

Assembly Instructions for the Vickers transoceanic airship



About the airship

After the First World War Vickers Ltd., one of Britain's major industrial firms, began developing a series of military and commercial airship designs. It was believed by many that airships were the only practical means of crossing the oceans by air, so among the Vickers proposals was a huge transoceanic dirigible. This ship would be 800 feet in length, and carry 100 passengers in comfort. An unusual feature of the design was the location of the passenger quarters and dining salon on top of the airship envelope. An open shelter deck was located behind this structure to allow passengers to spend time in the open air. In addition, observation areas were provided in an open platform at the stern and in an enclosed gondola at the bottom rear of the ship. Other innovations included a fire-proofed smoking lounge and an electric lift allowing travel between the upper and lower areas. A mooring mast system was devised to allow easier docking without the need for large ground crews. A scale model of this design appeared at an aviation exhibition in 1919 featuring Royal Air Force red, white and blue roundels, though it seems unlikely that these markings would have been applied to a passenger airship.

This transoceanic airship was never built, being perhaps too ambitious for its time. The dream of commercial transatlantic air travel would not be realized until the *Graf Zeppelin's* debut in 1928. However, many of the Vickers design ideas were used on the smaller military airship R-80, and the design team went on to help build the massive R-100 in the late 1920s.

Specifications

Hydrogen Gas Capacity:	3,500,000 cubic feet	Cruising Speed:	52 miles per hour
Length:	800 feet	Endurance at cruising speed:	200 hours/10,000 miles
Diameter:	100 feet	Freight and passenger capacity:	15 tons
Maximum Speed:	75 miles per hour	Passengers carried:	100

The Model

This model builds into a 1/700 scale replica of the transoceanic dirigible in the markings of the Vickers display model. A word of caution: this model is not suitable for assembly by young children, due to the use of sharp tools and the complexity of some assembly steps. Previous experience with card modeling is recommended. If you have any comments or suggestions regarding this kit, I can be reached by e-mail at models@currell.net

Model parts are contained in the document **vickers_parts.pdf**. Print out the parts document on 8.5"x11" or A4 size white card stock suitable to your printer. 67 lb. cover stock (approx. 8.5 thousandths of an inch or 0,2 mm thick) is recommended.

Tools

Before beginning, you will need the following tools and materials:

- | | |
|------------------------------|----------------------------------------------------------------------|
| a) a sharp knife for cutting | e) a scoring tool or blunt knife for creasing the fold lines |
| b) a flat cutting surface | f) white glue |
| c) a ruler or straight edge | g) a glue applicator such as wooden toothpicks or a small paintbrush |
| d) scissors (optional) | |

Hints

- Select a well-lit, comfortable work area that will remain undisturbed when you are not there.
- Keep your hands and tools clean when working, to avoid getting glue on visible parts of the model.
- It's easier to stay organized if you only cut out those parts you need for each step.
- Make sure your knife is sharp. When cutting straight lines, use a straight-edge. Scissors, if used carefully, can be used for large curved parts.
- Study the diagrams carefully, and always test-fit the parts before applying glue.
- You may wish to colour the edges of the parts to make seams less visible. Pencil crayon or paint applied with a fine brush can be used (experiment on scrap pieces to see what works best).

Assembly

In these instructions, the directional terms are given assuming the model is horizontal (fins at back). Scoring of parts is indicated by thin black lines outside the part's outline or by dashed lines on the part's surface. Score parts *before* cutting them out. In the diagrams, subassemblies are identified by a number within a circle (e.g. ②), corresponding to the step in which it was assembled.

Assemble the forward body segments (**steps 1, 2**). The body of the airship (excluding the nose and tail) is made up of seven assemblies. These assemblies include an outer surface (the "envelope" of the airship), a connecting strip and an internal reinforcing ring to maintain the segment's shape. Note that the cross-section of the airship is a 28-sided polygon, and the outer surface part should be scored before cutting out. To construct a typical assembly, carefully cut out the parts and glue the connecting strip to the inside of the surface segment. This strip must be lined up so that the shaded areas protrude beyond the edge of the surface part (see the diagrams). The segment is then folded along the scored lines and glued so the edges butt together and are held by the connecting strip. Once dry, the reinforcing ring is glued inside the connecting strip, ensuring it does not protrude into the notched part of the strip. When joining the completed sections to each other, ensure the lengthwise seams at the bottom of the sections line up.

