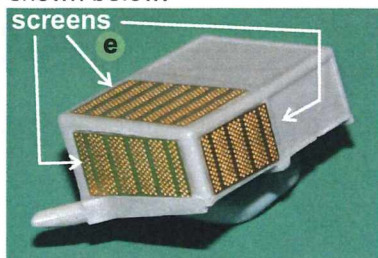
Norwegian Mk.43 - "plank" FOD guard



Royal Navy HU.5 - CPS unit. Note colour of screens on CPS.

Centrifugal Particle Separator (CPS)

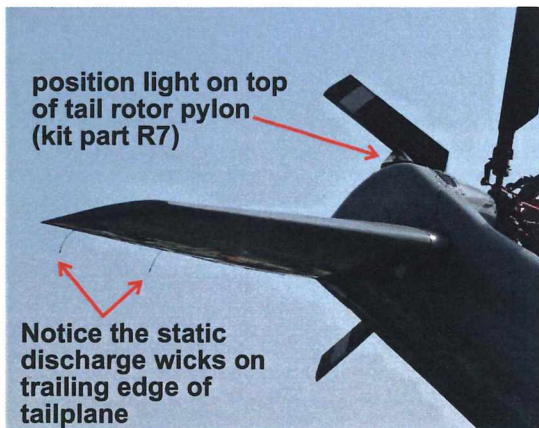
Add the etched brass screens to the resin CPS unit **21** as shown below:



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)

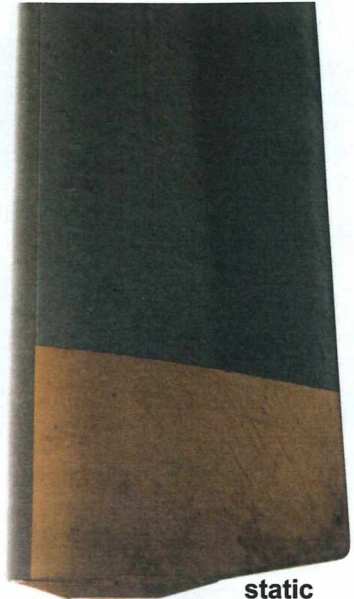


position light on top of tail rotor pylon (kit part R7)

Notice the static discharge wicks on trailing edge of tailplane

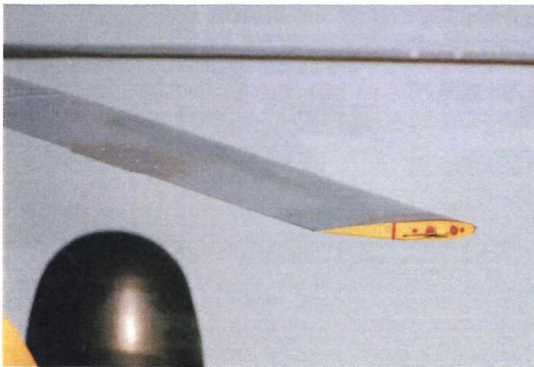
D. Main rotors

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.

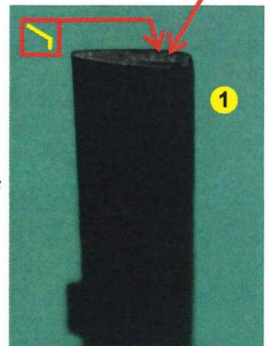


static discharge wick

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



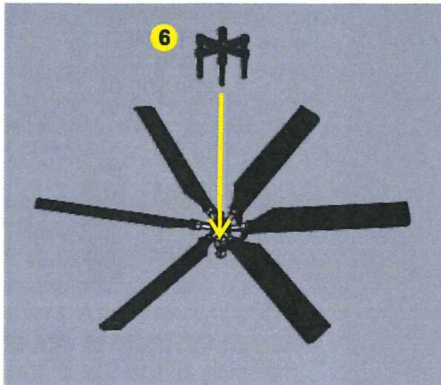
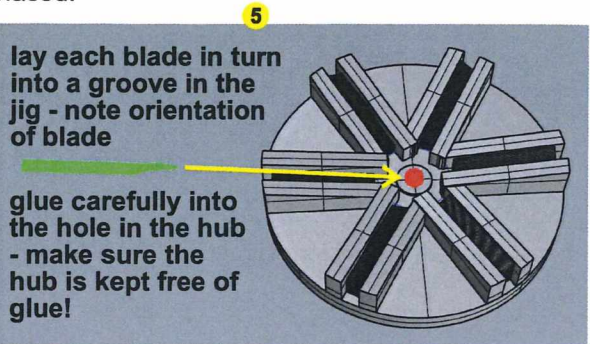
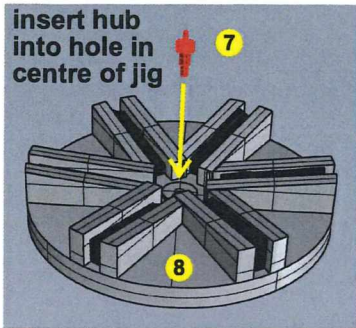
The Hasegawa Instruction Sheet gives quite clear instructions for the assembly of the main rotor (the section number will depend on which version of the Hasegawa kit you use).

