



Air Ship "Leonardo"

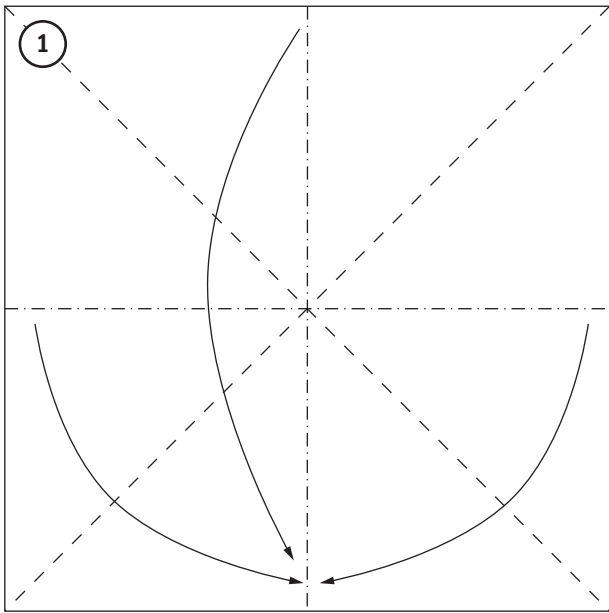
The myth of Leonardo da Vinci as the genius that, in the second half of the 15th century, had already anticipated many discoveries of modern times, has been disproved long ago. He simply recorded in many of his works the so far unwritten ideas of his time and of older traditions all the way to antiquity. What is left is the fascination with the sheer amount and diversity of the compiled material and the many experiments he conducted. To the latter belong his prestudies on the principles of flight with paper airplanes and small hot air balloons made of paper.

A similar myth, also unfounded, is the one about the first manned balloon flight with a hot air balloon of the Montgolfier brothers in 1783. The first provable aeronaut and designer of an "aeronautic machine" was the portuguese Father Bartolomeu Lourenço de Gusmão. In 1709, he floated with his balloon build of paper to the roof of the palace, before the eyes of the entire royal court.

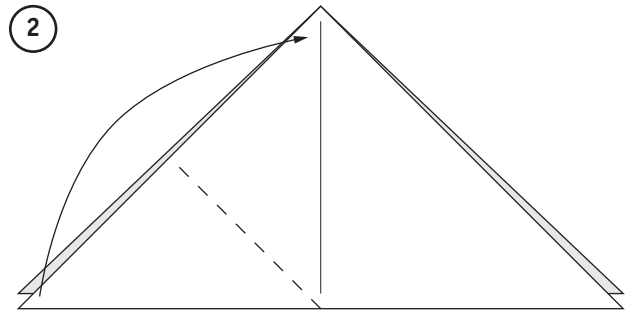
Experiments with balloons were not unusual around 1700. So it is quite possible that undiscovered documents on manned balloon ascents are still slumbering somewhere.

Hints

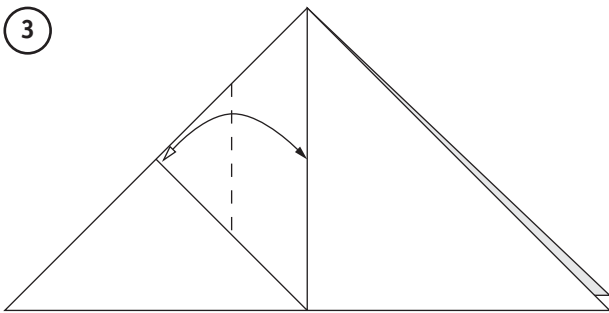
- level: ■ ■ ■ □
- paper: 24x24 cm or greater for success



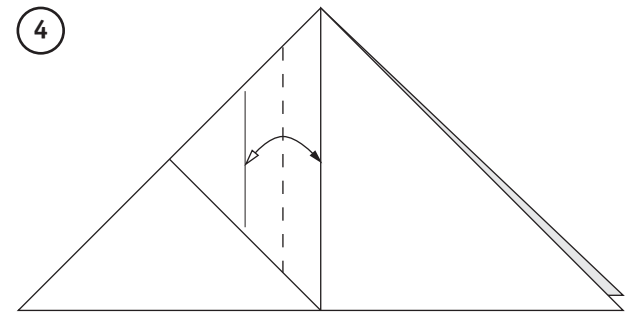
- colored side down
- collapse to a waterbomb base



