



## Hawker / Armstrong Whitworth Sea Hawk

One of the earliest jet designs, the Hawker Sea Hawk has descended directly from Hawker's famous line of propeller-driven World War Two aircraft. The Sea Hawk prototype, the P.1040 was basically a modified Hawker Sea Fury. The piston engine was removed and cockpit, nose and nose landing gear were installed in its place. The jet engine was installed in the center of the fuselage. The wings and in particular the tail still show the family resemblance to the Sea Fury.

The most striking aspect of the Sea Hawk's design was the bifurcated jet engine. While the design of the air intakes in the wing root was basically taken

over from the De Havilland Vampire, the single central jet engine split its exhaust to two nozzles at port and starboard. This unique feature gives the Sea Hawk the appearance of a two-engine jet. It had the advantage that it did not need the Vampire's twin-boom tail and space was gained aft of the engine for more fuel tanks.

Development of the P.1040 started in 1944 and as the war ended, the Royal Air Force's initial interest in the project faded as they were happy with their Meteors. The design was adapted to match naval deployment as the Naval staff was still interested. Eventually the Royal Navy ordered three prototypes. From

there on the design team went two ways: Getting the Sea Hawk ready for service in the Royal Navy and also developing it further to what eventually became the Hawker Hunter which was a huge success, not only with the Royal Air Force.

Only 30 Sea Hawks were actually built at Hawker before the production was switched to Armstrong Whitworth. The first two versions of the Sea Hawk were fighters armed with four 20mm guns. The third version and all subsequent ones were fighter bombers, that could be armed with a combination of bombs and rockets additional to the guns.

In the Royal Navy, Sea Hawks took part in the military operation of the Suez

Crisis, successfully attacking ground targets in Egypt from three British Aircraft carriers. Sea Hawks serving in this Operation can be easily identified by their yellow-and-black stripes, which resemble the famous d-day stripes from World War Two. Britain replaced all Sea Hawks in the late 1950s.

The Sea Hawk was successfully exported to three countries:

The Royal Netherlands Navy had Sea Hawks serving aboard their Aircraft Carrier HNLMS Karel Doorman which were successfully deployed in Indonesia. Dutch Sea Hawks were the only Sea Hawks capable of carrying and firing Sidewinder missiles. They were decommissioned when the Karel Doorman was sold to Argentina.

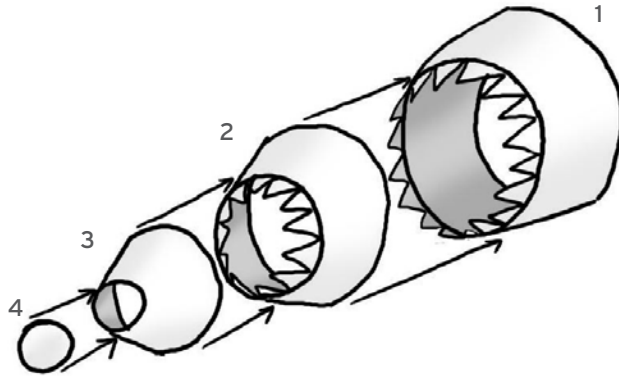
Germany bought a modified Sea Hawk with taller tail as a strike fighter for its Bundesmarine as well as a night-fighter/reconnaissance version, equipped with a radar pod. These Sea Hawks served successfully until they were replaced by F-104 Starfighters in the early 1960s. Some of them were sold to India, the third export customer for the Sea Hawk.

India was actually where the Sea Hawk served the longest, with the last ones serving until 1983 to be replaced by Harriers. They served in two major wars against Pakistan in 1965 and 1971 and a number of smaller conflicts. The Sea Hawks held up quite well against more modern Pakistani fighters, taking off both from land bases and India's only aircraft carrier, the INS Vikrant.

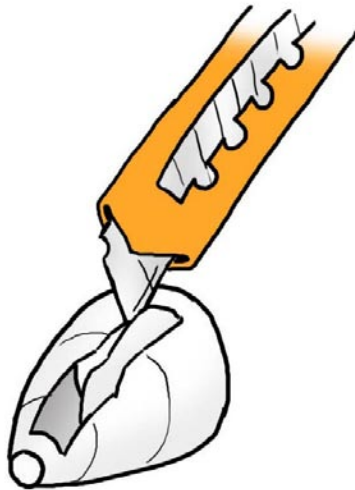
Although it was quickly replaced by more glamorous swept-wing fighters by Britain, Germany and the Netherlands, the Sea Hawk was a reliable and sturdy workhorse, which did get the job done it was designed for and in the Indian Navy far outlived other aircraft of its time.

1. Build the nose.

If you do not build landing gear down, jump to 4.

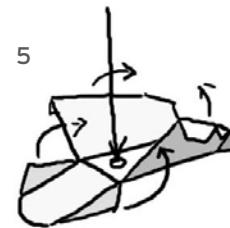


2. Cut out the landing gear doors. You may throw away what is cut out.

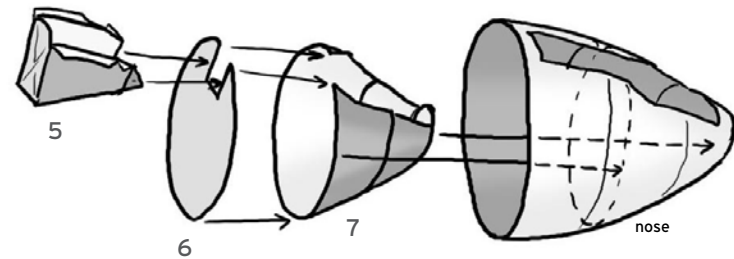


3. Build the wheel well parts and glue them into the nose

make a hole for  
patterned landing gear (see step 43-47)



double up part 6



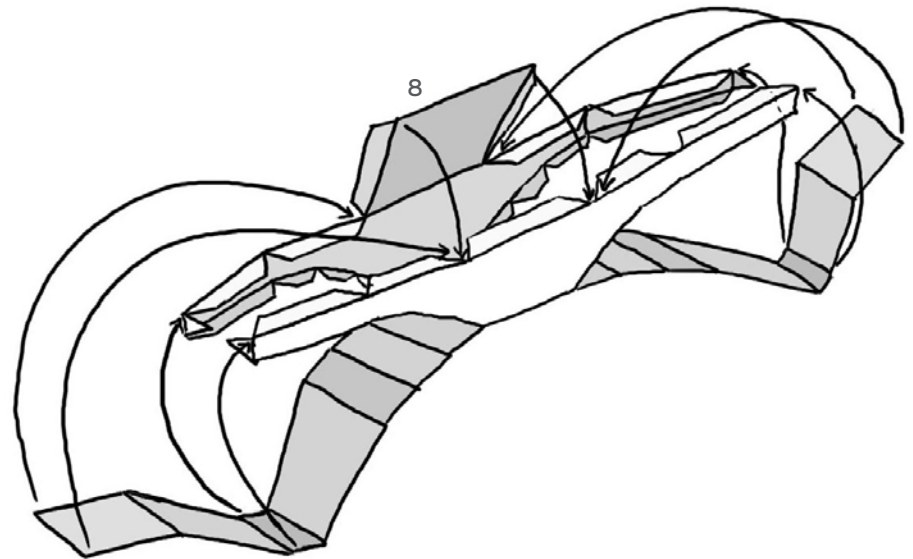
4. The configuration in which you build your Sea Hawk will influence the construction of the wing stiffener.

So you have to decide which configuration you prefer:

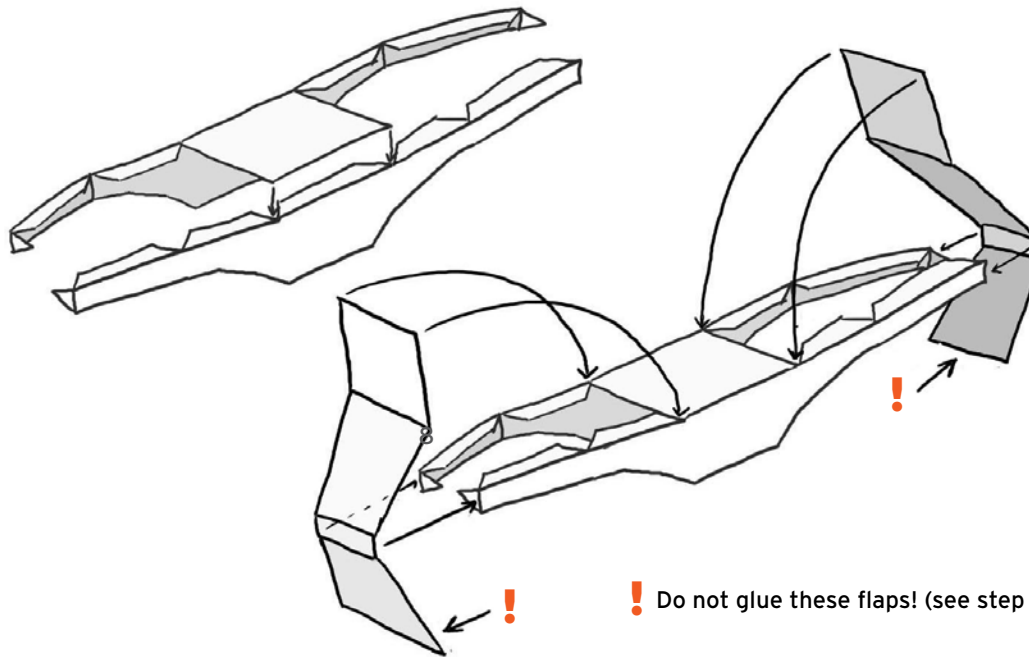
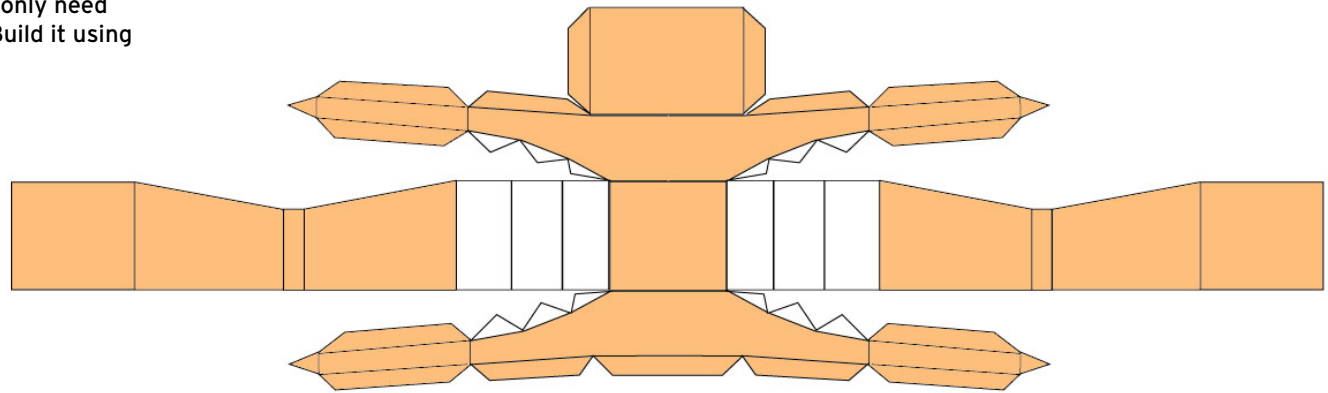
- A - With straight wings and landing gear up, **continue with 5.**
- B - With straight wings and landing gear down, **continue with 6.**
- C - With folded wings and landing gear, **continue with 7.**

For A and B you still have the option to create the flap/speedbrake on the wing to open and close. This does not work for C.

5. For **straight wings and landing gear up**, build the wing stiffener as it appears on the page. Then **Jump to 8.**

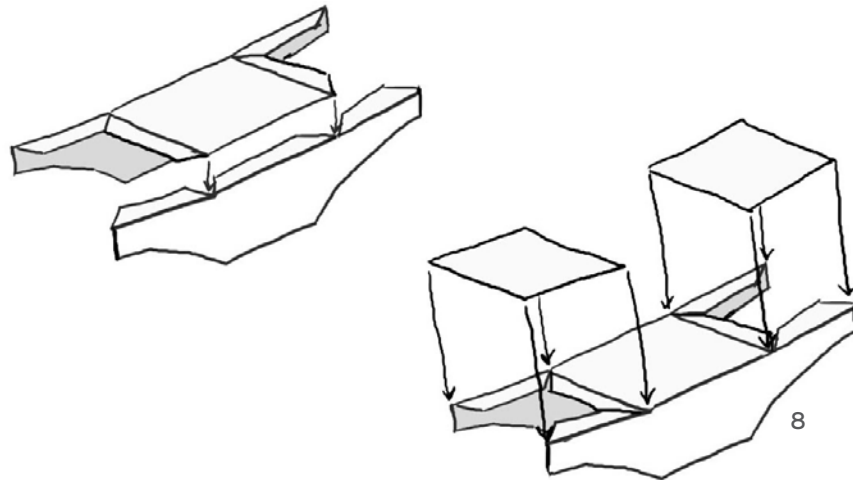
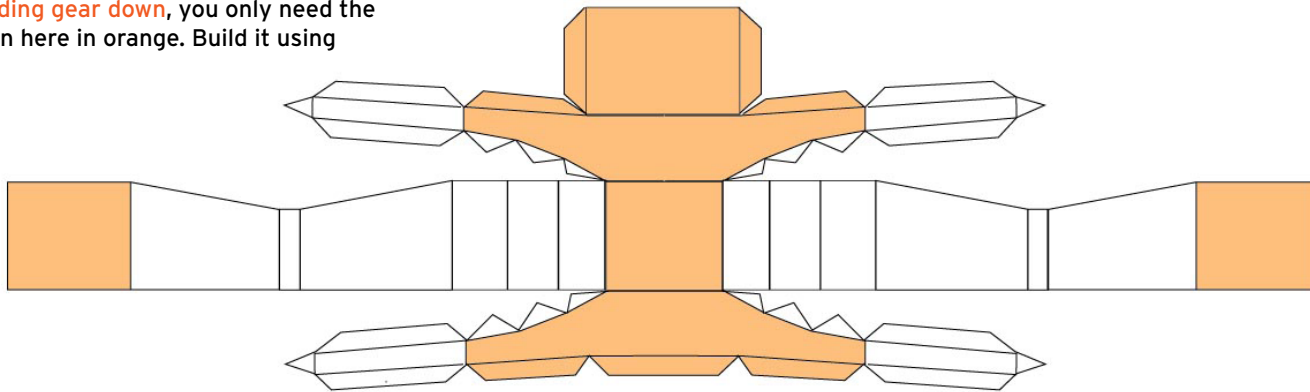


6. For **straight wings and landing gear down**, you only need the parts of the stiffener shown here in orange. Build it using them, then **Jump to 8**.

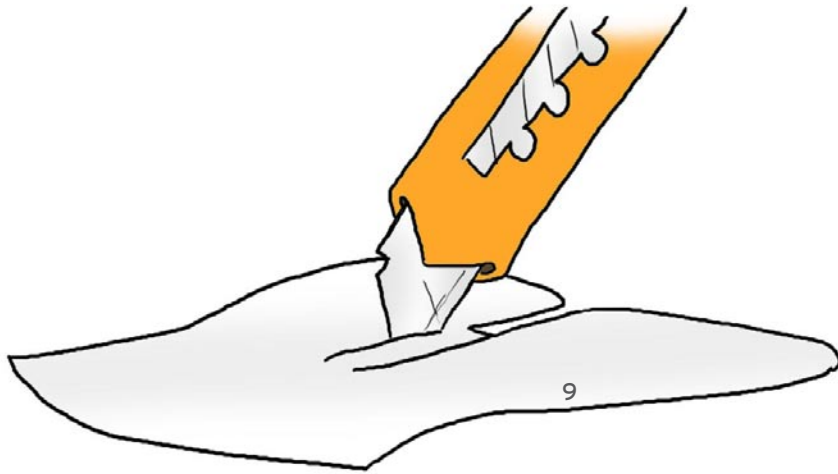


! Do not glue these flaps! (see step 14)

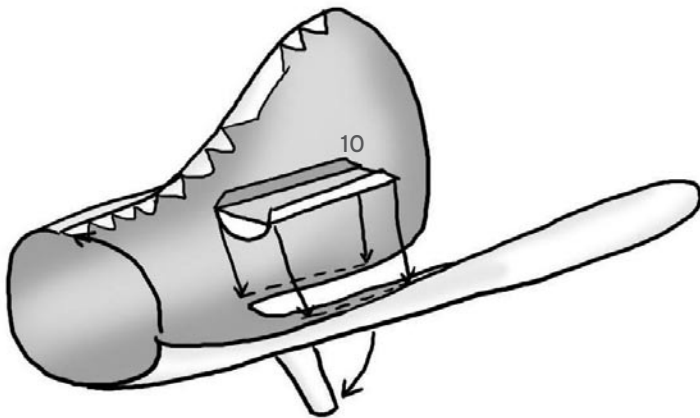
7. For **folded wings and landing gear down**, you only need the parts of the stiffener shown here in orange. Build it using them, then **Jump to 8**.