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 an 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.



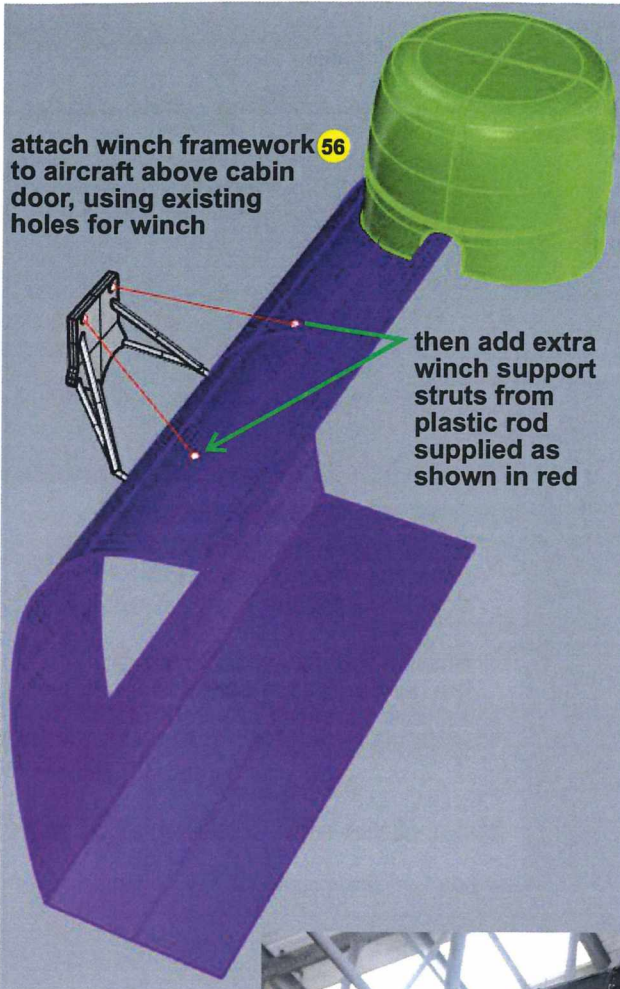
fit the "spider" tail rotor pitch actuating mechanism to the completed tail rotor

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

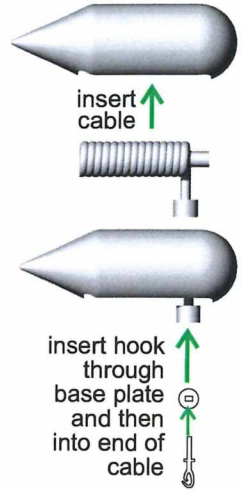
Note that the jigs produce a tail rotor as it is often seen at rest, with the tail rotor blades aligned in a shallow cone (see photographs of Sea Kings on the ground with power off)



