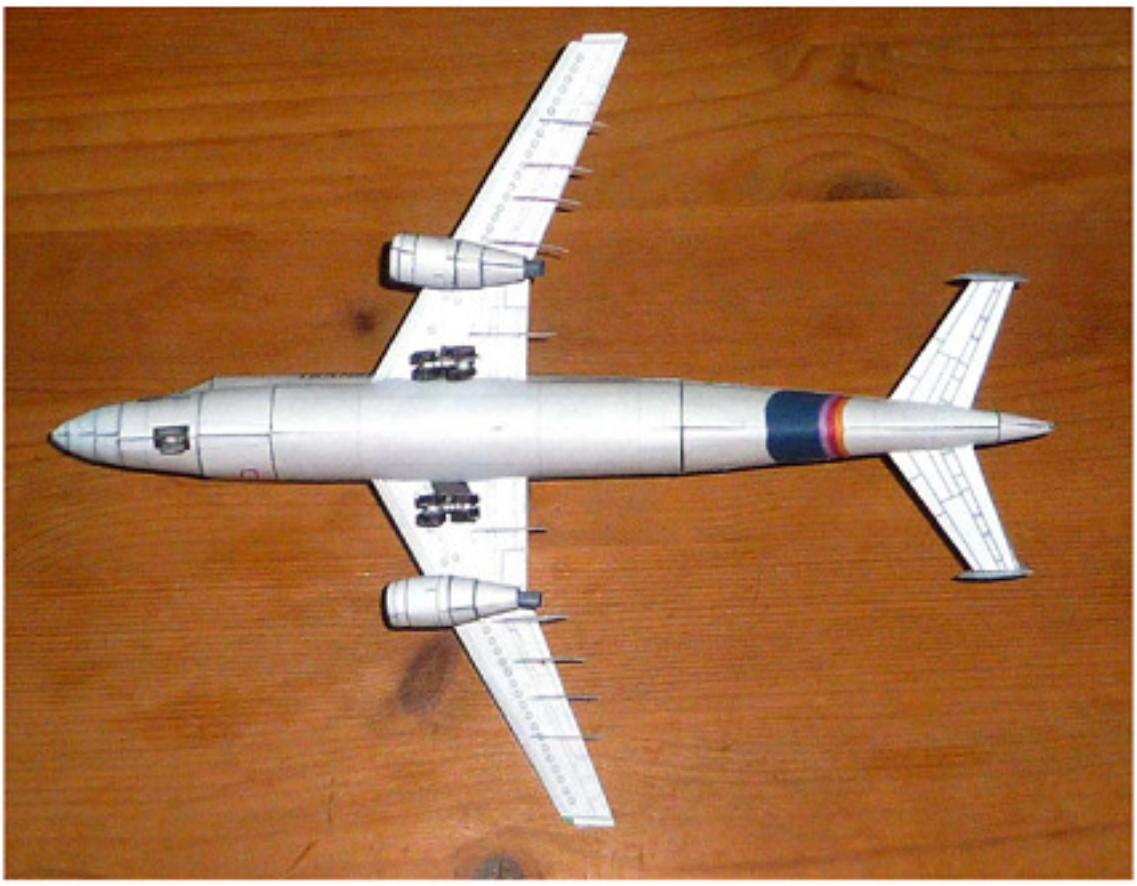
Bob's Card Models

http://www.bobscardmodels.altervista.org and www.zealot.com [Resources]



Airbus A300-600ST, "Beluga"

The Airbus A300-600ST (Super Transporter) or Beluga is a version of the standard A300-600 wide-body airliner modified to carry aircraft parts and over-sized or awkward cargo. It was officially called the Super Transporter at first, but the name Beluga became popular and has now been officially adopted.

History

Several major aircraft manufacturers are multinational, and it is not unusual for them to have plants in widely separated locations. Airbus, however, is unique in that it was a consortium formed by the major French, British, German, and Spanish aerospace companies, and the geographic location of Airbus manufacturing is not merely a matter of cost and convenience, it is also a matter of history, national interest and pride. In consequence, each of the Airbus partners makes an entire aircraft section, which needs to be transported to a central location for final assembly. The details vary from one model to another, but the general arrangement is for the wings and landing gear to be made in the UK, the tail and doors in Spain, the fuselage in Germany, and the nose and center-section in France; all being assembled in either Toulouse, France or Hamburg, Germany.

Background

When Airbus started in 1970, the first few components were delivered by road, but growing production soon necessitated a switch to air transport. From 1972 onwards, a fleet of four highly modified "Super Guppies" took over. These were former Boeing Stratocruisers from the 1940s, converted with custom fuselages and turbine engines to carry large volume loads for the 1960s NASA space program, leading to the jibe that 'every Airbus is delivered on the wings of a Boeing'. As time went by, the Super Guppies grew increasingly unsatisfactory for Airbus's ferrying needs: their age meant that operating expenses were high and ever-increasing, and growing Airbus production required greater capacity.