Assemble the centre segment (**step 3**). This segment has a reinforcing ring at both ends. Before attaching the rear reinforcing ring (C5/C5a), glue the shelter deck A10 to the inside of the section, such that the forward wall protrudes through the surface and rests against the forward edge of the shelter

deck cutout. Add the supports A7. Assemble the passenger quarters by bending the wall C13 to shape, then attaching to the roof A9. Glue the completed structure to the printed shape at top of the centre section.

Assemble the rear body sections (**step 4**) and join to the centre and forward assemblies, ensuring the bottom seams line up.

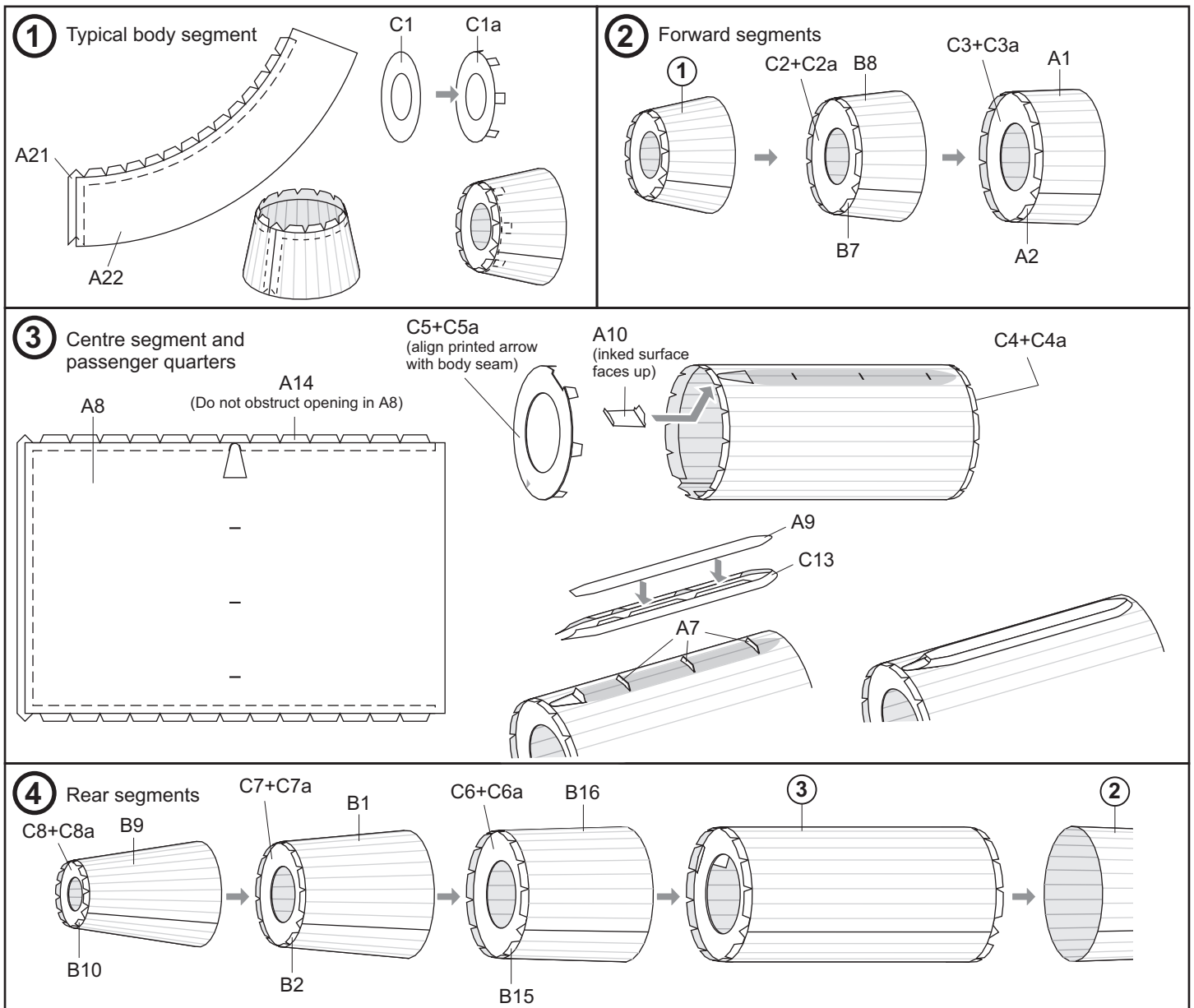
(**Step 5**) assemble the tail cone in the same manner as the body segments. Assemble the rear observation deck A3/A4/A5 and insert so the bulkhead is flush with the top of the tail cone cutout. Carefully bend together the “leaves” at the tail end and glue to form a rounded shape, then attach the cone to the body assembly. Assemble nose section parts A17 and A18 (**step 6**) and the connector plate A19/A20. The shaded areas printed on the connector plate will act as locating guides when bending the leaves on the nose section to form a rounded shape. Position the connector plate in the front of the nose segment and carefully glue the end of each leaf to the plate, taking care to position each leaf exactly on the shaded shape. Insert the reinforcing ring C9/C9a, then join to the body assembly.