F. Forward Winch - carried by most aircraft



construction of winch body



hook etched brass

e



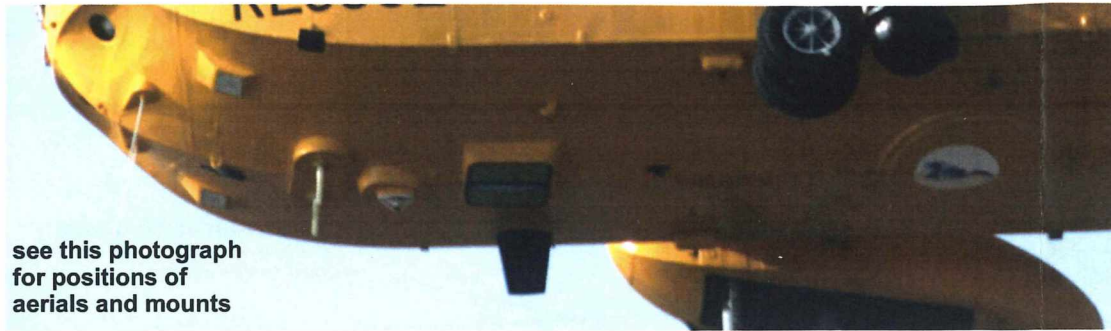
add winch body to mount centrally at the top of the mounting plate

fashion winch cabling from lead wire supplied

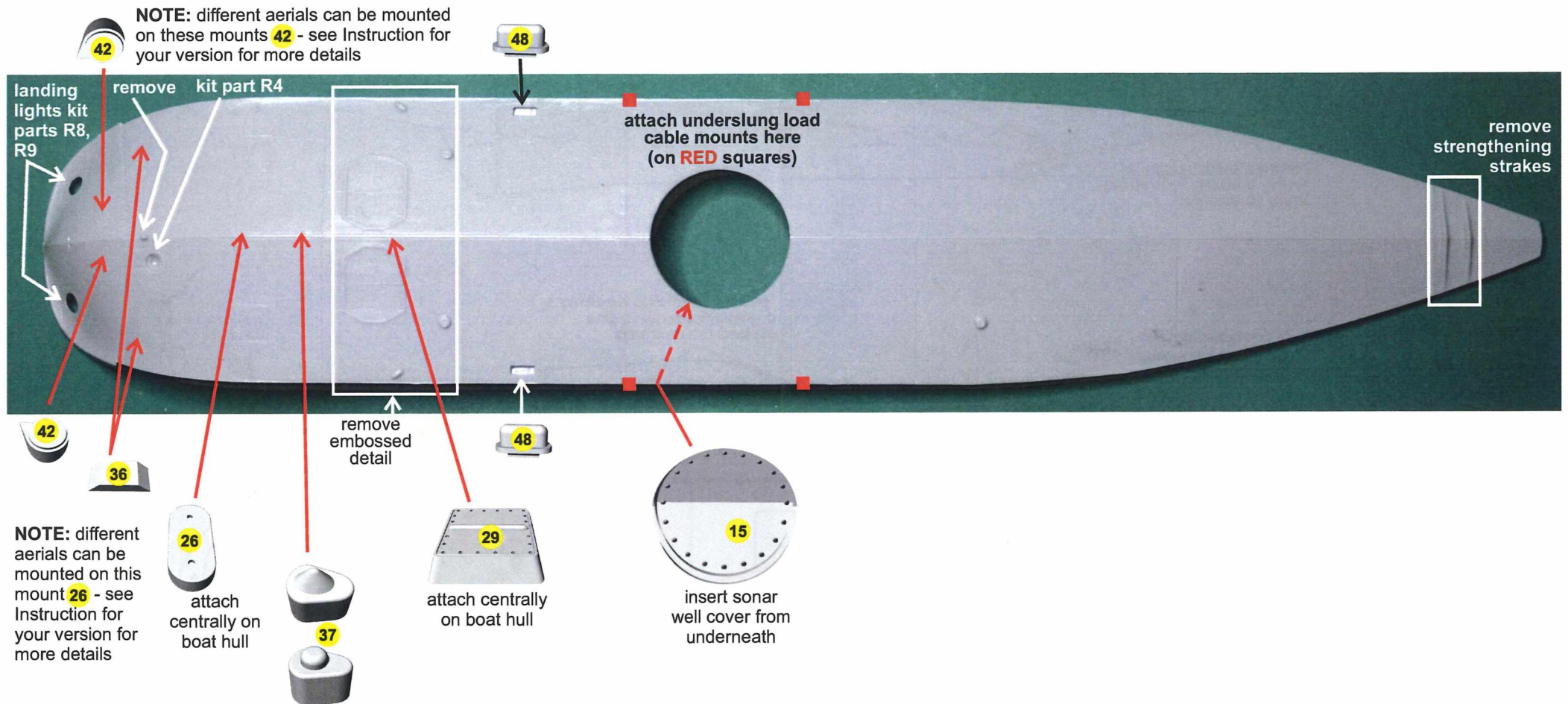


Boat Hull Modification - Westland Sea King (Generic aircraft - see individual version Instruction Sheets for further details)