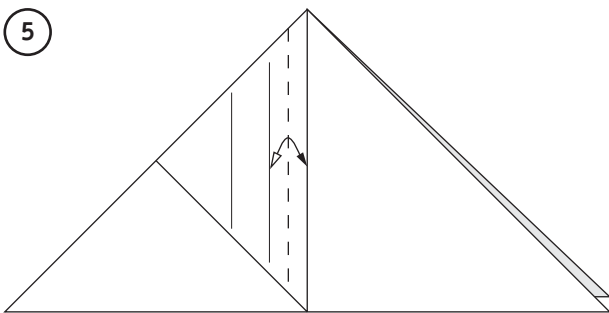
fold the upper left flap to the top



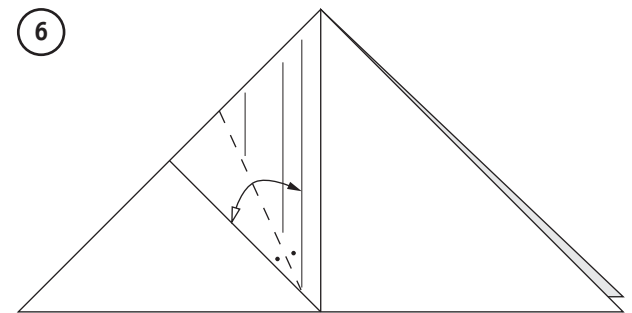
fold and unfold



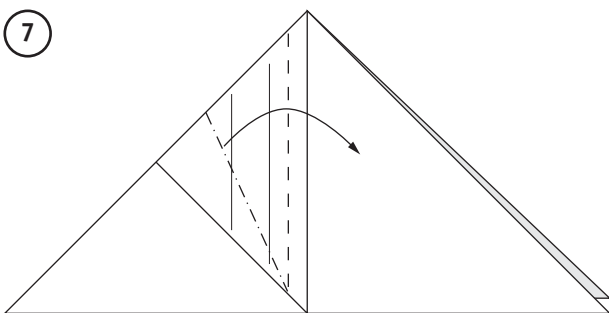
fold and unfold



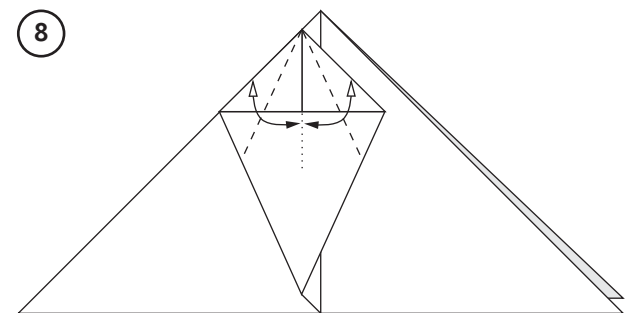
fold and unfold



fold and unfold

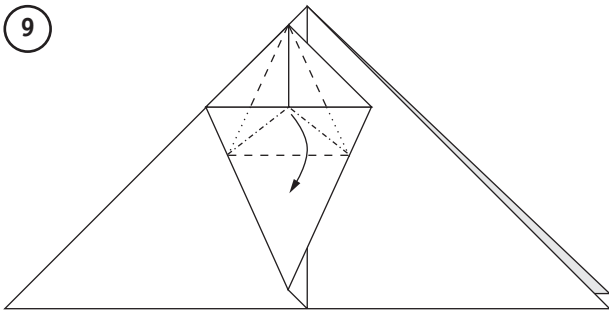


squash-fold on the existing creases from steps 5 and 6



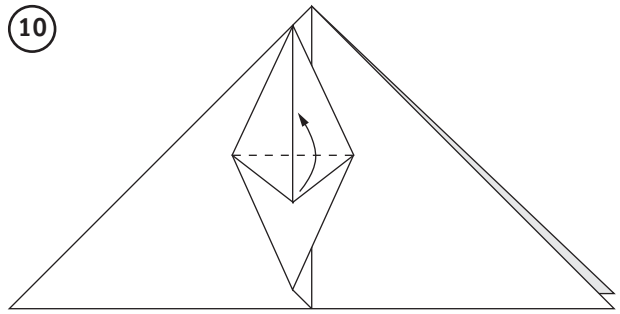
fold and unfold

9