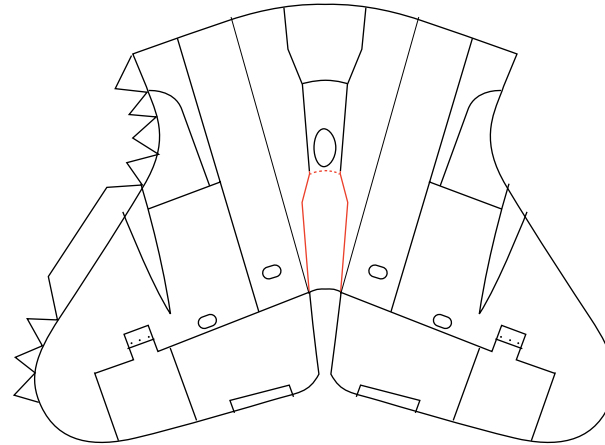
8. If you want to build the **arrestor hook stowed**, jump to 11.  
If you want to build the **arrestor hook extended**, cut out the sides of the arrestor hook door and fold it open.



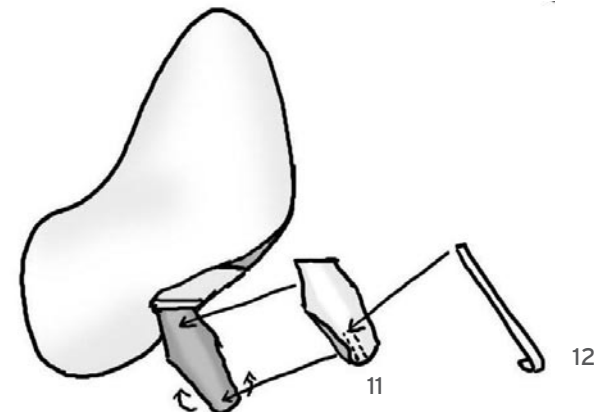
9. Build the tail section and install the inner ceiling for the arrestor hook door.



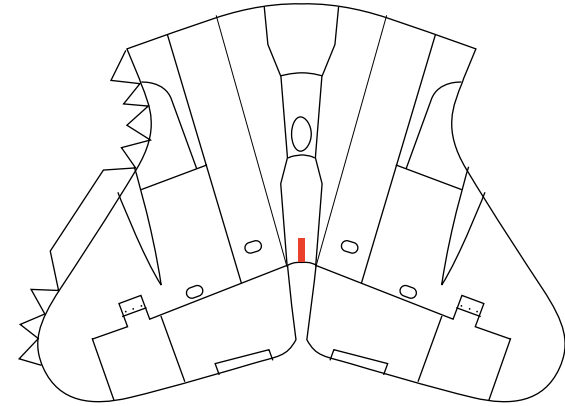
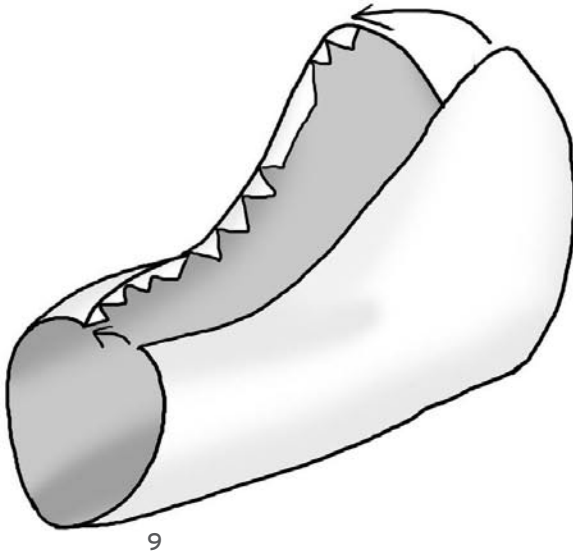
orange dashed line: score and fold  
orange ongoing lines: cut



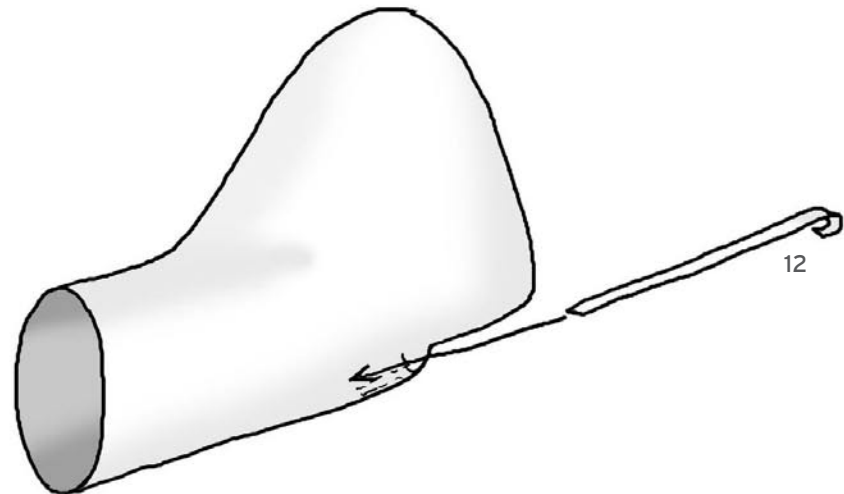
10. Glue the inner side on the arrestor hook door and the arrestor hook on its tip. Then **jump to 13**.



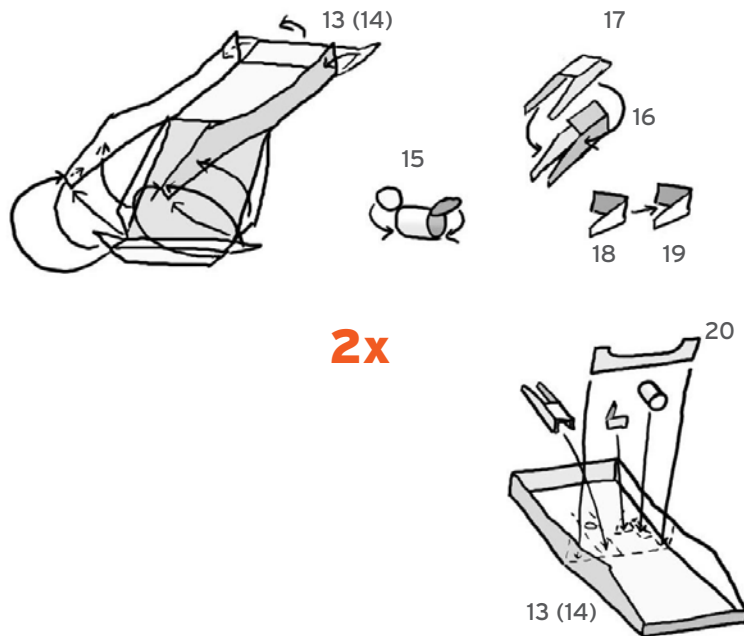
11. To build the **arrestor hook in raised** position, first build the tail section.



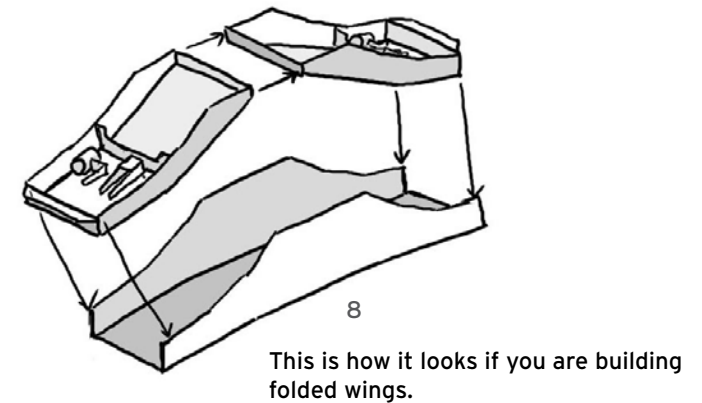
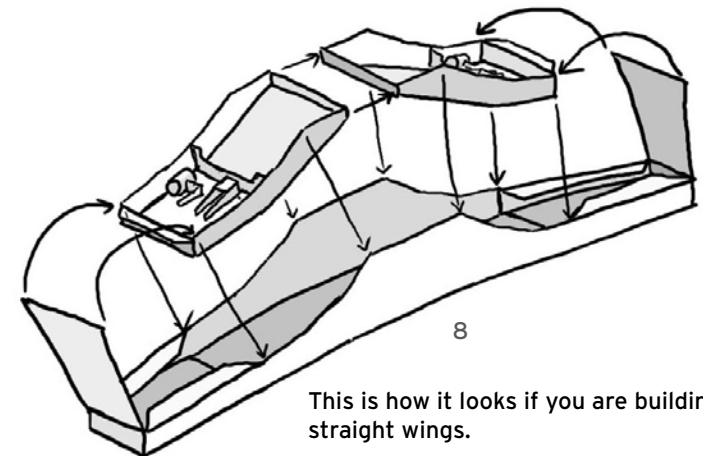
12. Glue the arrestor hook to the inside of the opening that forms on the lower side of the tail in the position marked above.



13. If you build the **landing gear up**, jump to 15.  
If you build the **landing gear down**, build the wheel wells and add in the details. Port side shown (number in brackets is starboard).



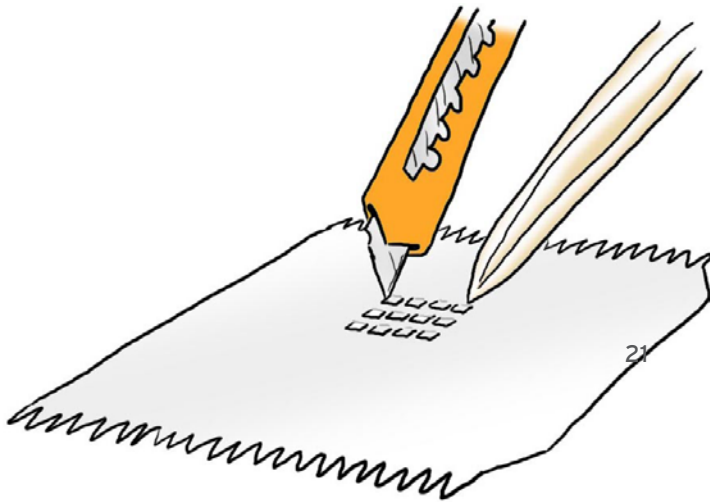
14. Glue the wheel wells into the wing stiffener.



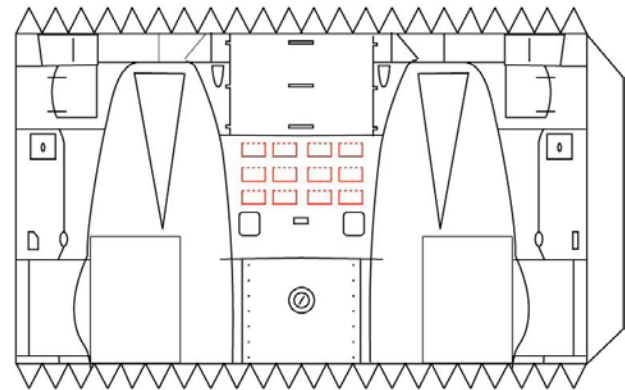


15. These steps are only if you want to build **open small intakes**.  
If you **do not wish** to open them, **jump to 17**.

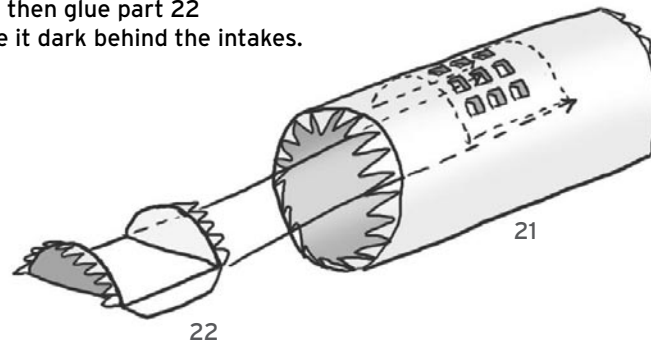
If you do, cut and score/fold according to the reference.



orange dashed lines: score and fold  
orange ongoing lines: cut

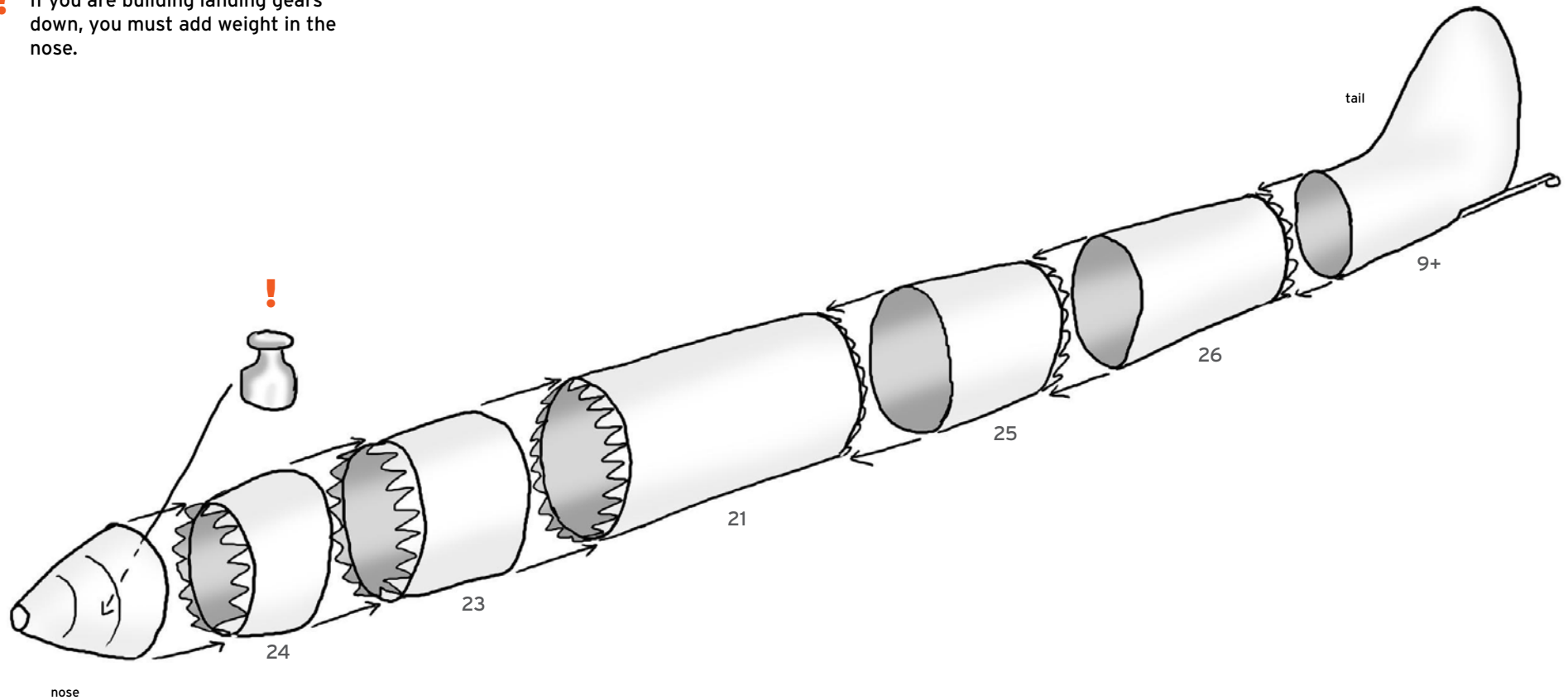


16. Fold the intakes inward, then glue part 22 inside the fuselage to make it dark behind the intakes.



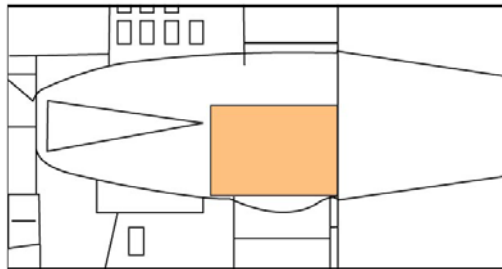
17. Build the fuselage.

! If you are building landing gears down, you must add weight in the nose.