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



see this photograph for positions of aerials and mounts



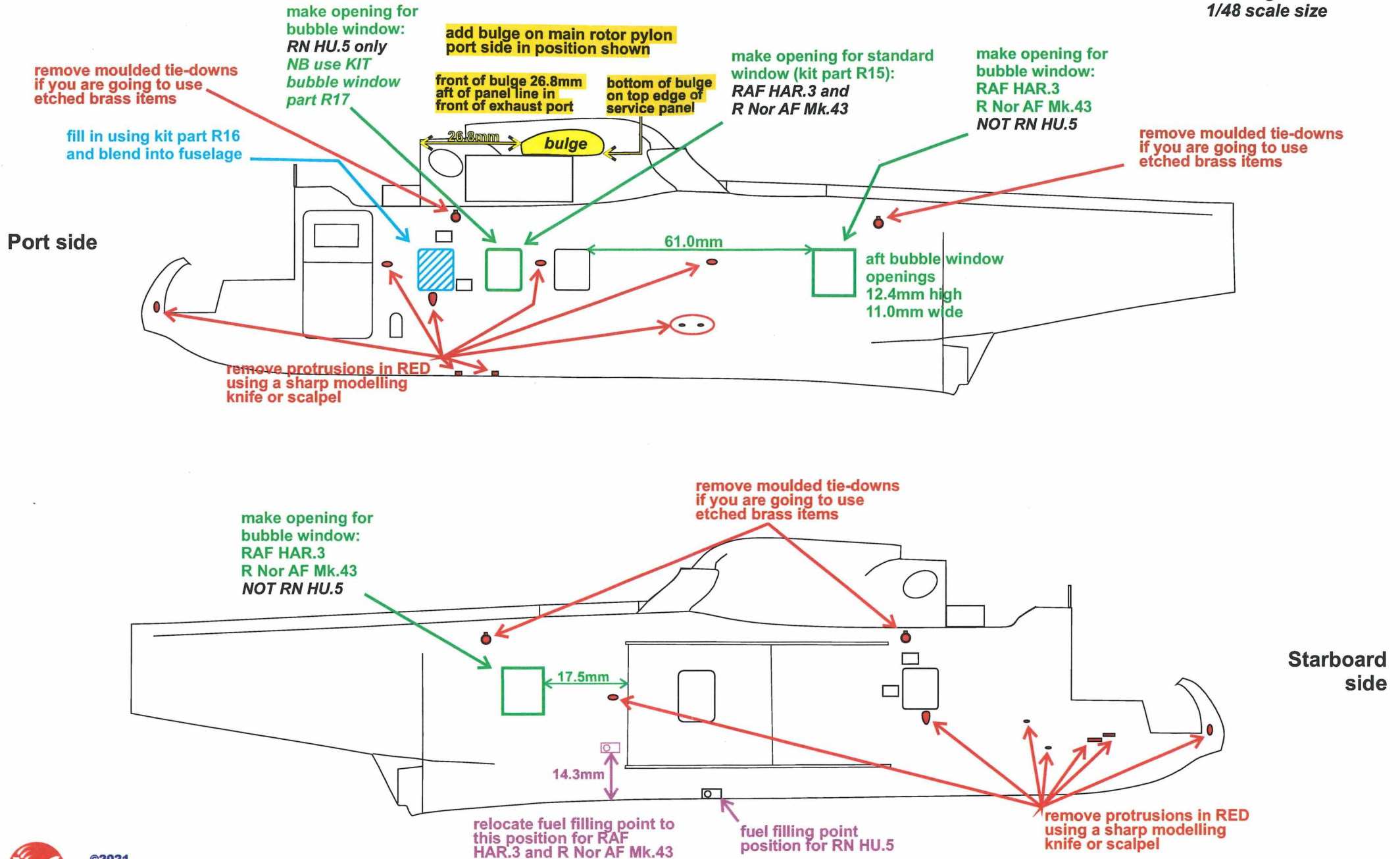
NOTE: different aerials can be mounted on this mount **26** - see Instruction for your version for more details

attach centrally on boat hull

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

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

Drawings 75% of 1/48 scale size





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1/48 scale

RN Sea King HU.5

Westland Sea King Conversion

with resin parts, etched brass and decals

771 Sqn. - 60 Years of RN SAR - RNAS Culdrose

Set # WBA48017

This conversion set is designed for use with any version of the Hasegawa © 1/48 Sea King kit. It provides a Generic Conversion Set to turn the Hasegawa Sea King into a Westland built example. Not all parts provided are needed for every version, so please read the Instruction Sheet for the Generic Conversion Set in conjunction with this document.