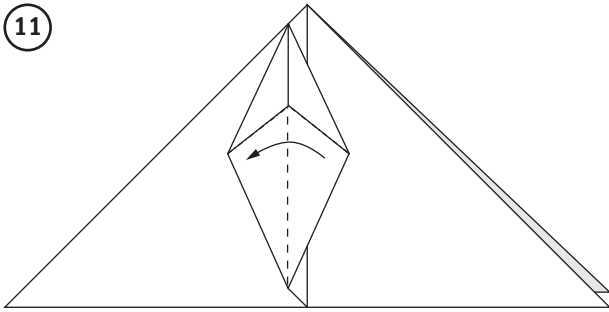
petal-fold, use creases from step 8

10



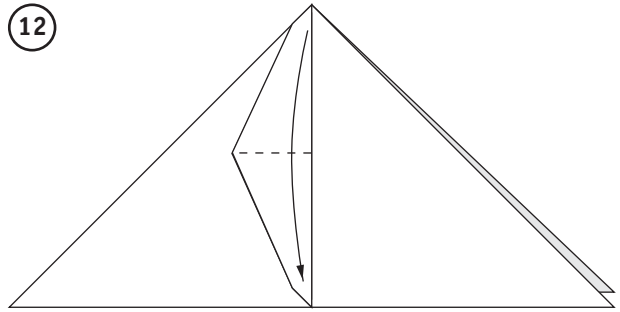
valley-fold (note that you folded a half bird base)

11



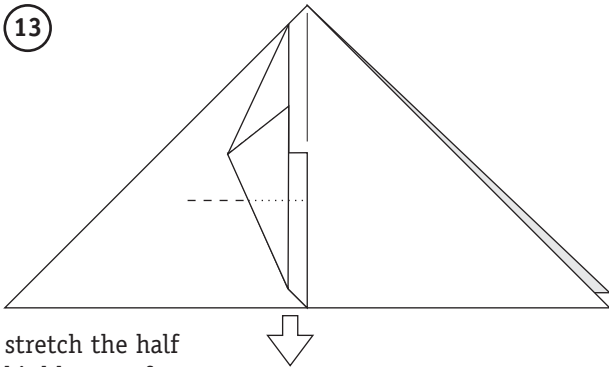
valley-fold, close the half bird base

12



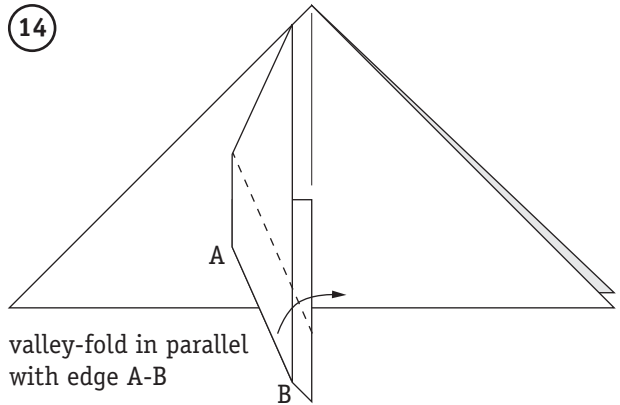
fold the tip of the left upper flap down

13



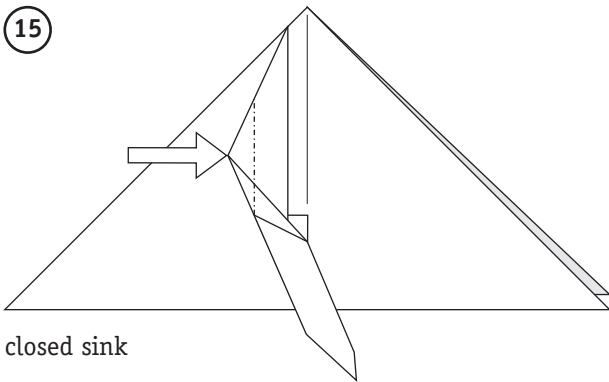
stretch the half bird base as far as you can