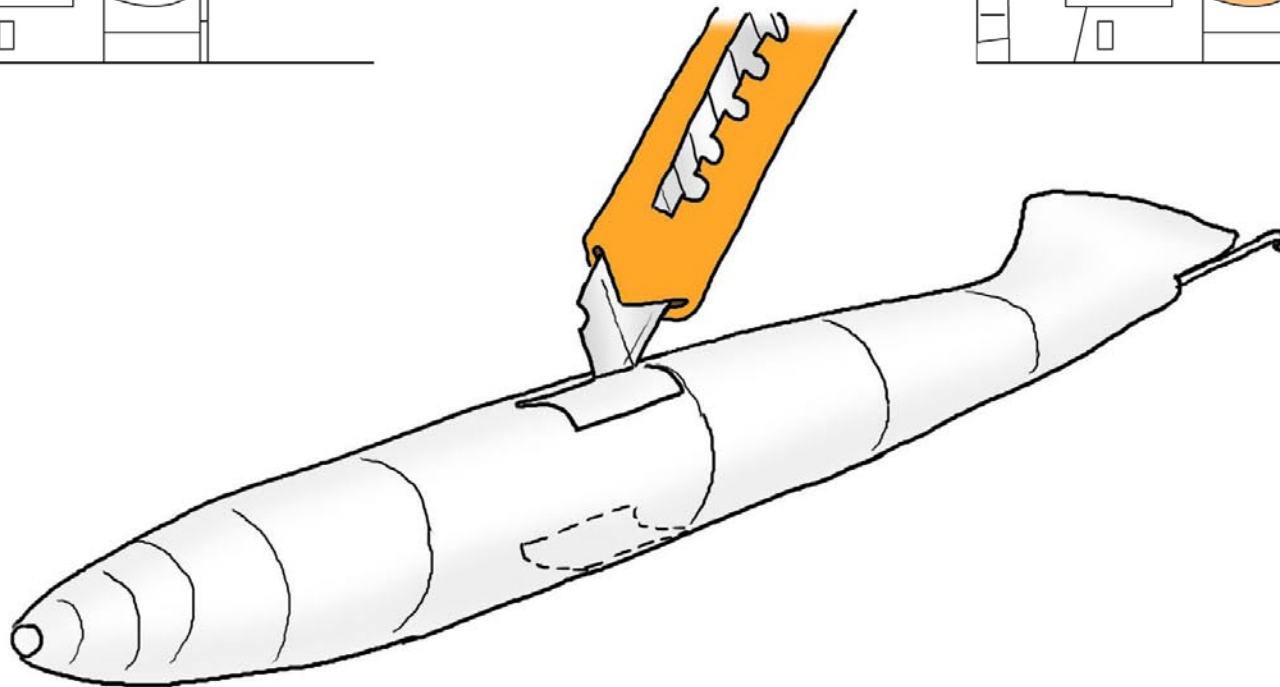
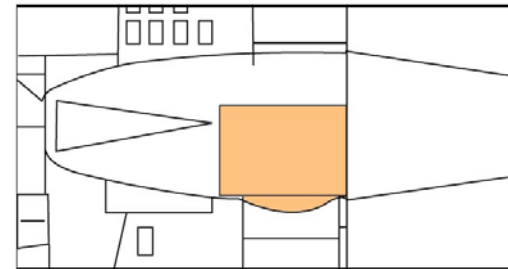


18. Cut out the holes for the wing stiffener. **Watch out** for how to cut them:

If you are building **landing gear up**, cut this out:



If you are building **landing gear down**, cut this out:



19. Air Intake detail. Build the intake inside, then glue in the dividing walls.  
Port side shown (starboard in brackets).

2x



27 (28)



29



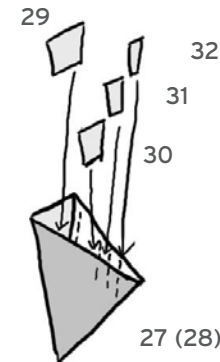
30



31



32

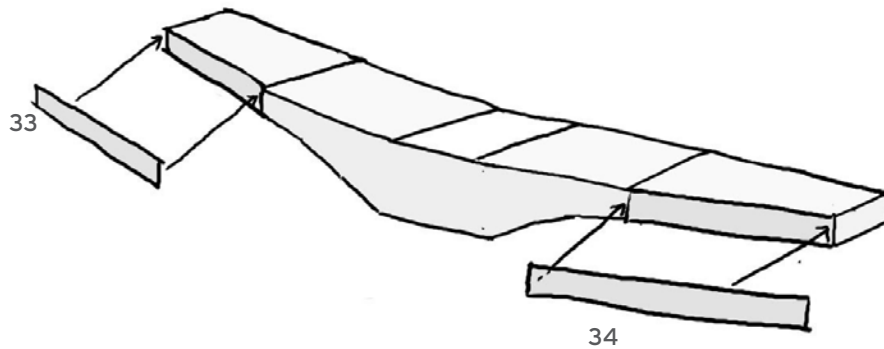


27 (28)

2x

20. If you want to build the flap and speedbrake on the wing so they can be opened, glue the inner backgrounds on the backside of the wing stiffener.

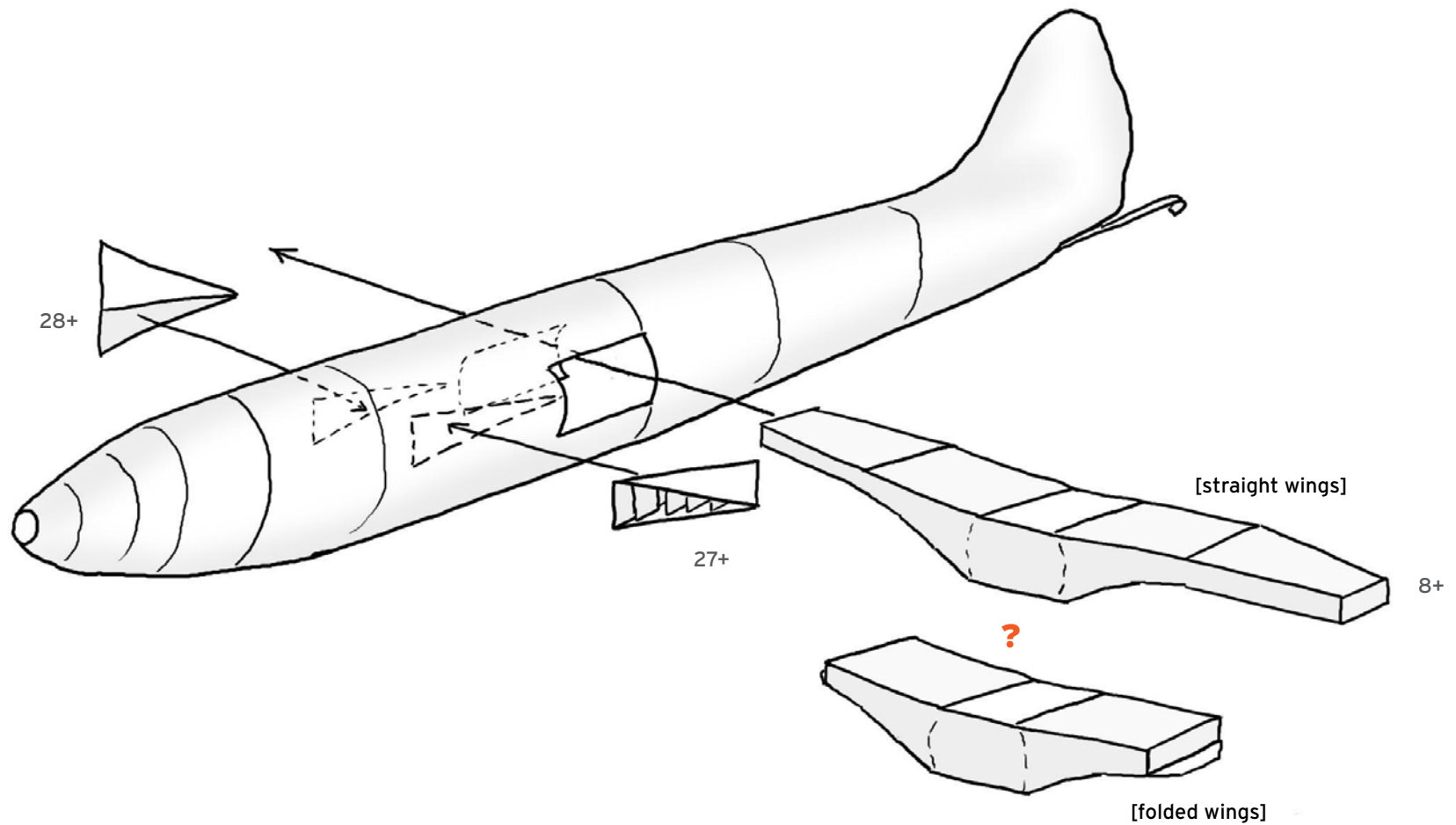
Notice: This does not work if you build folded wings.



This is how it should look like (seen from the top).



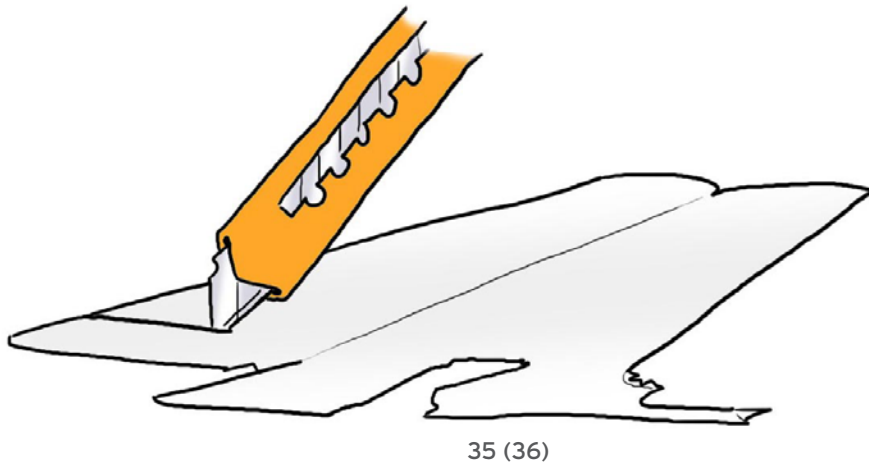
21. Glue the wing stiffener into the fuselage and the air intake inner sides on the fuselage.



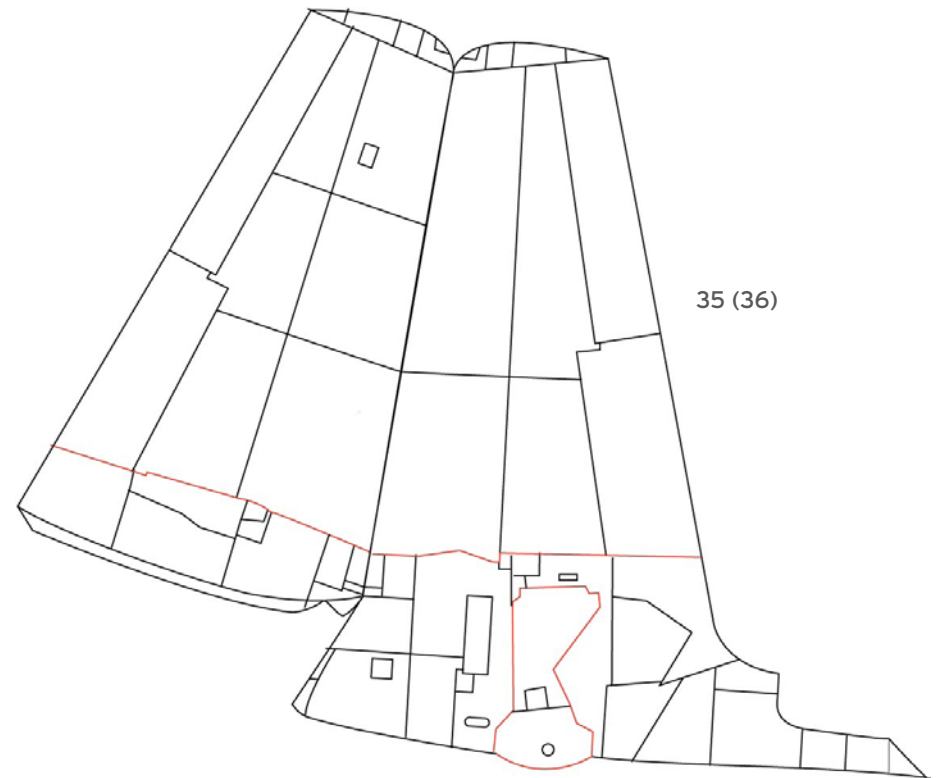
22. Ignore this step if you don't build folded wings.

For the folded wings, cut apart the wings and cut out the landing gear doors.  
Keep all wing parts, the landing gear door parts you may discard.  
Port side is shown (starboard in brackets).

**2x**

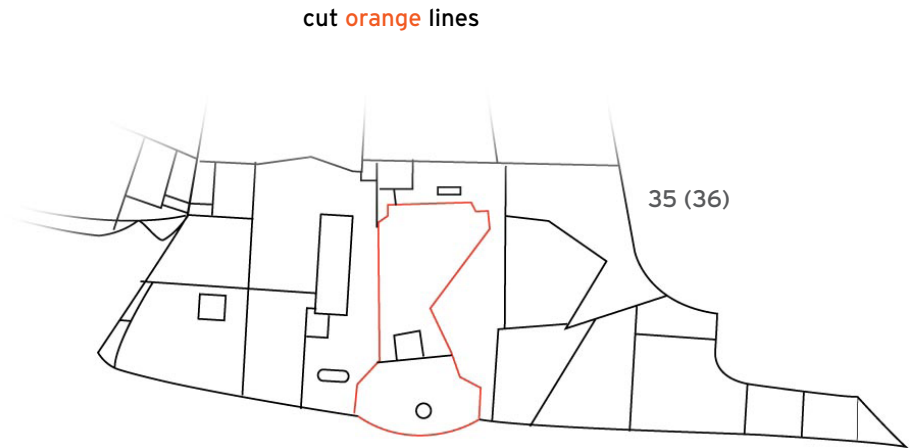
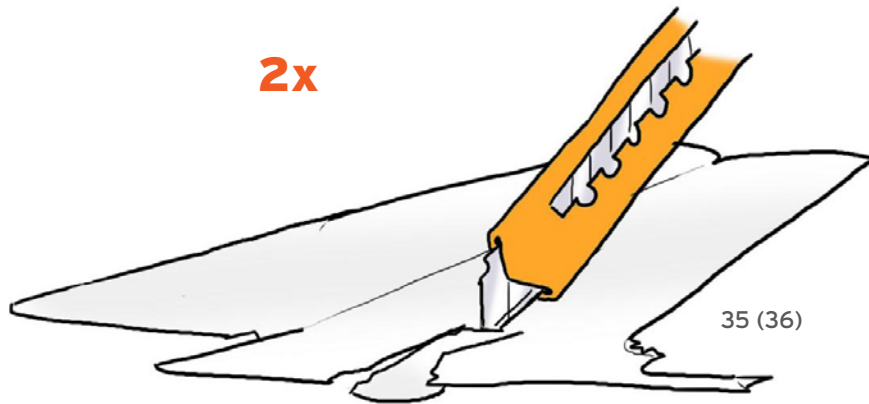


cut orange lines



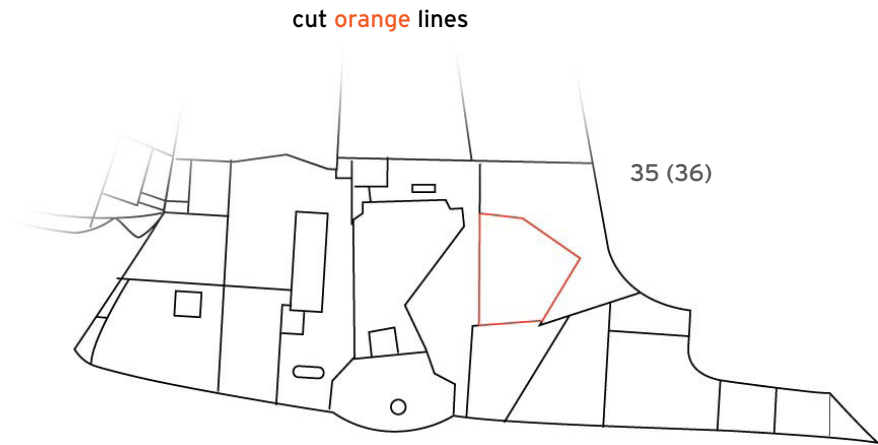
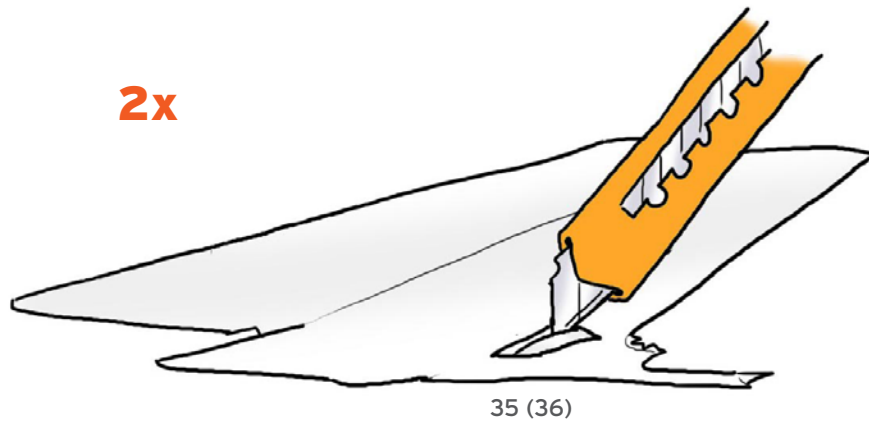
22. Ignore this step if you don't build landing gears down.

For landing gear down, cut out the landing gear doors.  
The cut off parts you may discard.  
Port side is shown (starboard in brackets).