In this set, parts are provided to cover the differences between the generic aircraft and the Royal Navy HU.5 - large radome, avionics, FLIR turret etc.

The aircraft depicted is one of Sea King HU.5s, operated by 771 AS at RNAS Culdrose in the SAR role. It was present at the Air Day at RNAS Yeovilton in July 2013, where the photographs were taken.

Colours:

This Sea King aircraft is finished in Medium Sea Grey (BS637 - Xtracolor X003, Humbrol 165) with Extra Dark Sea Grey (BS640 - Xtracolor X005, Humbrol 123) or darker walkways, and Signal Red (BS537 Xtracolor X014, Humbrol 174 - also called Red Arrows Red) for hi-viz areas. Unlike many Royal Navy Sea Kings, the finish is not very weathered, with few obvious instances where a panel has been repainted.

Undercarriage legs and wells, wheel hubs etc. are Medium Sea Grey.

Main rotor blades - Dark Sea Grey on top, Black underside

As a part of the process of converting HAS.5s to HU.5 configuration, the 'Orange Crop' RWR equipment was removed, but the boxed which housed it were left in place, and painted to match the airframe. The Sonar equipment was also removed, and the sonar well plated over on the boat hull.



all photographs of the Sea King HU.5 in this Instruction Sheet are Copyright © Roger Evans 2022

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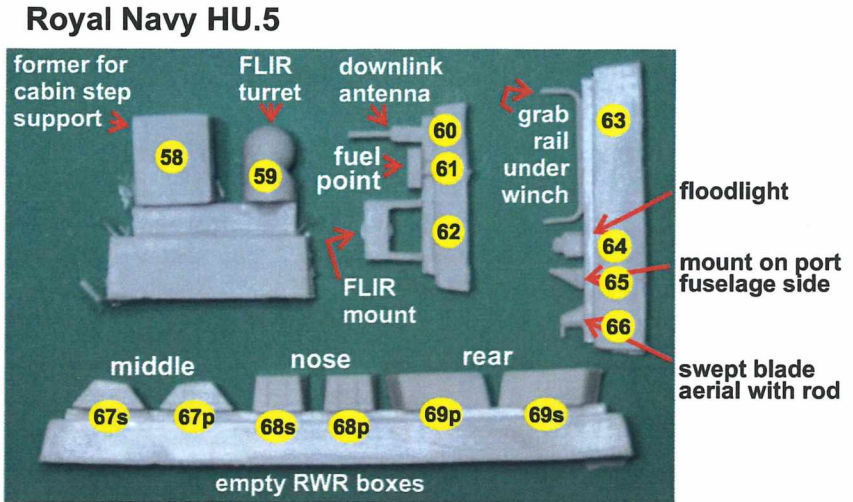


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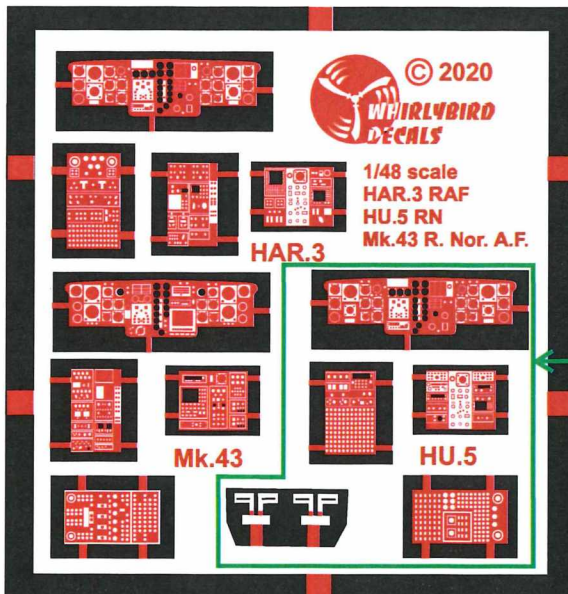
custom decals for
the discerning
modeller