Specifications

Measurement	A300-600ST
Length	56.15 m
Span	44.84 m
Height	17.24 m
Wing area	122.40 m²
Fuselage diameter	3.95 m 7.1 m in cargo compartment
Weight empty	86 t
Maximum take-off weight	155 t
Range (40 ton payload)	2,779 km
Range (26 ton payload)	4,632 km
Engines	General Electric CF6-80C2A8
Cargo capacity	47 t
Cargo volume	1,210 m³
Cockpit Crew	Two

Performance
Maximum speed: 135 mph (217 km/h)
Range: 875 miles (1,408 km)
Service ceiling: 13,000 ft (3,963 m)
Wing loading: 18 lb/ft² (89 kg/m²)
Power/Mass: 0.07 hp/lb (0.11 kW/kg)
[Wikipedia]

Building Instructions

The 'Beluga' is basically an adapted Airbus A300, with a bent nose! Initially therefore, the fuselage is formed, and then the adaptation undertaken (mainly the cargo portion).
Print all sheets on between 160 and 230g card, except Instructions and Sheet 6 and which should be printed on 80 - 90g Paper.
Always carefully fit parts together before gluing, and make minor adjustments if necessary. The fuselage parts should be rounded using wooden or metal rods, before closing/gluing the form.
Bright Green areas must be cut out, BUT only after gluing any folds. The Instructions will tell you when! The Beluga (which is white in colour) is designed in such a way that the lines to be cut are cut on the INSIDE of the piece, so that the black lines are no longer visible in the finished model - apart from the cargo door.

Fuselage

1. Cut out parts **1** to **8**, round the segments, close and glue each form.
2. Inside part **4**, diagonal bulkhead **4A** (3x thickness) must be glued in place, as a support for the front wheel .... Pierce the hole for the front wheel shaft. The bulkhead **4A** is inserted with the aid of 2 toothpicks. The bulkhead must be a loose fit - snip smaller if necessary inserted in the 2 holes, so far as to be just in front of the hole for the front wheel shaft.
3. When the glue of the bulkhead is dry, insert a toothpick through the bottom of the fuselage, through the green hole, and glue in place on the bulkhead.
4. In the front of **4**, glue a mass of 8g or more as a counter-weight.
5. Glue the parts together in the following order: 6-7-8, 5-4-3-2-1.
6. Glue assembly 12345 to front of part 6. Note the correct bending of the fuselage 'nose' by using the sketch in Appendix 1 as a template.
7. Round the nose and tail by cutting 1-2mm slits, gluing and forming with the finger.
8. Glue on bulkheads **12A** and **12B** in place on top of the fuselage.

Cargo hold (NB: carefully note front and rear ends of each piece)

6. Cut out and round part **12**.
7. Cut all green areas and slits on **12**.
8. Glue the cargo hold **12** onto the fuselage, using the slits on the fuselage for inserting/gluing the tabs, and hold in place with elastic bands. It is not necessary to glue **12** to the bulkheads **12A** and **12B**, as the function of the latter are solely to keep the correct form of **12**.
9. Glue a bead along the join of the cargo hold to the fuselage, and when dry, remove elastic bands.
10. Close glue front portion of **12**.

11. Add part **13**.

Wings [9] *

12. Cut out **9**, fold tabs, round the upper surface of the wings.
13. Cut the round green point on each wing - later to be used for the vertical shafts of the undercarriage.
14. Cut the slits for the engine supports **23** in the lower left and right wing surfaces, assemble **23** and insert through the wings and glue in place.
15. Glue the engine supports **23** in place, by inserting from inside the wing surface.
16. Close /glue the 2 separate surfaces wing surfaces.
17. Cut off pyramidal portions (green line).
18. Insert the right wing through part **6** further than the correct position, so that the central portion of the wing protrudes through the left-hand side of the fuselage. Glue the left wing on to the protruding portion of the right wing. When dry, position correctly and glue in place.

Tailplane *

19. Cut out **10**, fold tabs, round the upper surface of the wings, glue
20. Cut off pyramidal portion (green line).
21. Insert through part **7**, and glue in place.
22. Cut out fins **11** , pass the wingtip tabs through the slitted side of **11**, bend back the wingtip tabs, close and glue **11**.
23. Add main fin **14**.

Engines

24. Cut out, round, close/glue parts **15**, **16**, **18**, **19**, **22**.
25. Glue **15** to **16**, then pass **20** from the rear through this assembly to rest glued at the border of the 2 parts.
26. Glue **21** inside **18,** roughly halfway inside **18**.
27. Insert/glue **19**. Inside, insert/glue exhaust **22**.
28. Wrap glued **17** around **16**, to give the impression of a rounded engine casing, and tuck/glue the ends inside the engine supports **23** (to fit into **23**, they will have to be cut shortened and diagonally).

Undercarriage, Wheels

Front:

29. Cut out and assemble the 2 front wheels **23**, glue horizontal shaft **24** between the two wheels.
30. Fold and glue **25** on to the top of the toothpick vertical shaft piercing the fuselage underside, up next to the fuselage, and cut off the remaining visible toothpick.
31. Glue the vertical shaft on to the horizontal shaft between the 2 wheels.
32. Cut toothpick so that total length of toothpick to bottom of wheel is 26-27mm. Before gluing check this distance by checking aircraft fuselage to be parallel to the table.
33. Attach the 2 front wheel compartment doors **26**.