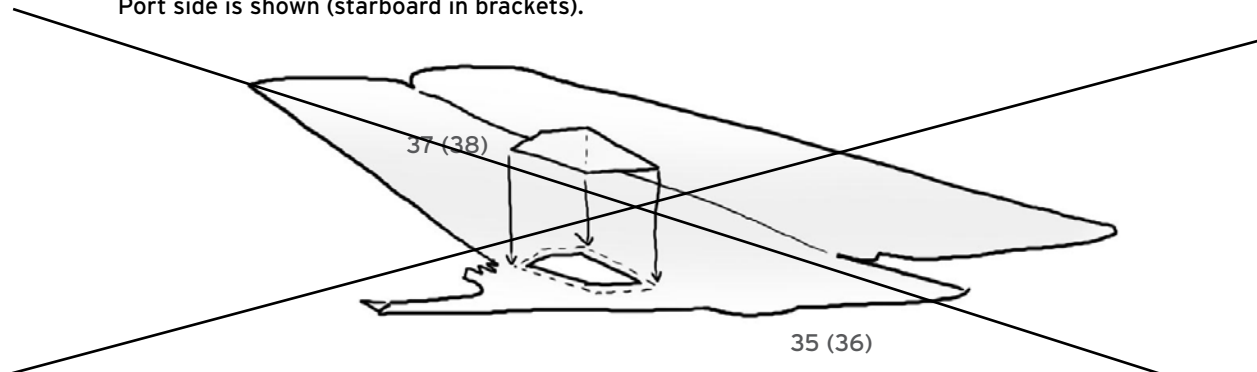


23. These steps are to build the **small speedbrake extended**,  
If you do not wish to, **jump to 24**.

For extended small speedbrakes, cut out the speedbrakes.  
The cut off parts you may discard.  
Port side is shown (starboard in brackets).



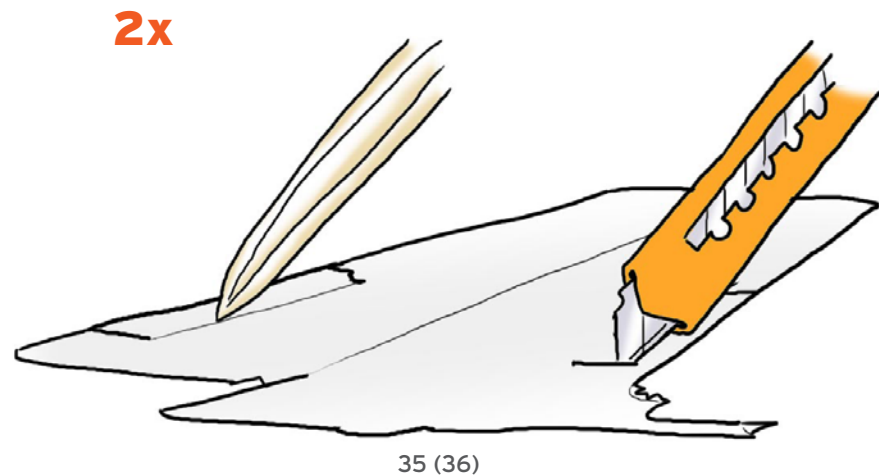
24. Glue the inner sides on the newly created opening.  
Port side is shown (starboard in brackets).



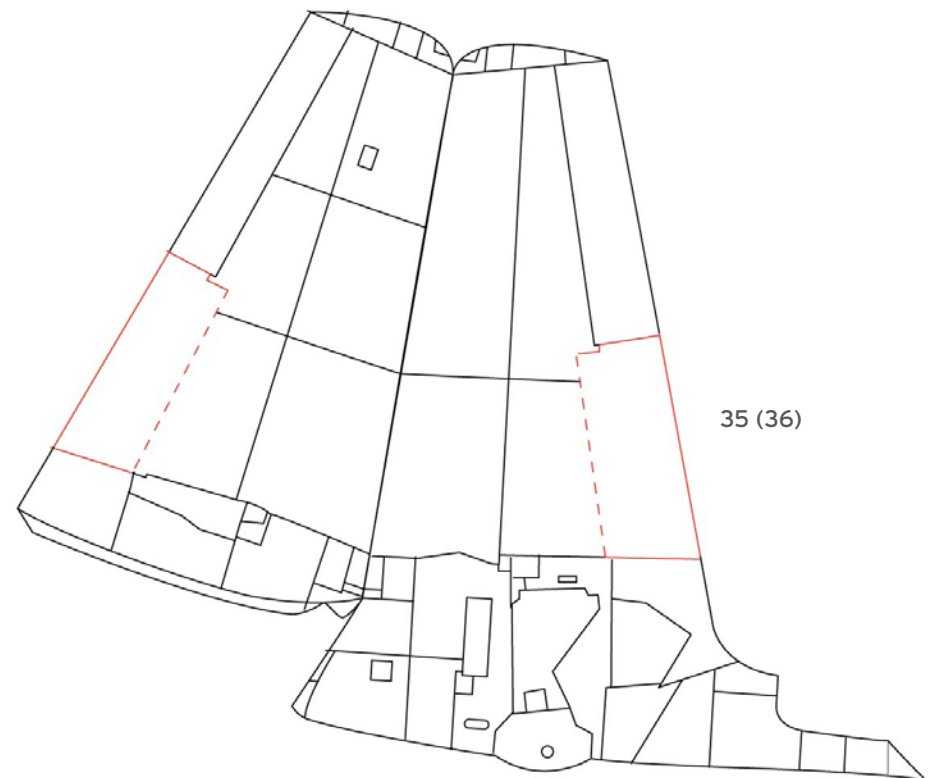


25. These steps are to build the **big speedbrake and/or the flaps extended**,  
If you do not wish to or are building folded wings, **jump to 28**.

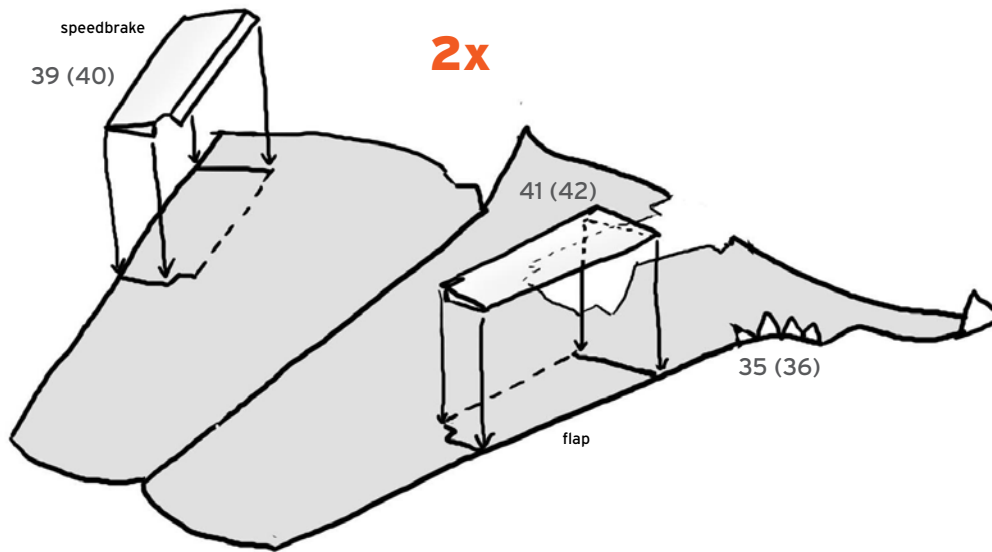
Cut and fold according to the reference on the right.  
Port side is shown (starboard in brackets).



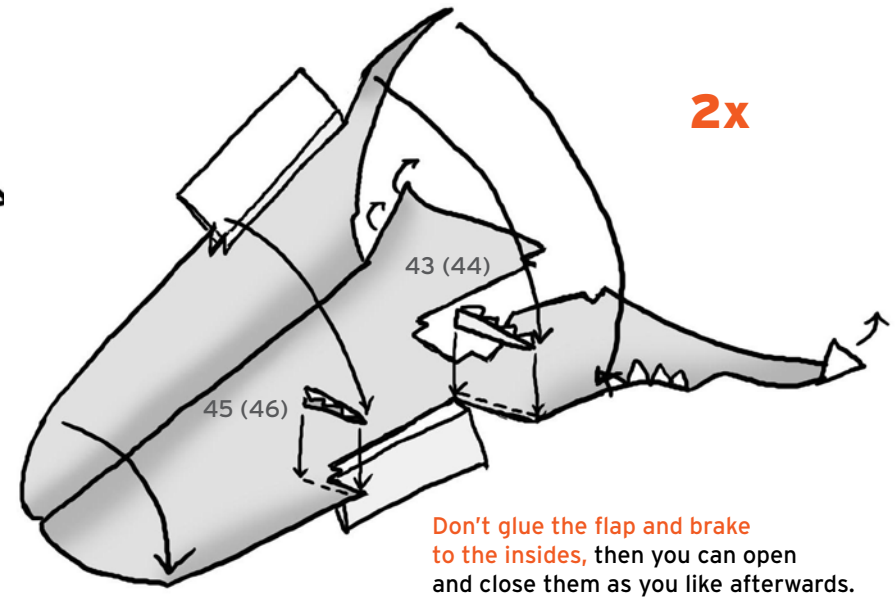
orange dashed lines: score and fold  
orange ongoing lines: cut



26. Glue the insides onto speedbrake and flap respectively.



27. Glue in the sides of the wings facing speedbrake and flap. Rounden to create an airfoil on the wings, then glue them together.



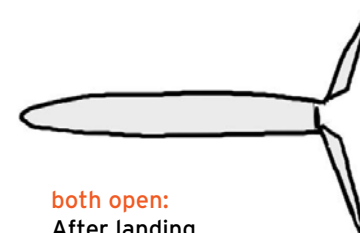
**Note:** The flap and speedbrake can be in three positions:



Only speedbrake open:  
In regular flight



Only flap open:  
During landing approach



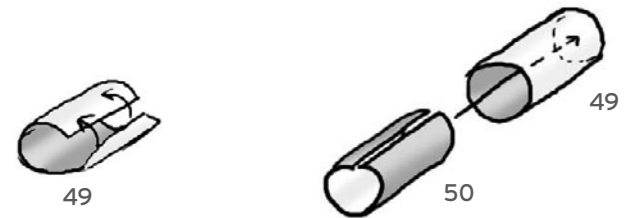
both open:  
After landing

28. Build the exhaust openings. The printed side should face inwards!  
Port is shown (starboard in brackets).

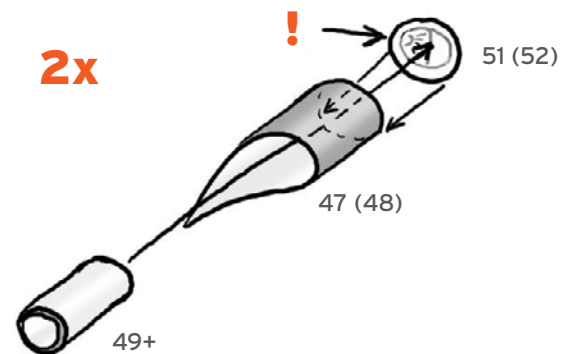


29. Build the exhaust nozzles. Then glue the inner sides into them.

**2x**



30. Now you can glue the exhaust plates onto the exhaust openings and then the exhaust nozzles onto them. Be sure to **correctly align the artwork** on the exhaust plates, the visible turbine structure should be inboard.



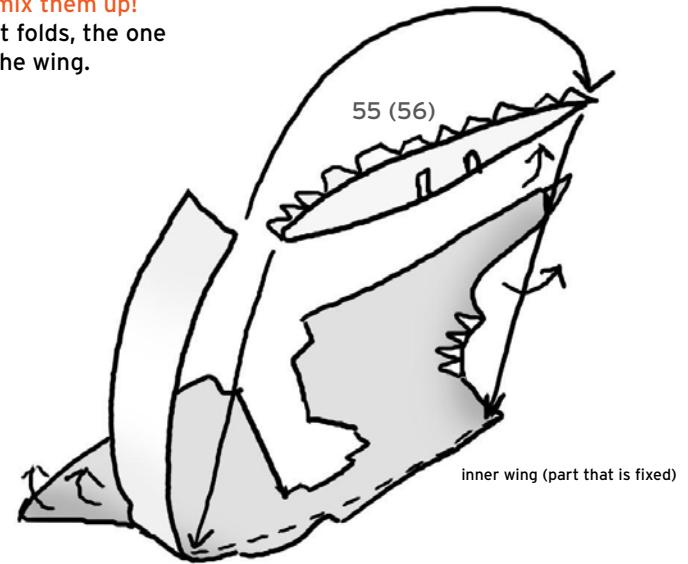
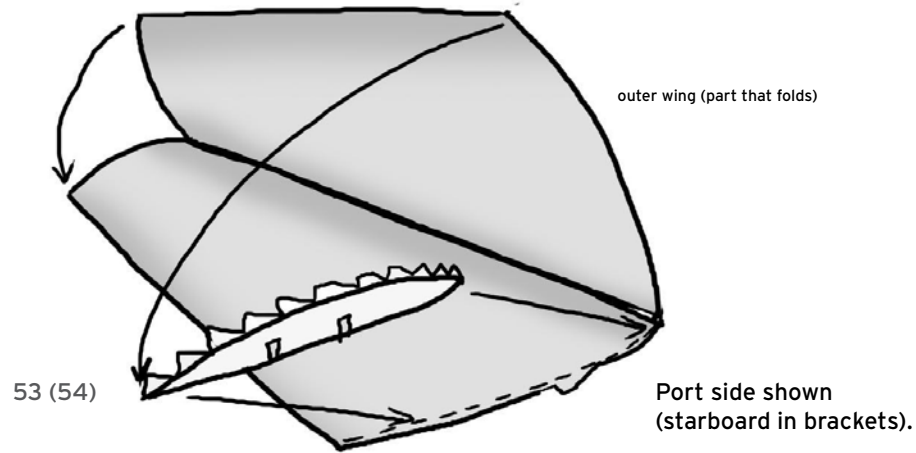
**!** This is how it should look like:



31. The following steps are for **folded wings only**, if you build **straight wings**, jump to 34.

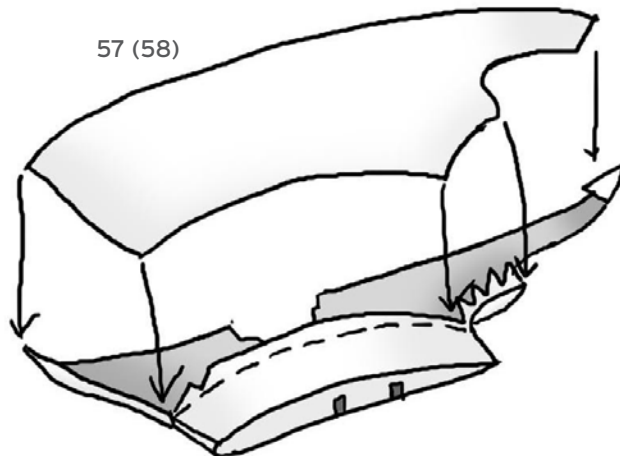
**2x**

Glue the walls on the edges where the wing is folded. **Don't mix them up!**  
The one which is rather empty is on the part of the wing that folds, the one with lots of pipes and things is the one on the fixed part of the wing.  
Rounden the wings to create airfoil and glue them together.



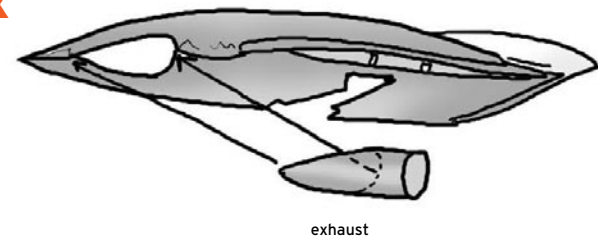
32. Glue the upper surface on the fixed part of the wing.  
You need to do a lot of roundening and shaping around the exhaust area.