What you get: - Royal Navy HU.5

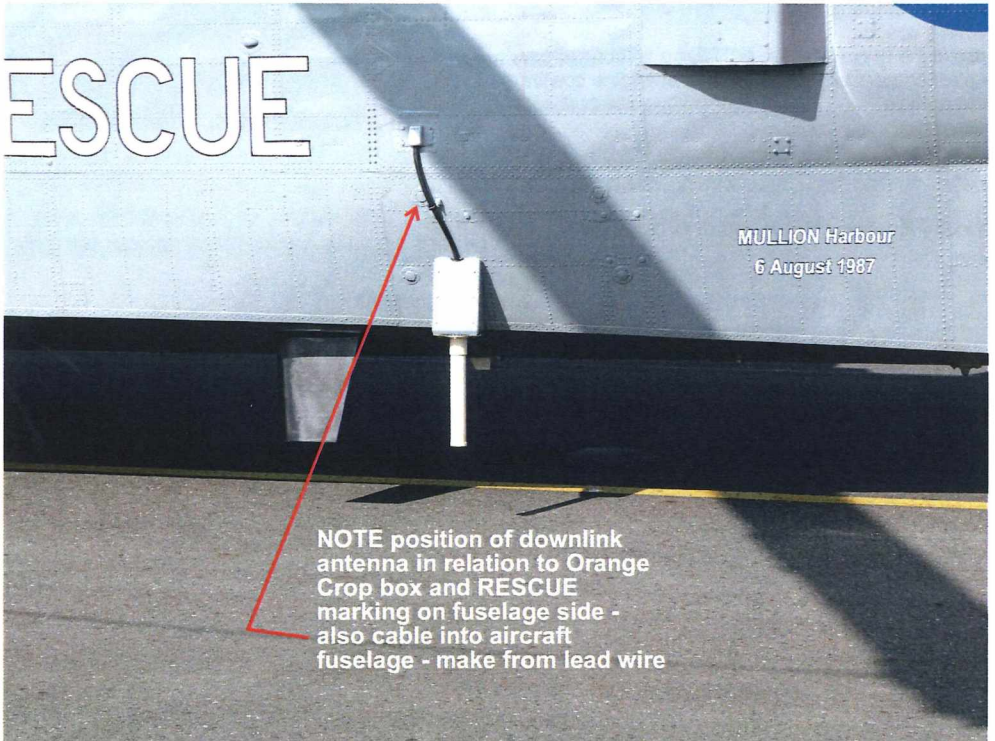
In addition to the Generic Westland Sea King Conversion set, there are additional resin parts



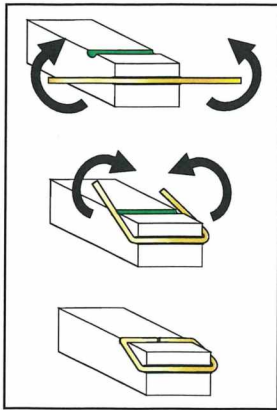
Etched brass fret:



Downlink Antenna

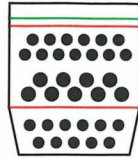


Cabin Step

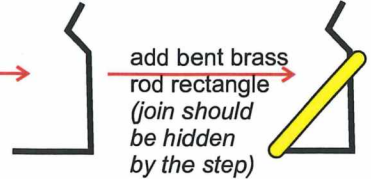


Use the jig provided **58** to bend a section of the brass rod provided into a rectangle.

Then bend the step along the half-etched lines to form the shape shown here.