Main:

34. Cut out, fold and glue the 2x4 wheels **27**.
35. Join each of the 2 wheels with a short horizontal wheel shaft **28**
36. Join together 2 wheel pairs with a long horizontal wheel shaft **28**.
37. To each of the 2 wheel pairs, glue on vertically a vertical toothpick. Cut off the visible portion (ie wood) of the toothpick.
38. Pierce the 2 round holes (green) on the underside of the wing, glue the wheel assemblies in place.
39. Add the diagonal wheel axles **30**.

Varia

40. Add the 3 aerials **31** - 2 on top, and 1 underneath the fuselage.
41. Add the 10 stabilisers **32** under the wings in the positions coloured purple, and trim so that 5 mm protrudes behind the trailing edge of the wings.

- Note: the widths of the *lower* surfaces of both the wings **9** and tailplane **10** are 98% those of the *upper* surfaces. Thus, gluing exactly to the tabs results in the proper dihedral of the wings and tailplane.
- Note: Make sure that the marking 'Top' on the wings and the tailplane are uppermost!

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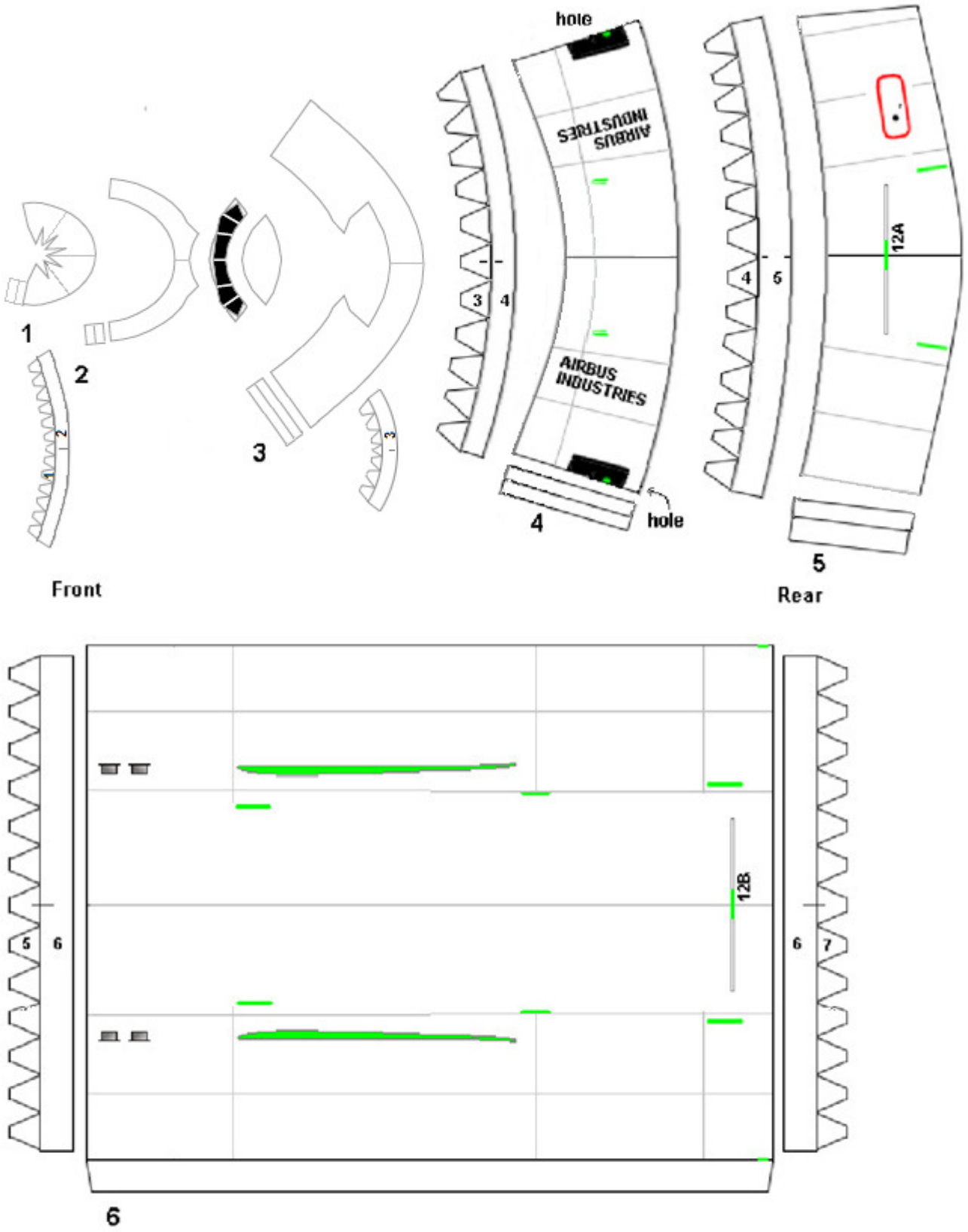
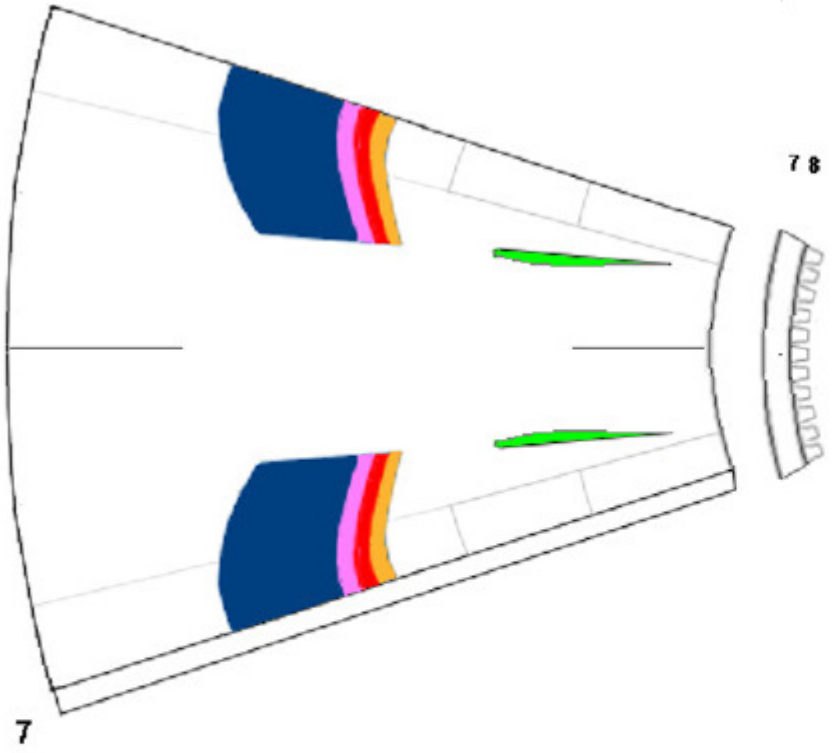
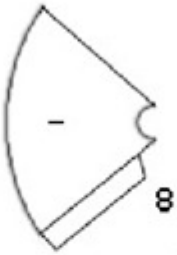
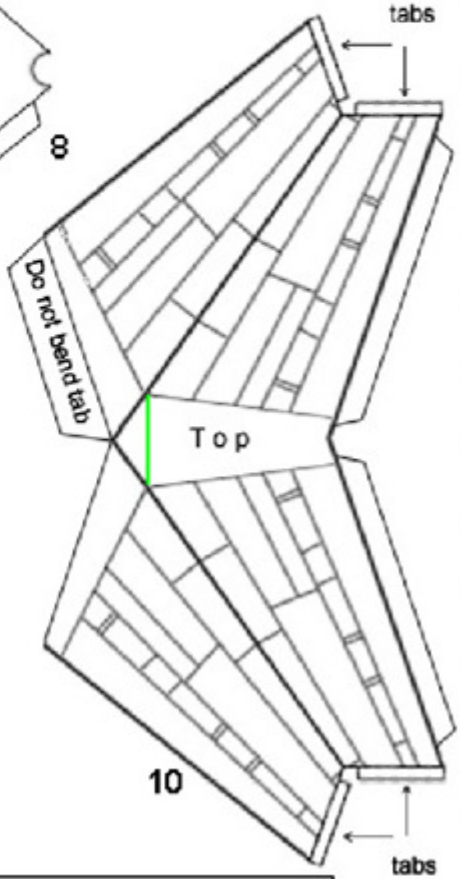