Assemble the display stand (**step 7**). This will allow you to set the airship down without damaging the fins or engine assemblies in the following steps.

Assemble the control and observation cars (**steps 8, 9**) and attach to the printed shapes on the bottom of the airship body.

Fold and cut out the horizontal fin stiffener A23 (**step 10**). Attach to the inside of fin surface B14 (lining up the bottom edges so that only the locating tab protrudes beyond the surface edge), and fold the surface around the stiffener to form the completed fin. Glue the outer edges of the fin surface together where they overhang the stiffener. Use the same procedure to assemble the upper (A23/B12) and lower (B11/B17) fins. Glue the fins to the airship body (**step 11**), ensuring they project at right angles to the body surface. Cut out and fold the elevators and rudders (**step 12**) and glue to the fins and body as shown.

Assemble the engine housings (**step 13**), and attach the support struts to the shaded areas on the housing side. Glue engines to the airship (**step 14**) as indicated by the attachment points printed on the body. Ensure the engine housings are aligned parallel to the long axis of the airship. Finally, attach the propellers A6 to the rear of the engine housings.



5 Tail cone

A3 Inked side faces up

A4

A5 Fold to double thickness and cut to shape.

B3 Do not block slot in B6.

B6 (open slots 3 places)

Attach bulkhead assembly flush with top of rear cutout. Align edge of support A4 with body seam.

Bend and glue leaves together to form rounded tail.

6 Nose segment

A17

A18

A19

A20

Attach leaves to shaded areas on plate B12 to form rounded nose.

C9+C9a

7 Display stand

C11 (2 pieces)

C10

Fold flap underneath as shown.

8 Front control car

A13 Inked side shown facing down

A15

A16

9 Rear observation car

B13

B14

10 Horizontal fin (2 pieces)

A23 Fold and glue to double thickness, then cut out shape.

B14

A23

Bend together overhanging edges of fin surface.

11 Attach fins to body

A23+B12

Assemble vertical fins in the same manner as horizontal fins in step 10.

Attach fins at right angles to body surface.

B11+B17

12 Elevators and rudders

C12 (3 pieces), C14 (1 piece)

Attach as shown.

13 Engine housing (6 pieces)

A12

A11

Bend and glue leaves together to form rounded ends.

B4 or B5

B4 (2 engines) Upper strut longer than lower strut.

B5 (4 engines) Both struts are same length.

14 Attach engines and propellers

A6

Glue struts to attachment points printed on body (both sides).

Fore and aft engines: All struts same length.

Middle engines: Upper struts longer than lower.

Typical for all engines.