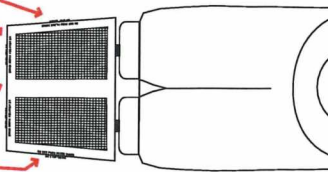
bend



NO STEP markings on Particle Separator

DO NOT PUSH FILTER TUBES
NO STEP INSIDE

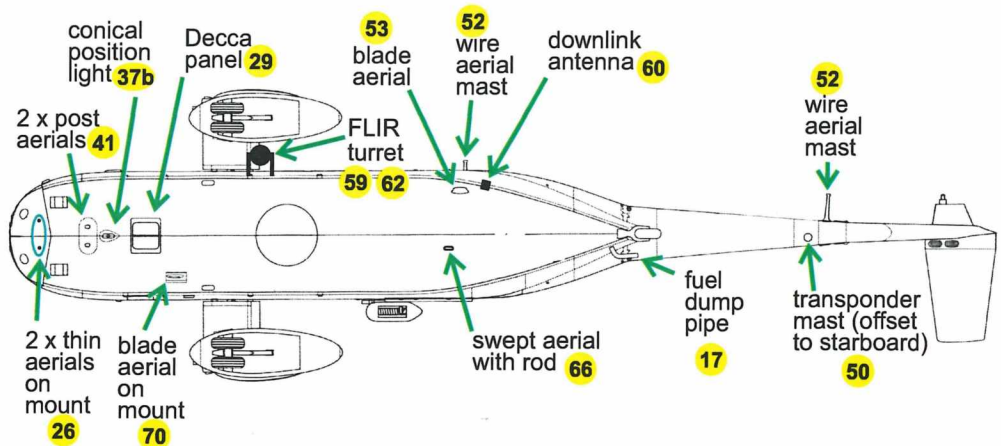
NO STEP markings in 4 places on particle separator as shown. **NOTE** that the writing wraps round the curved upper corners of the particle separator.



NOTE no grills on upper surface of engine cowings (unlike Sikorsky-built aircraft)



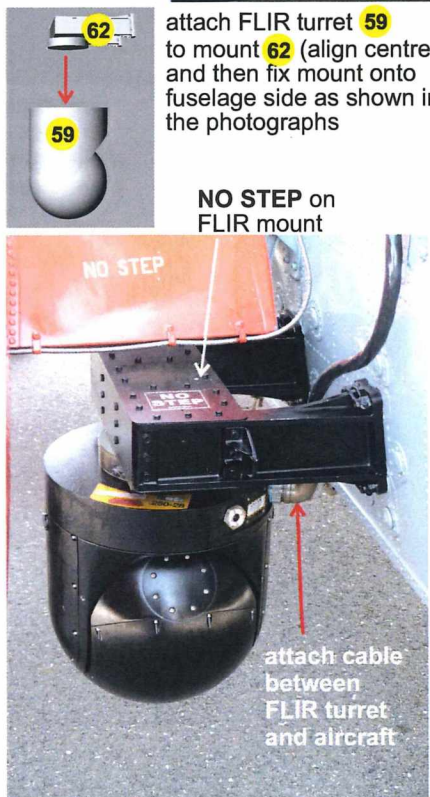
Aerial Fit under fuselage and boat hull



FLIR Turret



NOTE cabling between FLIR turret and fuselage - add from lead wire



attach FLIR turret 59 to mount 62 (align centres), and then fix mount onto fuselage side as shown in the photographs