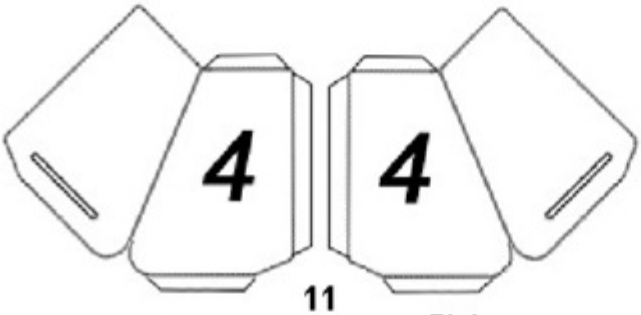
Sheet 1

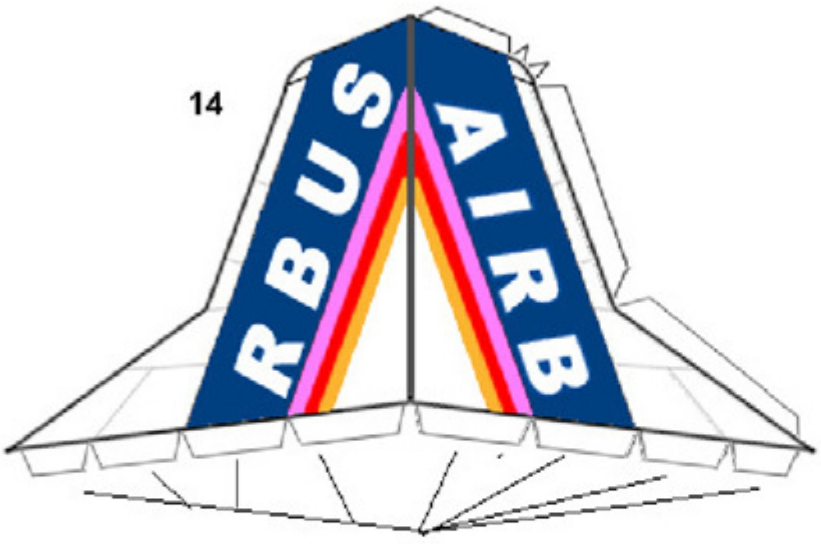
Beluga



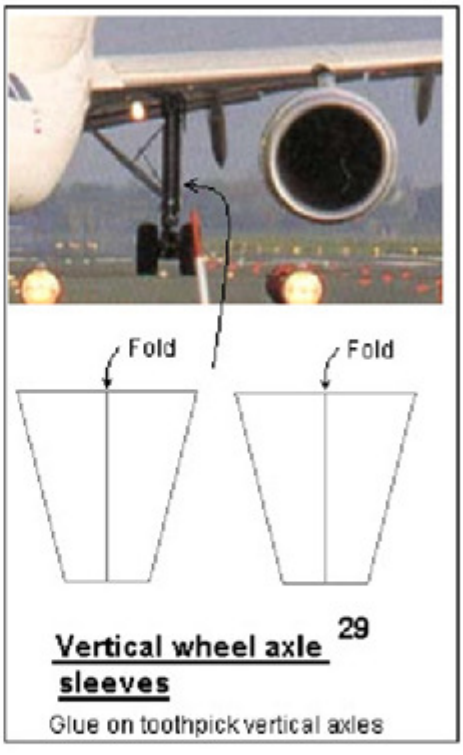








Bend these 8 tabs upwards



Sheet 2

Beluga

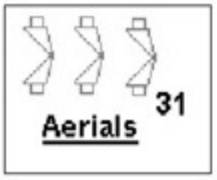
Horiz. Wheel Shafts 28

Roll around toothpick and glue. Remove toothpick, cut the 6 horiz. shafts.