**2x**



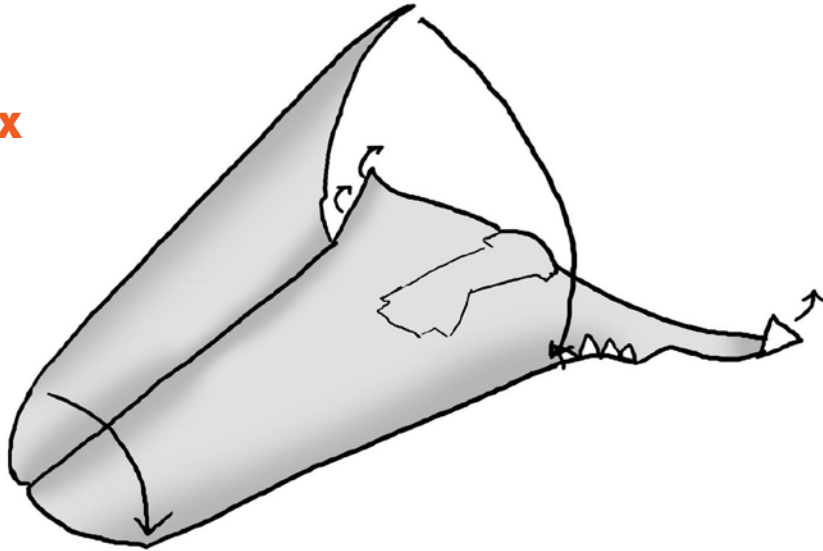
33. Glue the exhaust assembly into the opening in the fixed part of the wing. **Jump to 37.**

**2x**

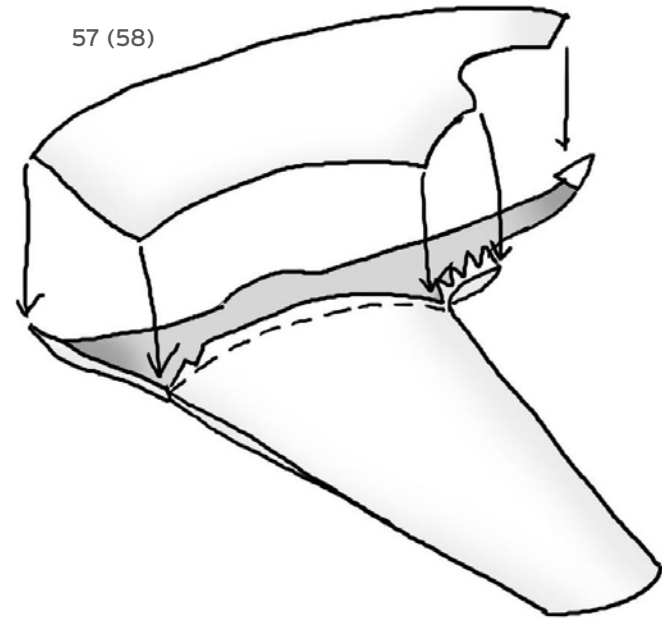


34. Rounden the wing to create airfoil then glue together.

2x

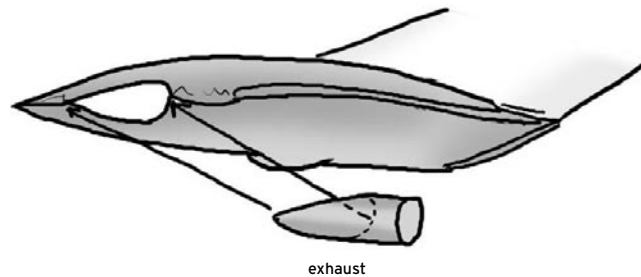


35. Glue the upper surface on the fixed part of the wing.  
You need to do a lot of rounding and shaping around the exhaust area.

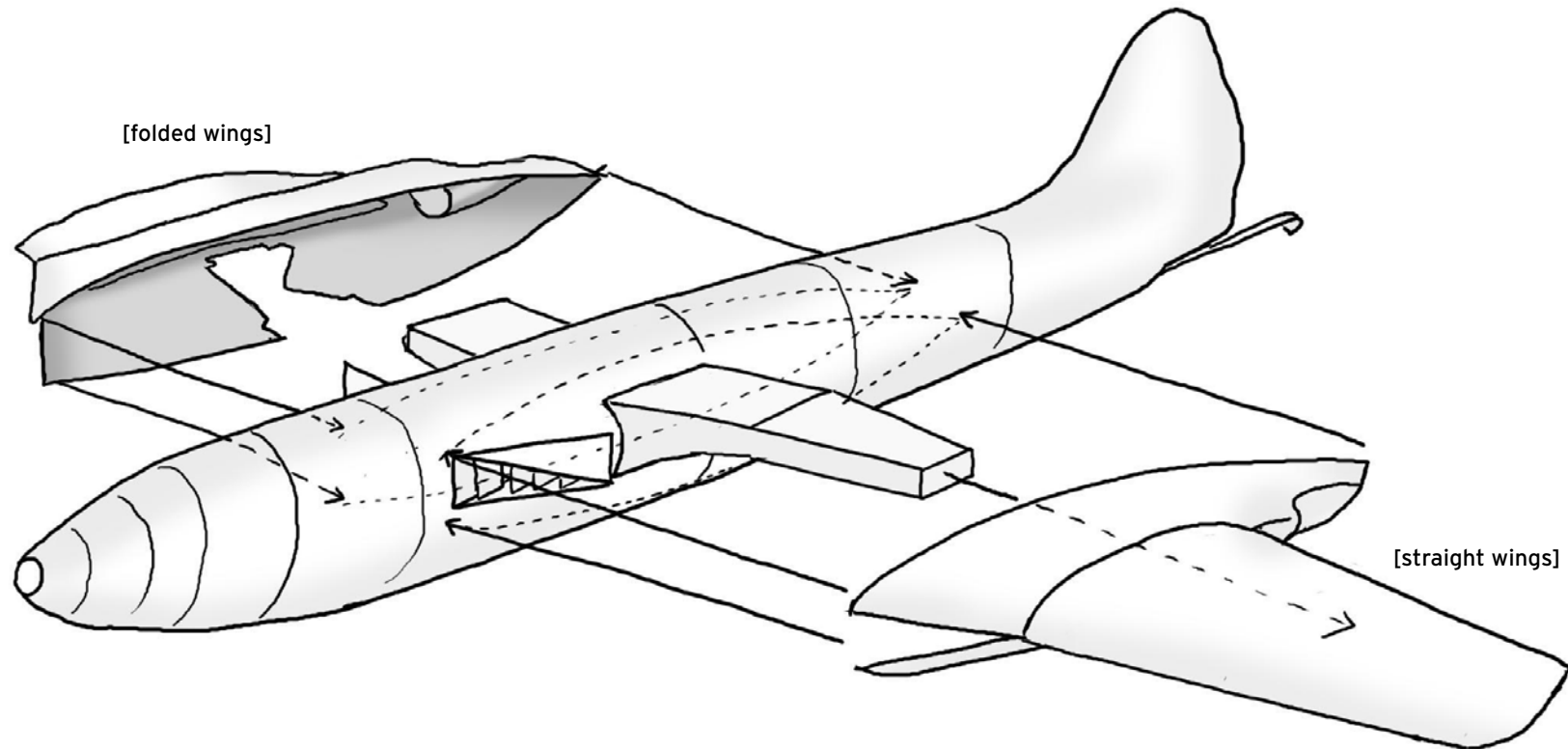


Port side shown  
(starboard in brackets)

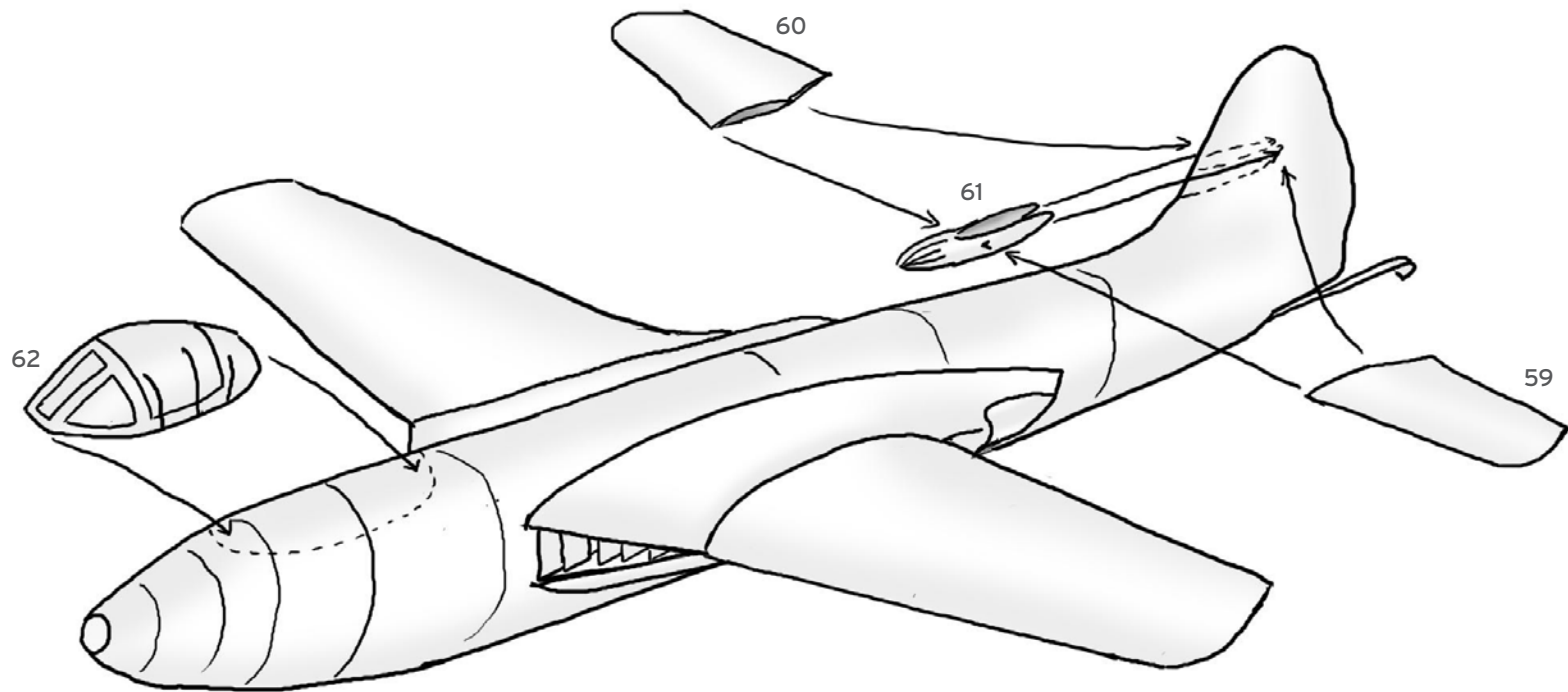
36. Glue the exhaust assembly into the opening in the fixed part of the wing.



37. Glue the wings to the fuselage, be sure to rounden the wings enough, especially the edges of the air intake.

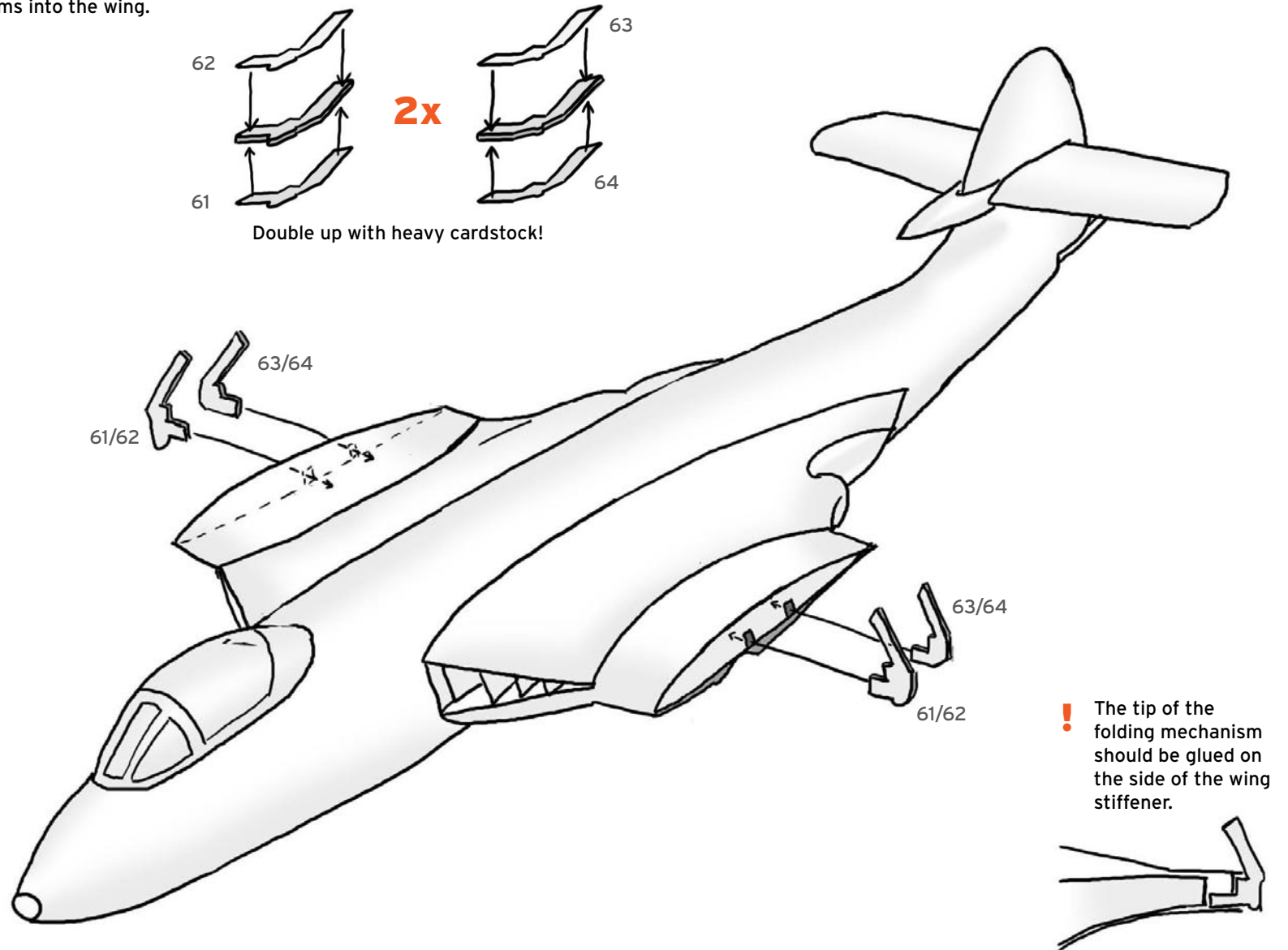


38. Glue on the canopy and horizontal stabilizers.



## 39. For folded wings only:

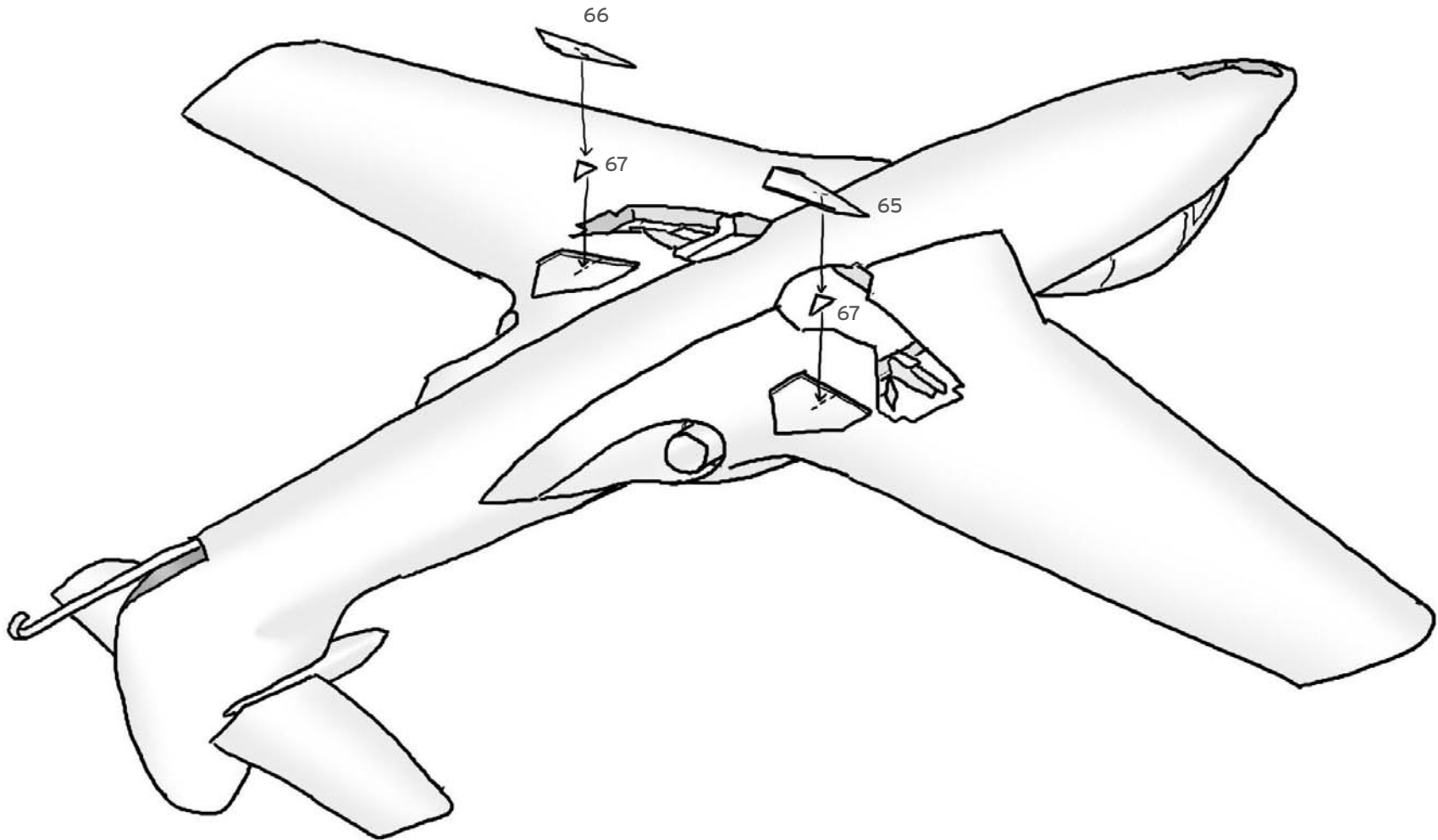
Glue the wing fold mechanisms into the wing.