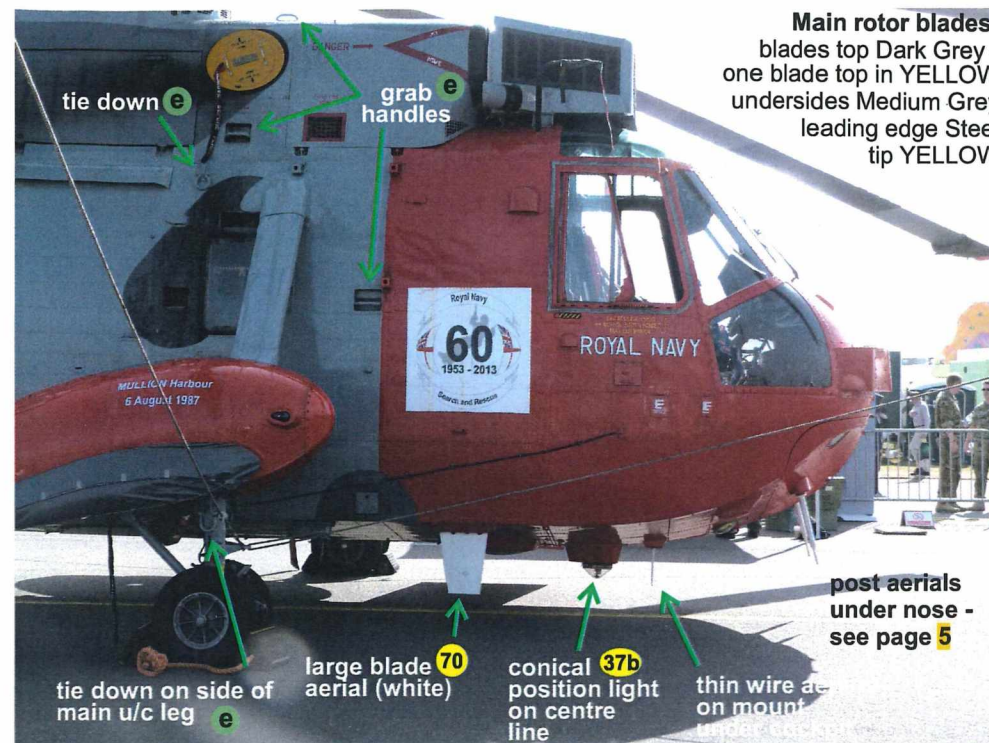
NO STEP on FLIR mount

attach cable between FLIR turret and aircraft



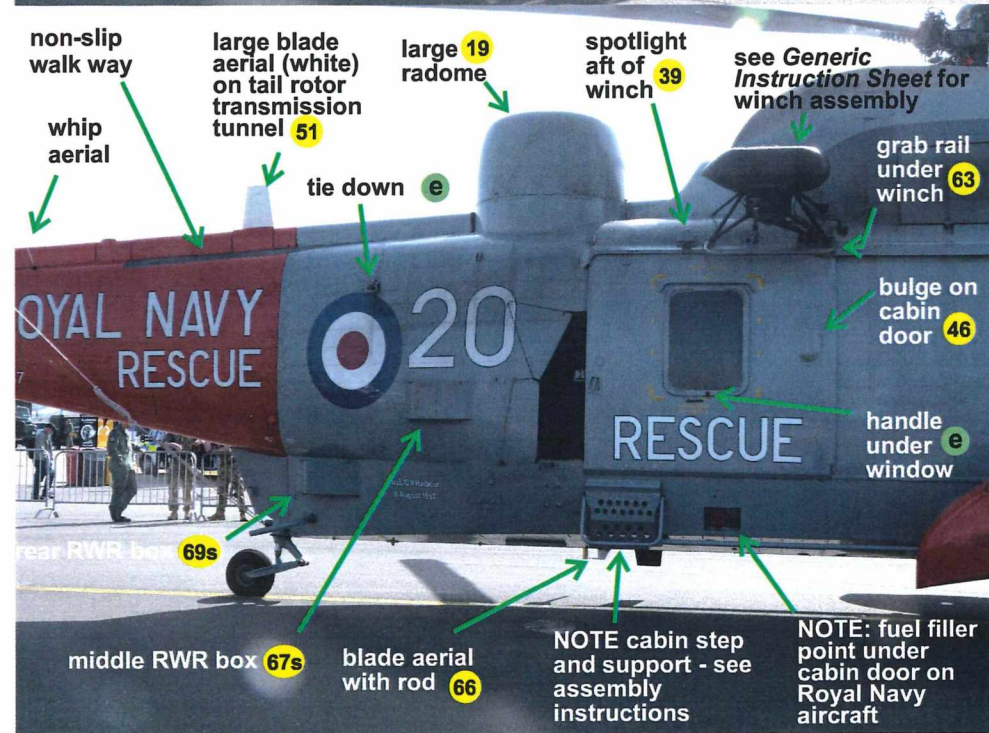
walkway on top of sponson and on top of stub wing - port & starboard

NO STEP markings on sponsons port & starboard - also on rear edge of stub wing



Main rotor blades: blades top Dark Grey - one blade top in YELLOW undersides Medium Grey leading edge Steel tip YELLOW

post aeriels under nose - see page 5



non-slip walk way

large blade aerial (white) on tail rotor transmission tunnel 51

large 19 radome

spotlight aft of winch 39

see Generic Instruction Sheet for winch assembly

grab rail under winch 63

bulge on cabin door 46

handle under window e

whip aerial

tie down e

ROYAL NAVY RESCUE

blade aerial with rod 66

NOTE cabin step and support - see assembly instructions

NOTE: fuel filler point under cabin door on Royal Navy aircraft

rear RWR box 69s

middle RWR box 67s

blade aerial with rod 66

NOTE cabin step and support - see assembly instructions

NOTE: fuel filler point under cabin door on Royal Navy aircraft