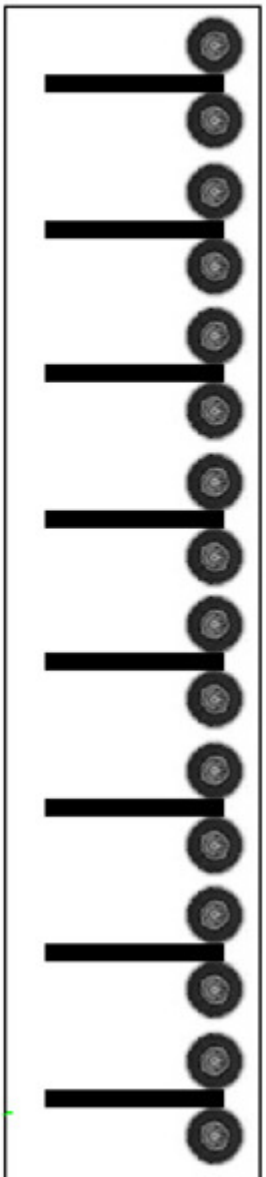
9

Do not bend tab

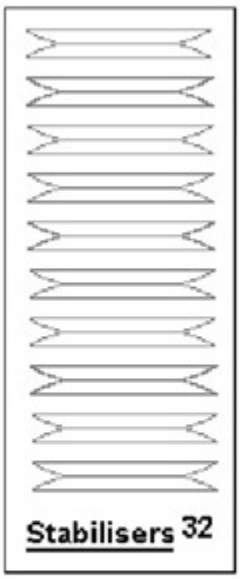
Top



Aerials 31



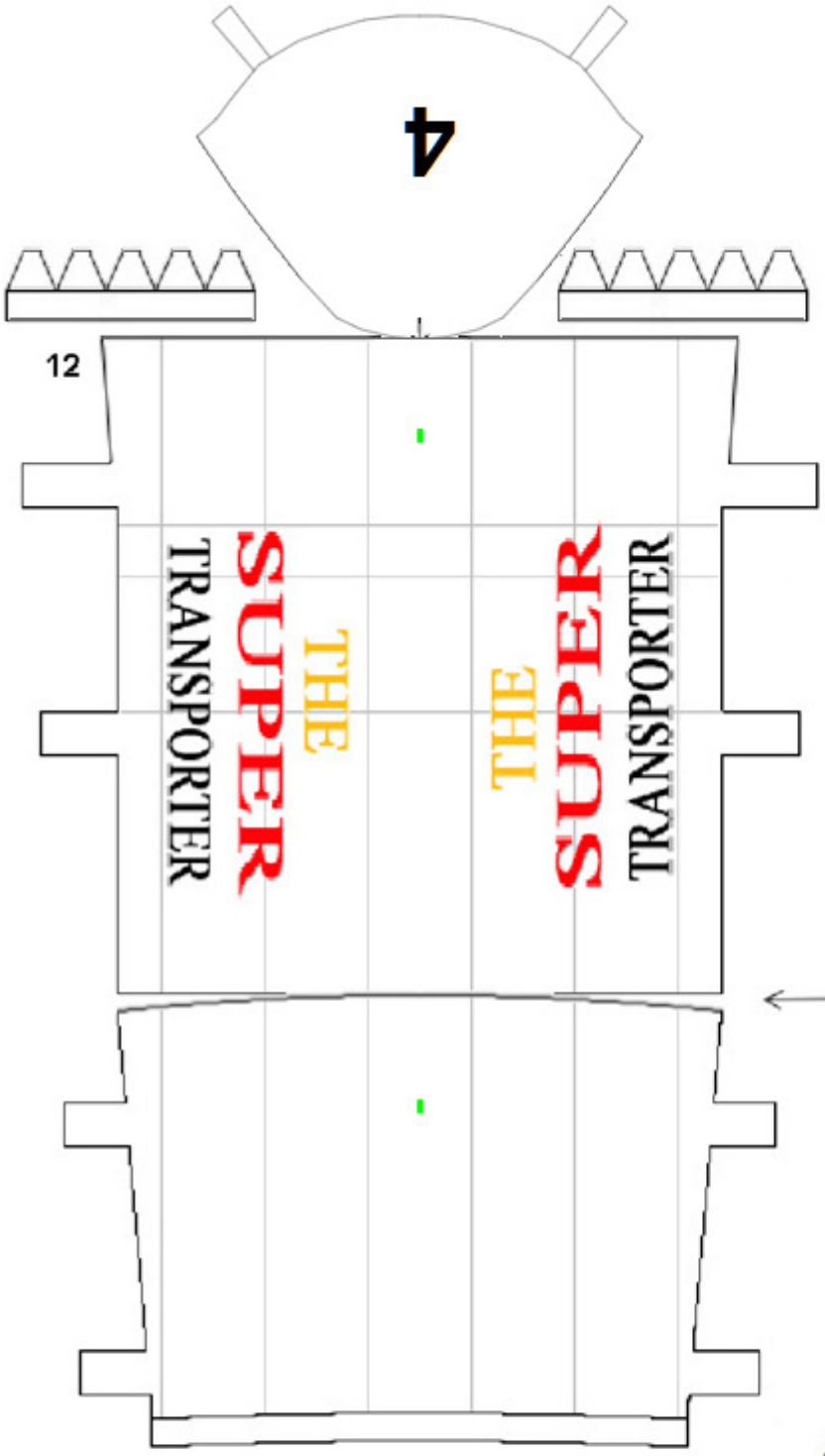
Main wheels 27

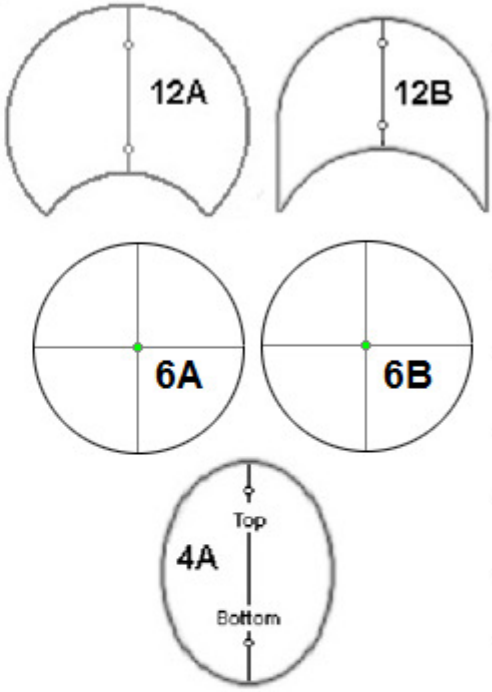


Stabilisers 32

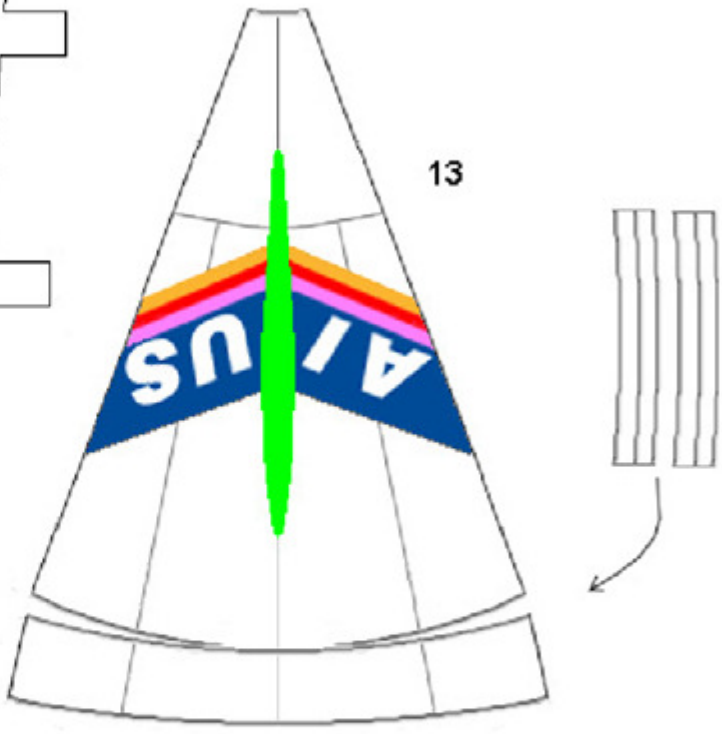
Sheet 3