40. For open small brakes only:

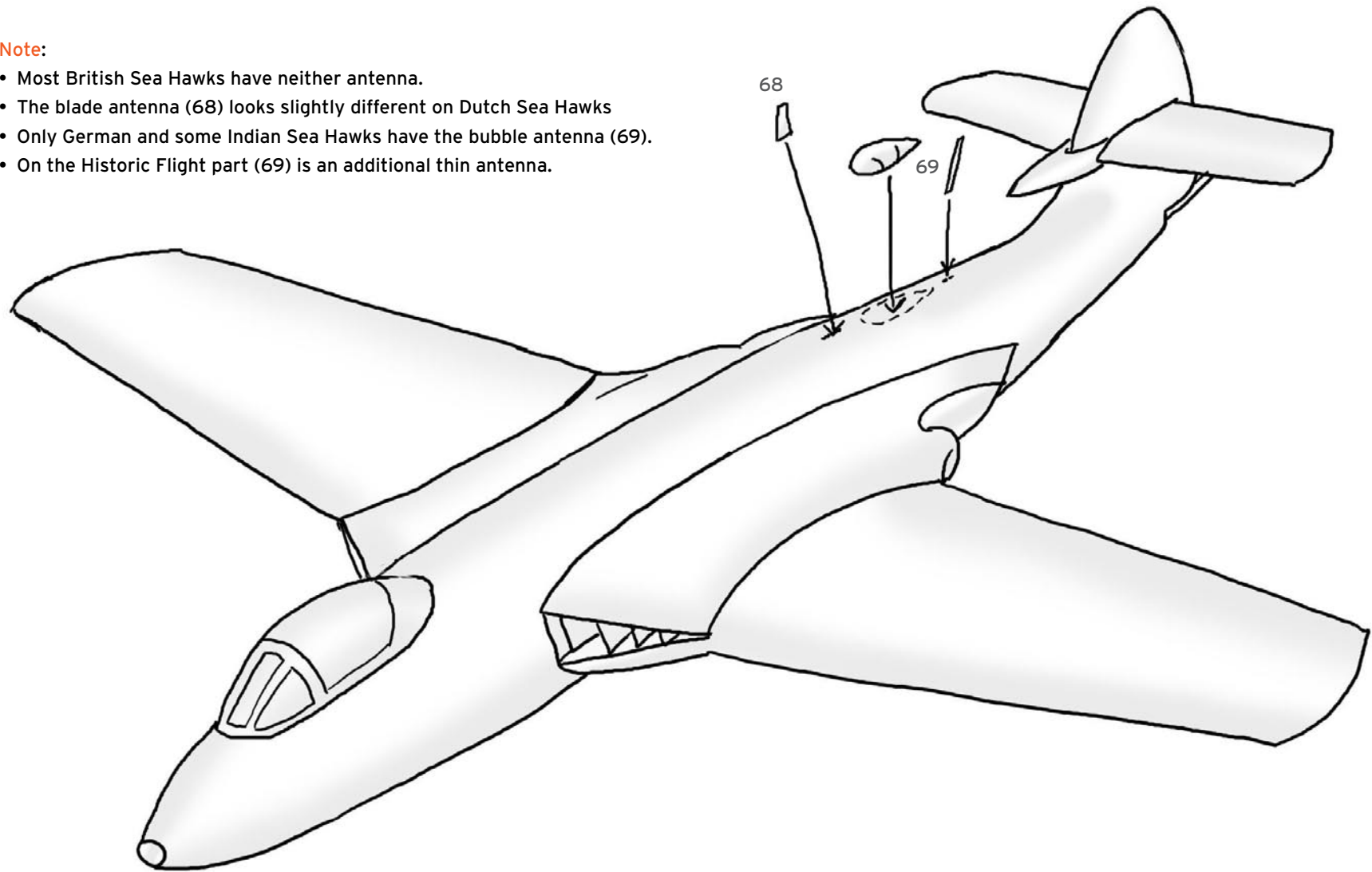
Glue the open brake on top of the triangle that is the hydraulic arm into their wells.



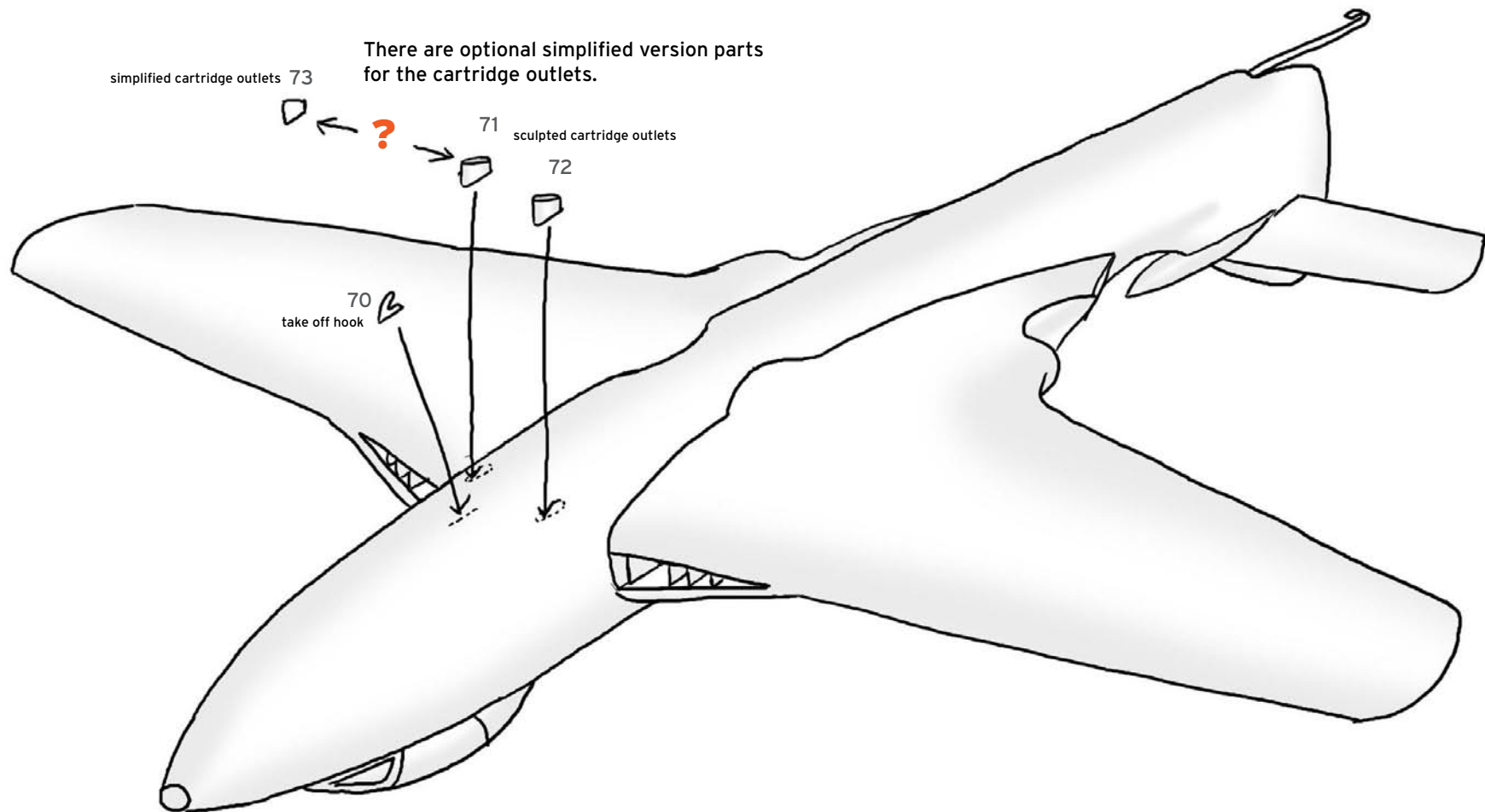
## 41. Upper details

**Note:**

- Most British Sea Hawks have neither antenna.
- The blade antenna (68) looks slightly different on Dutch Sea Hawks
- Only German and some Indian Sea Hawks have the bubble antenna (69).
- On the Historic Flight part (69) is an additional thin antenna.

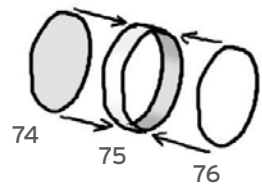


## 42. Lower details.

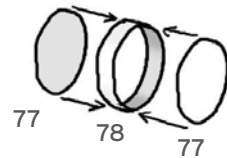


If you are building landing gear up, jump to 56.

43. Build the main wheels.



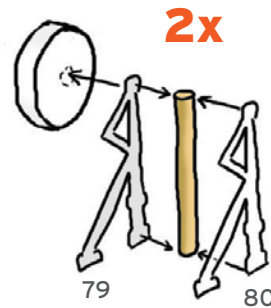
44. Build the nose wheel.



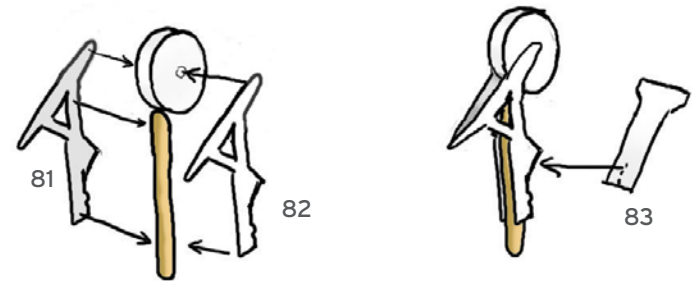
## PATTERNED LANDING GEAR

If you prefer the sculpted landing gear, jump to 48.

46. Use a toothpicks to stiffen the struts and attach the wheel.

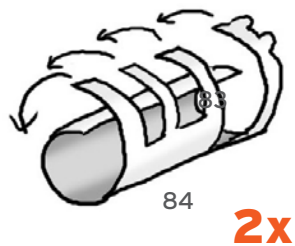


47. Glue the rear door to the strut.

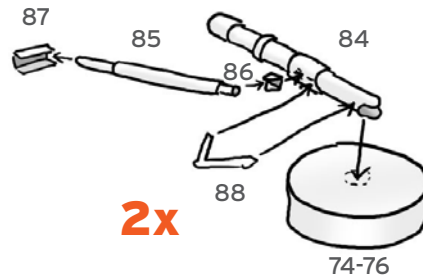


## SCULPTED LANDING GEAR

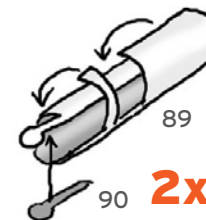
48. Roll and glue the struts for the main landing gear.



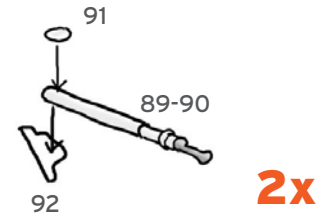
49. Attach details.



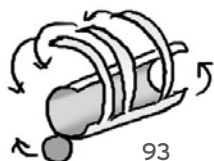
50. Build the hydraulic arm.



51. Attach details.



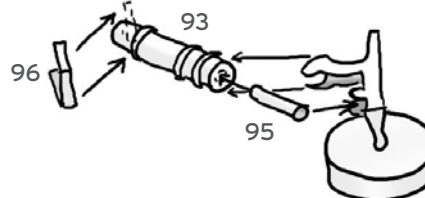
52. Roll and glue main landing gear strut.



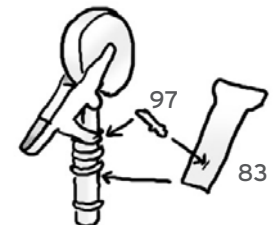
53. Build the wheel wagon and glue it to the wheel.



54. Attach the wheel wagon to the strut, add hydraulic tube and detail.

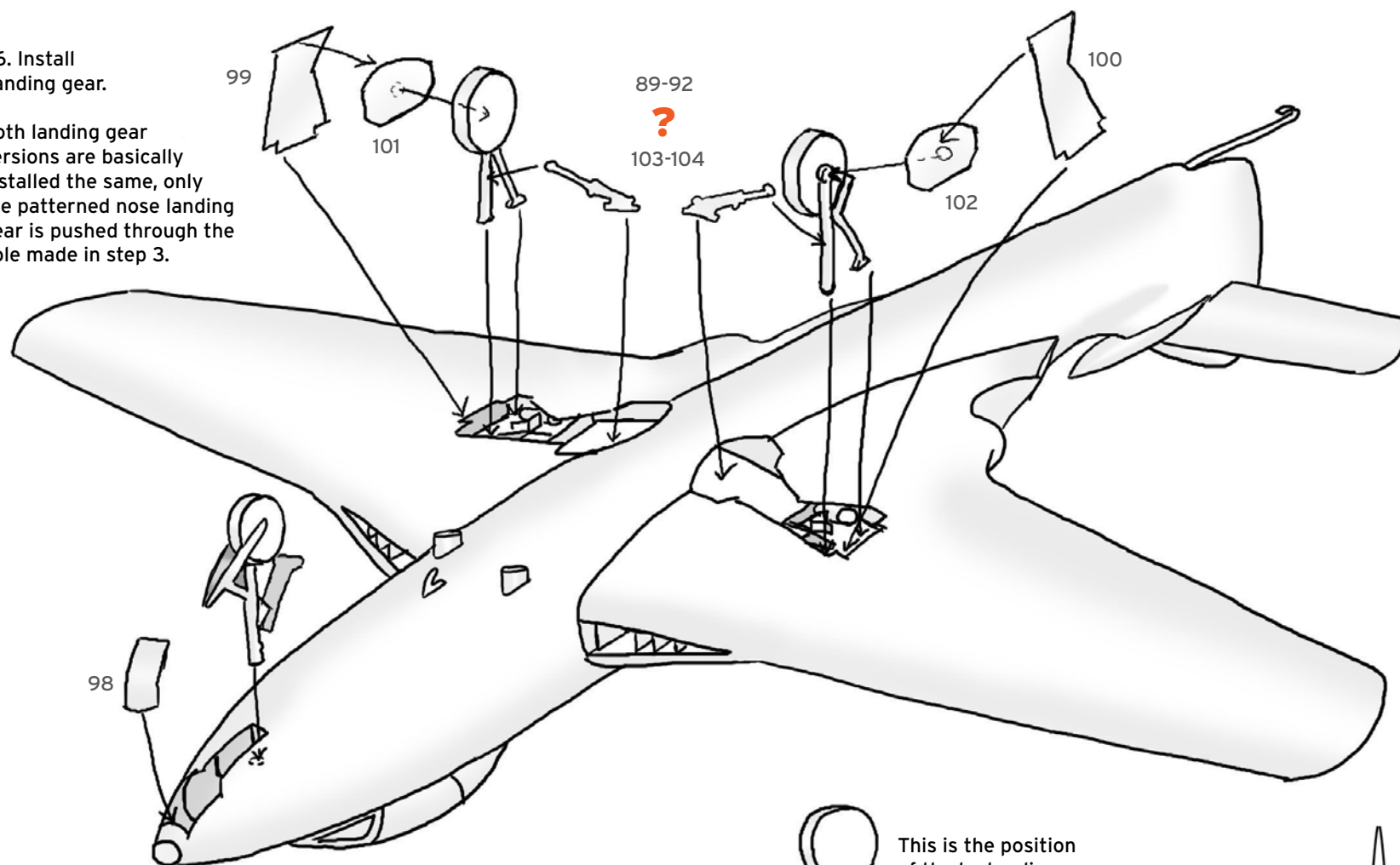


55. Glue the rear wheel door to its actuator and to the strut.

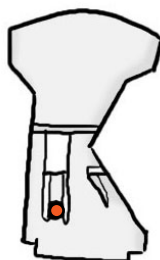


## 56. Install Landing gear.

Both landing gear versions are basically installed the same, only the patterned nose landing gear is pushed through the hole made in step 3.



The positions of the struts:

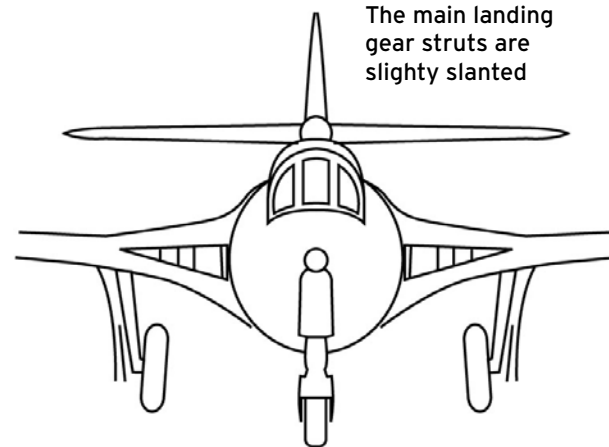


This is the position of the hydraulic arm.