Beluga



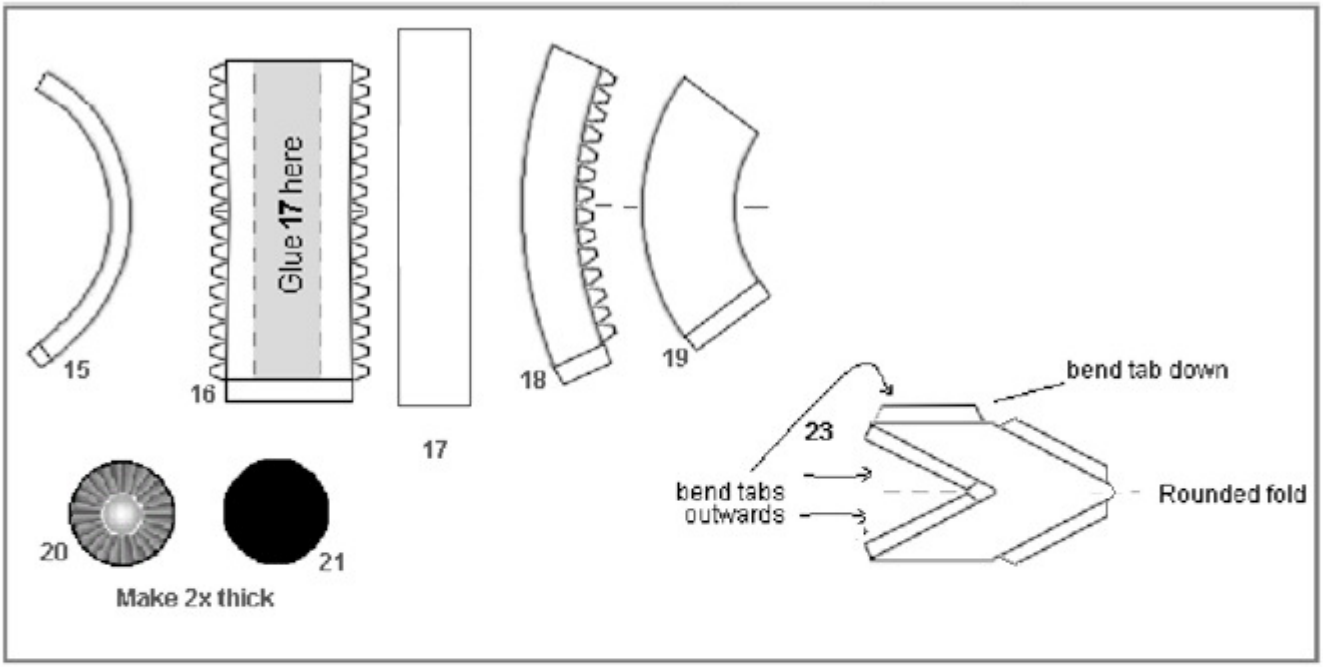


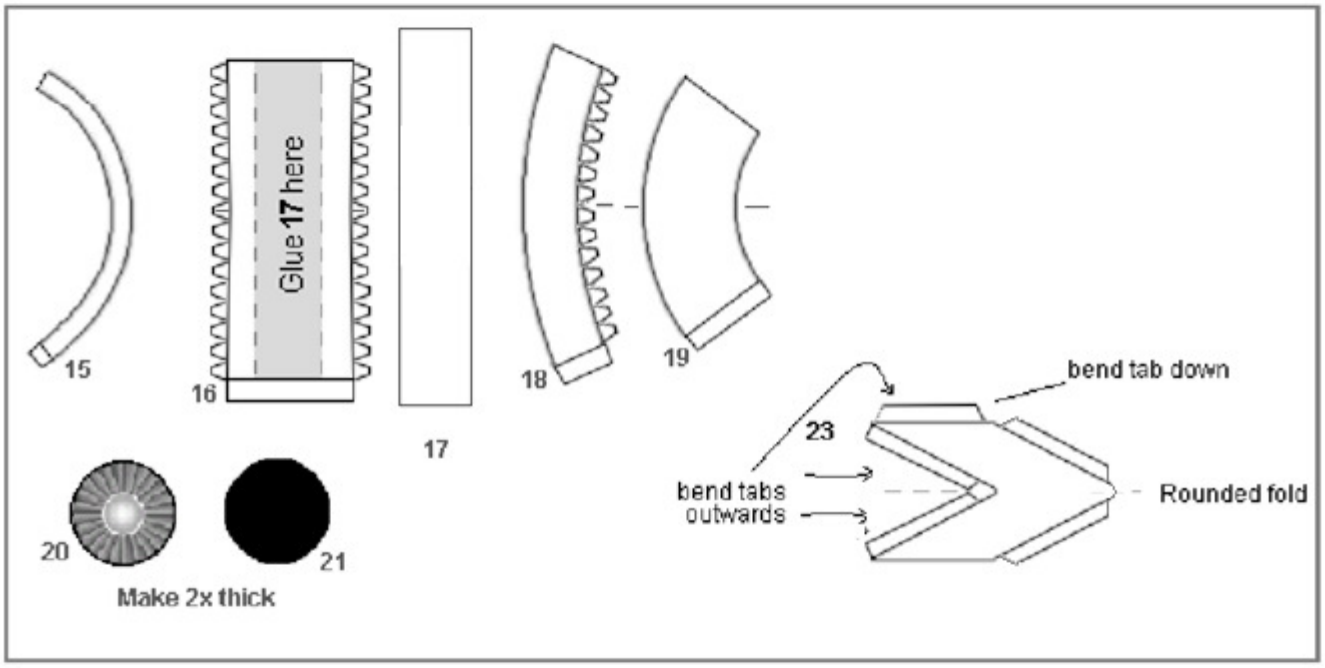
Make each 3x thick

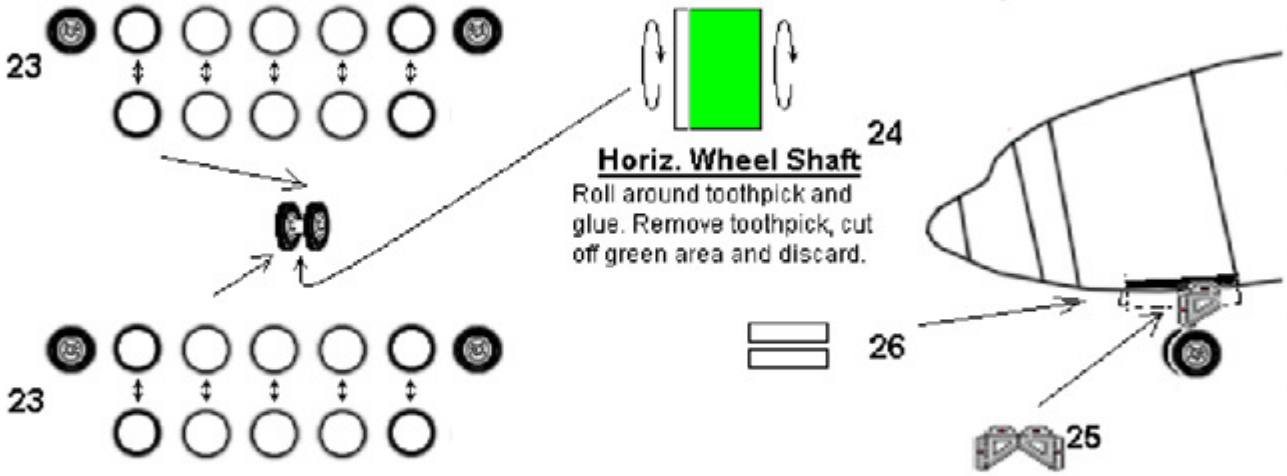


Sheet 4

Beluga







Horiz. Wheel Shaft

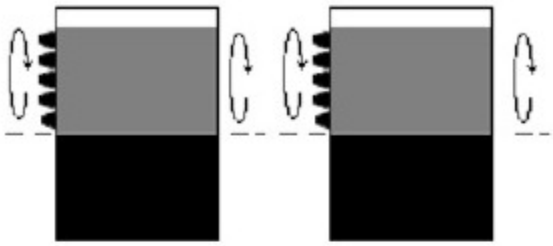
Roll around toothpick and glue. Remove toothpick, cut off green area and discard.

Front Wheel Pair

Glue together the arrowed pairs, then assemble the 2 wheels

Sheet 5

Beluga



fold, glue & roll.

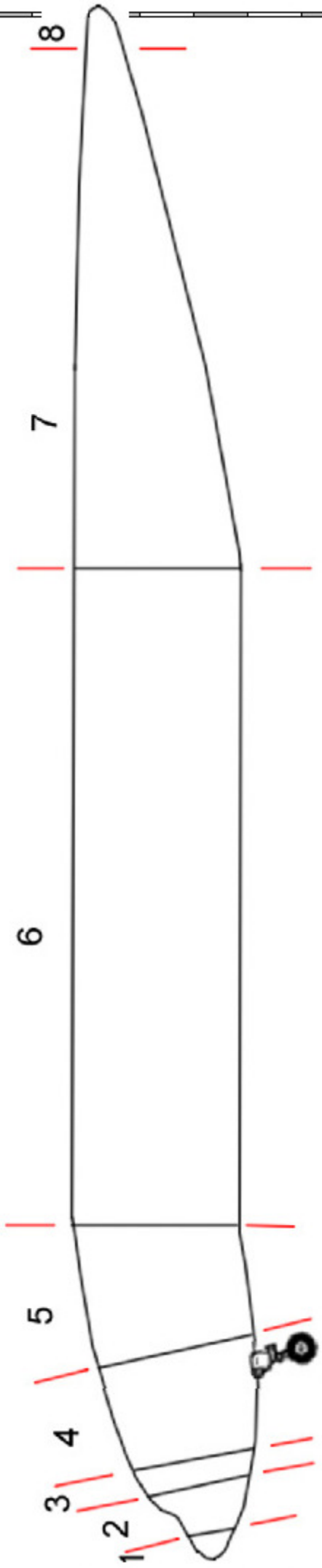
Exhaust pipes [22]

Grey outside; black inside

Print on 70 - 90g/m^2 Paper !

Sheet 6

Beluga



APPENDIX