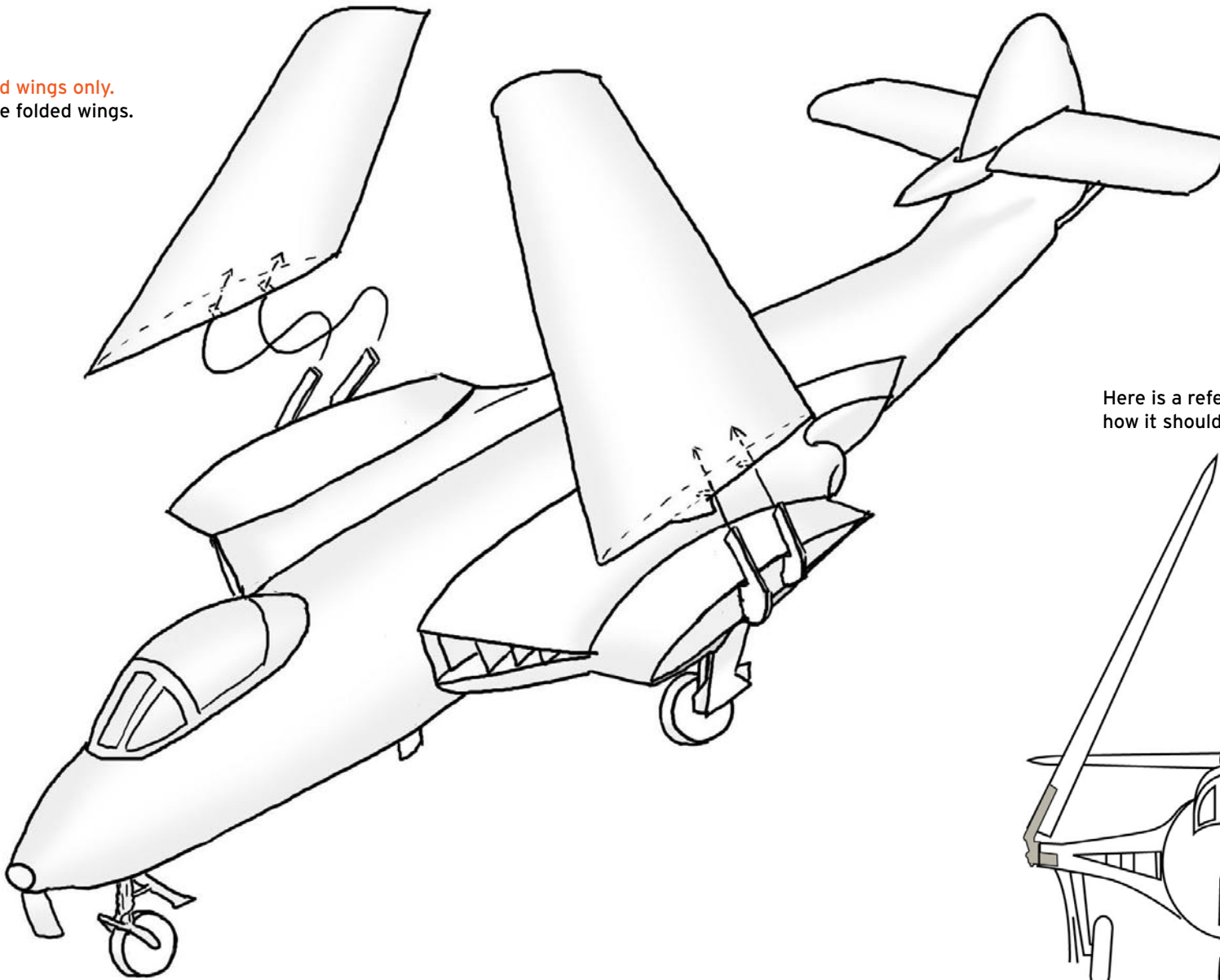
103-104



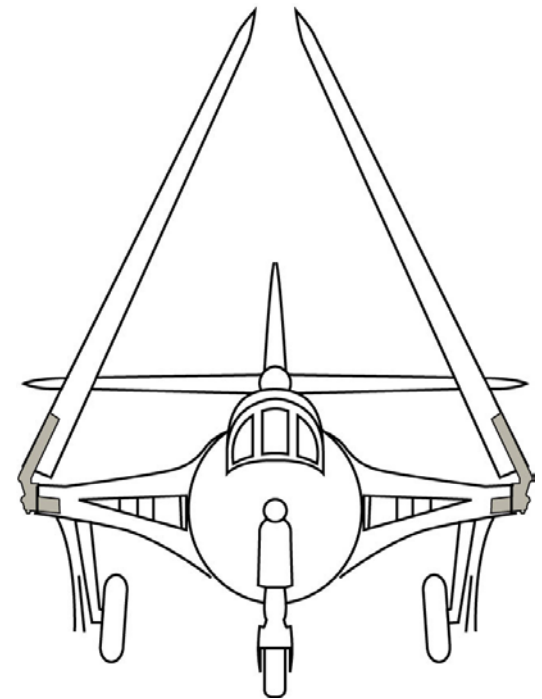
The main landing gear struts are slightly slanted



57. **Folded wings only.**  
Install the folded wings.



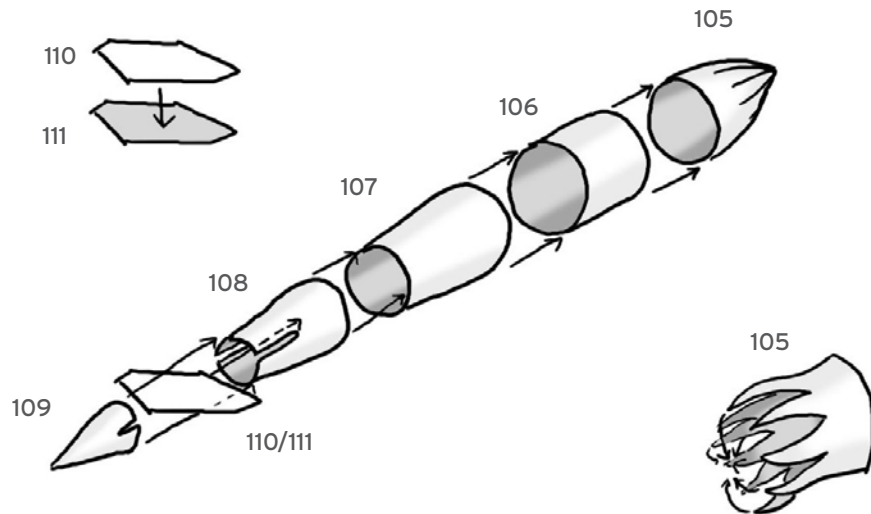
Here is a reference for  
how it should look:





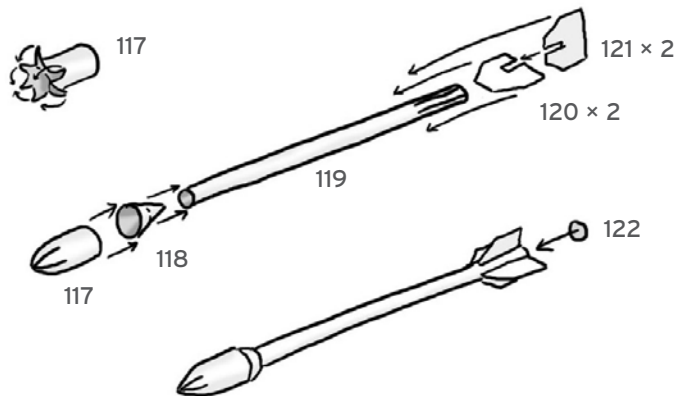
All outer stores are optional!

58. Build the **88 gal. drop tanks** (standard drop tanks).

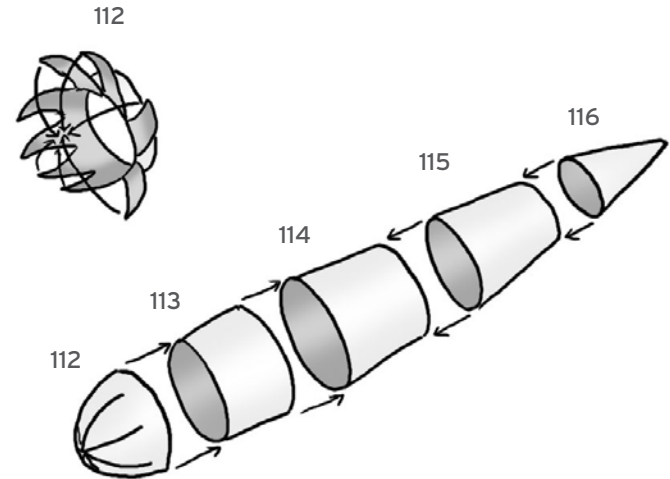


60. Build the **detailed rockets**,

...alternatively you can also...

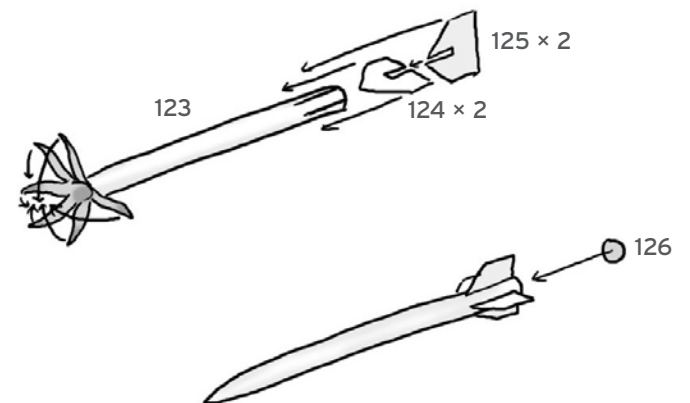


59. Build the **Erco Radar Pod** (German Sea Hawks only) or the **100 gal. drop tanks**.

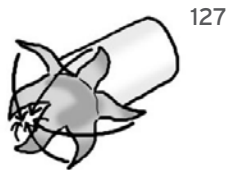


Don't mix up those two. They have the same part numbers!

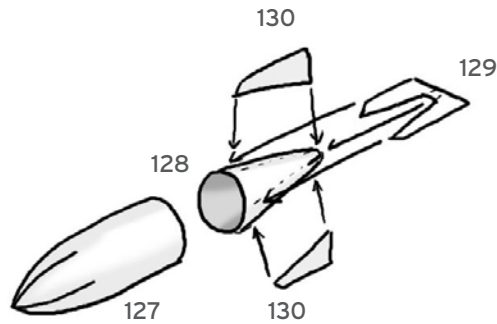
61. Build the **simplified rockets**.



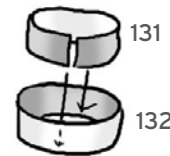
60. To build the **bombs**, first build the nose



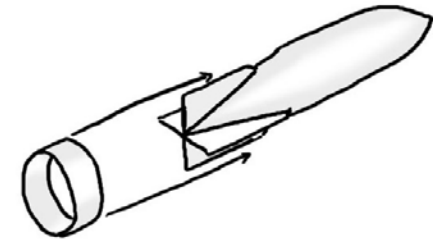
61. Attach the rear and fins



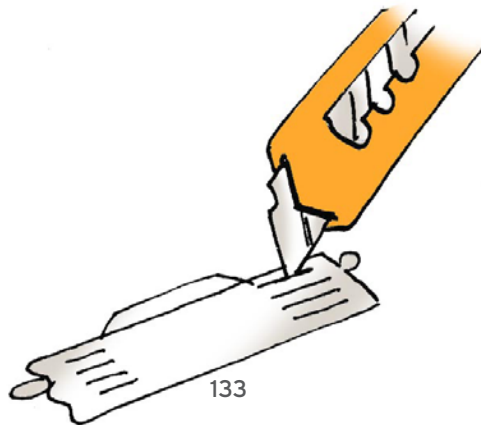
62. Build the fin ring, add the inner surface



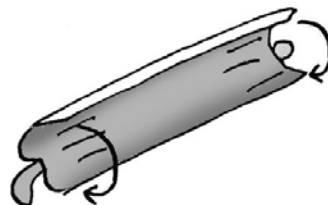
63. Glue the ring to the fins



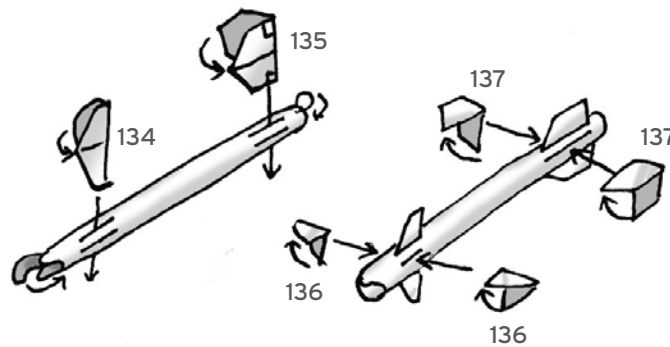
64. To build the **Sidewinder missiles**, cut in the holes for the fins.



65. Roll and glue.

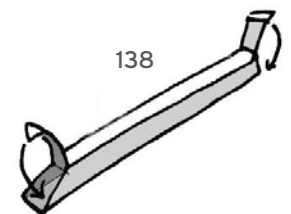


66. Add fins.



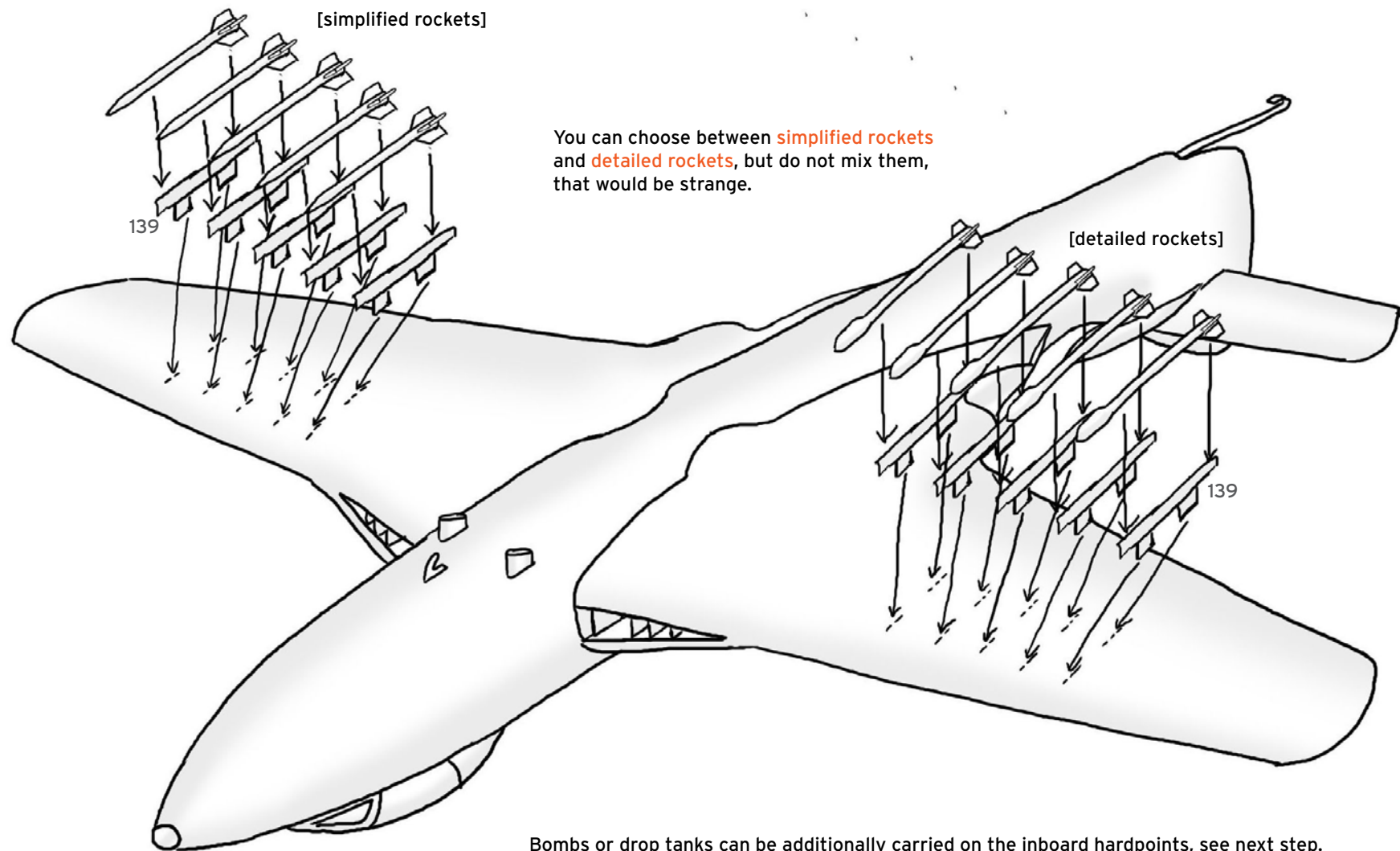
67. Add more fins.

68. Build the launch rails.

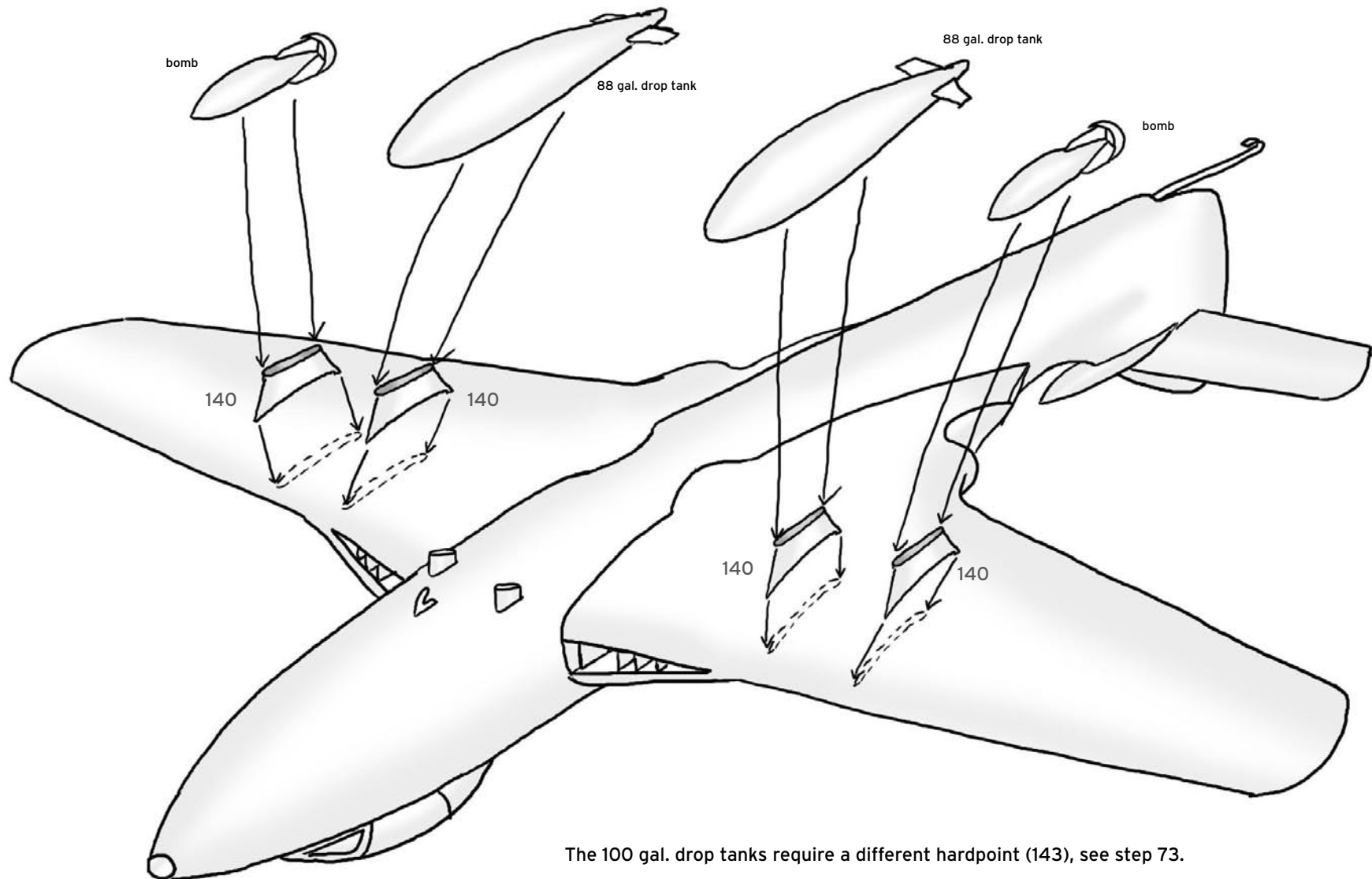




69. Rocket armament: Rockets are carried on the folding wing part. They can be attached even if the wing is folded. All versions may carry rockets. For hardpoint positions, see step 73.

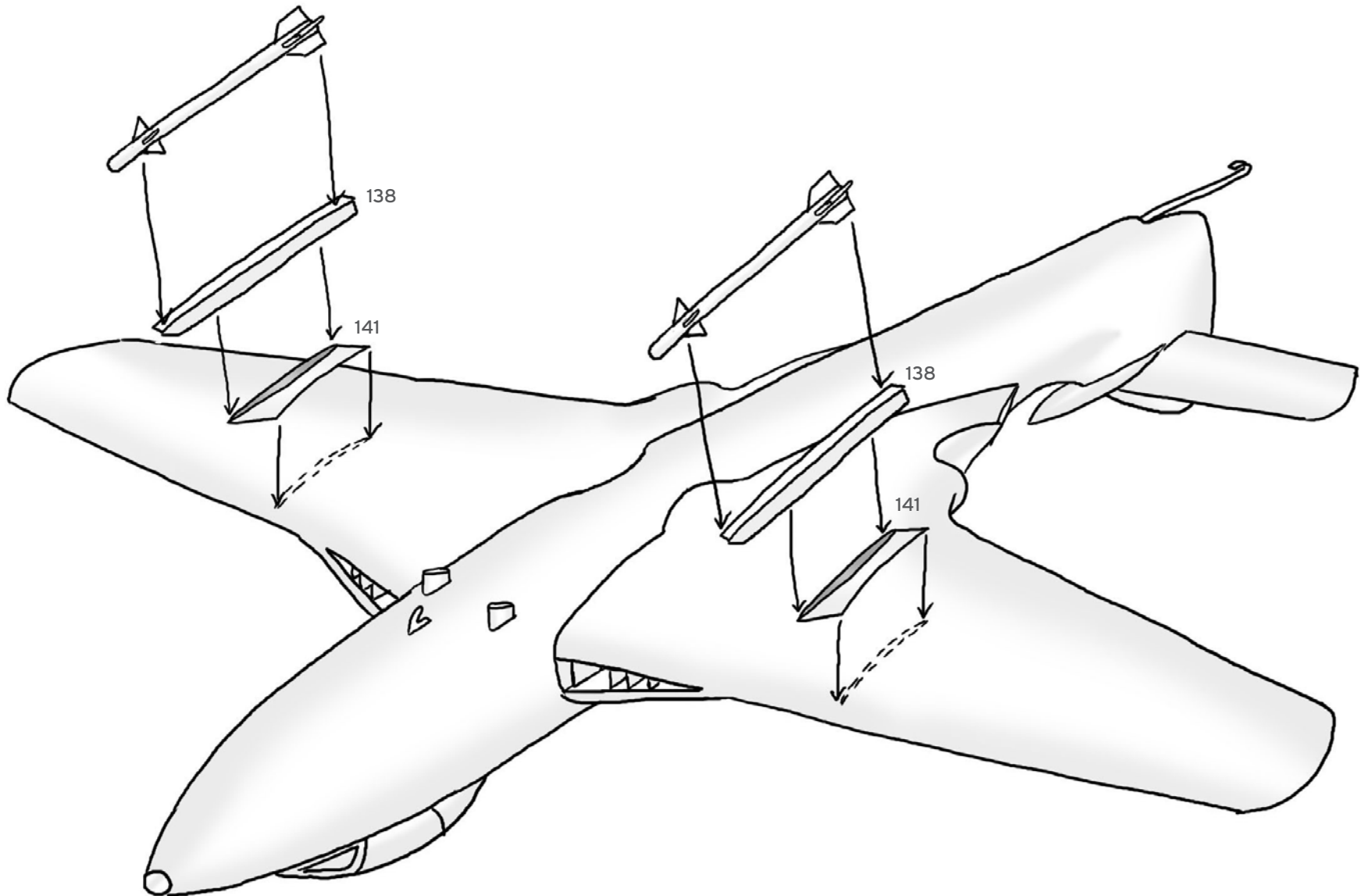


70. Bombs and Drop Tanks. Both bombs and 88 gal. drop tanks can be carried on all four hardpoints, but it makes sense to have them in pairs. For hardpoint positions, see step 73.



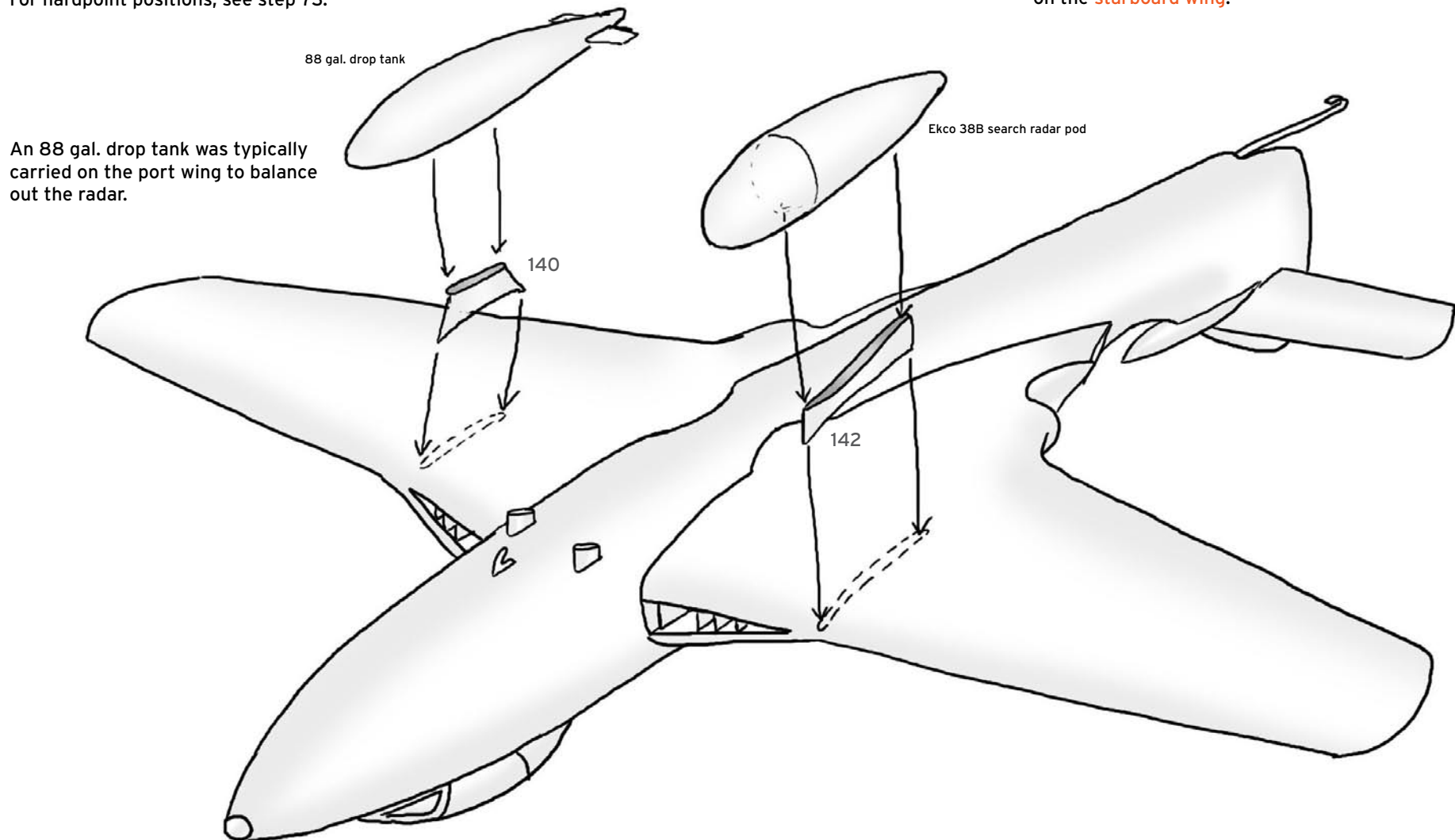
The 100 gal. drop tanks require a different hardpoint (143), see step 73.

71. Sidewinder missiles could only be carried on the **Dutch Sea Hawks**, so if you value authenticity, then don't carry them on any other versions. For hardpoint positions, see step 73.

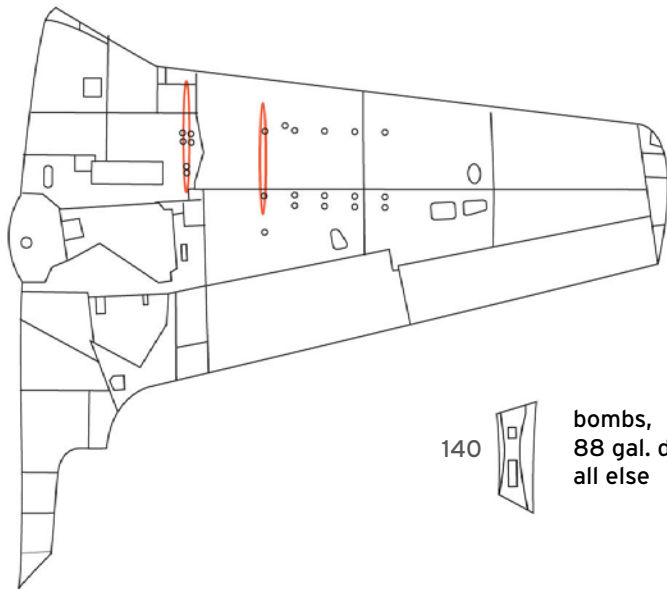



72. The Ekco search radar pod was only carried on **German Sea Hawks**. Although these aircraft were later sold to India, it is unclear, whether the Indians used the radar pods. If you value authenticity, you should therefore not have other versions carry them. For hardpoint positions, see step 73.

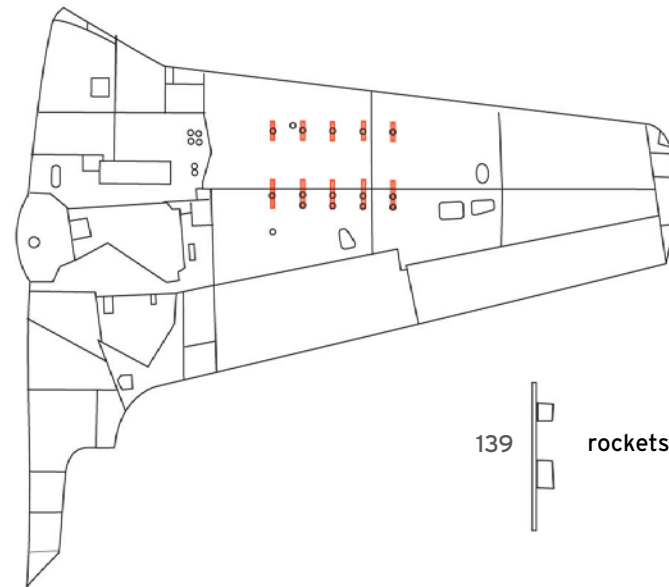
! The radar pod could only be carried on the **starboard wing**.




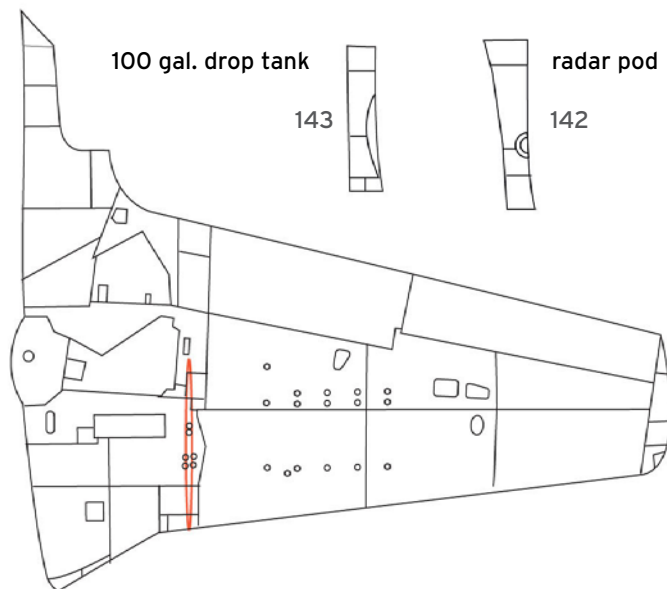
83. hardpoint positions



140  bombs,  
88 gal. drop tanks,  
all else



139  rockets



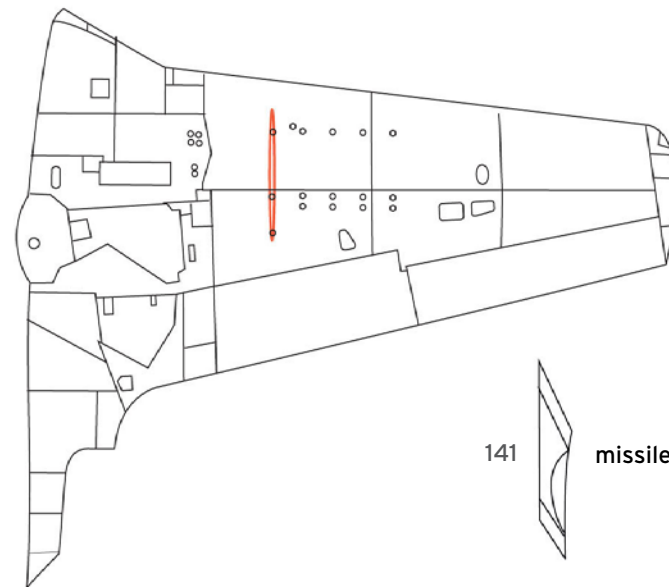
100 gal. drop tank


143



radar pod

142



141  missiles