14



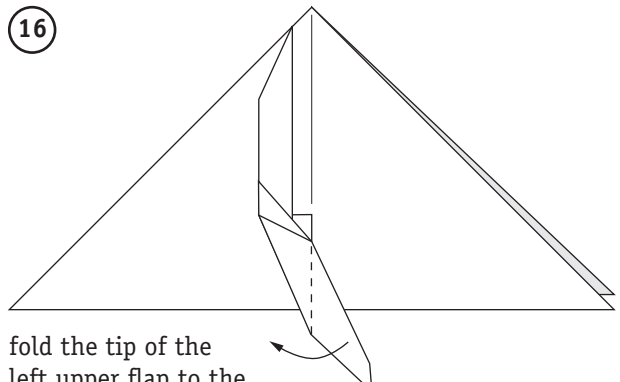
valley-fold in parallel with edge A-B

15



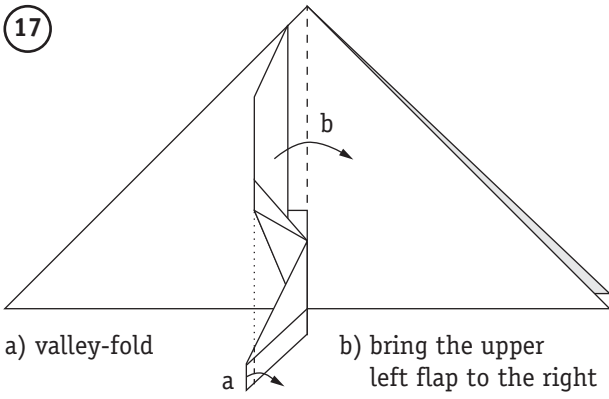
closed sink

16

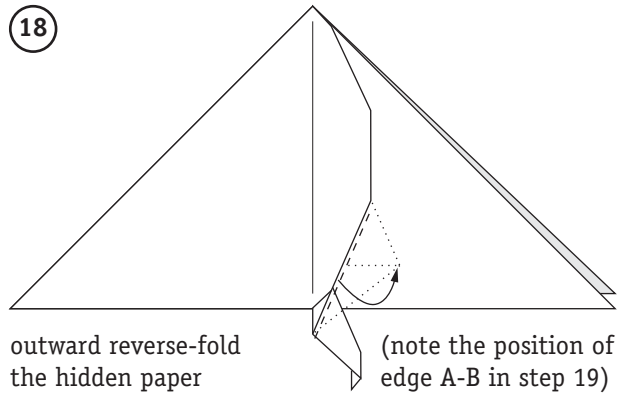


fold the tip of the left upper flap to the left

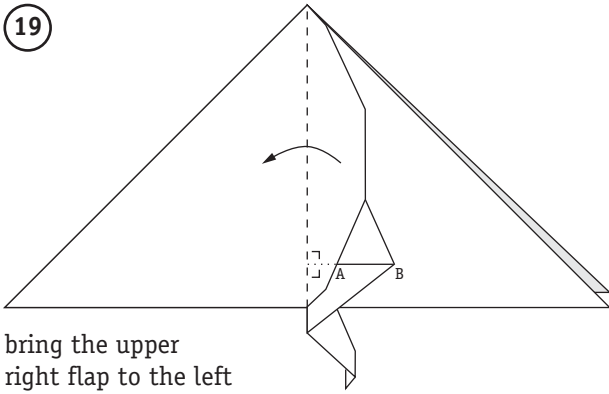
17



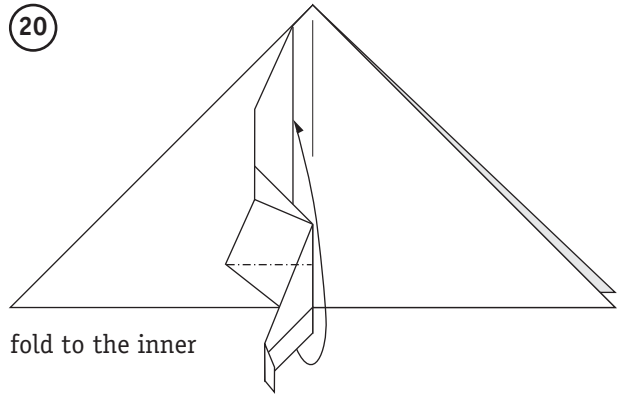
18



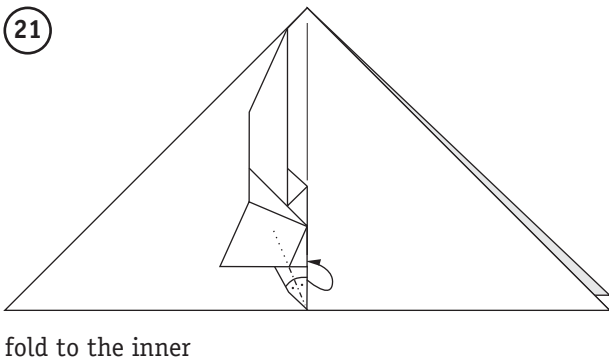
19



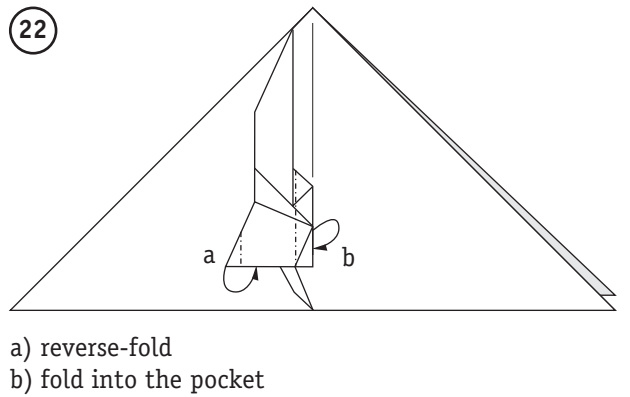
20



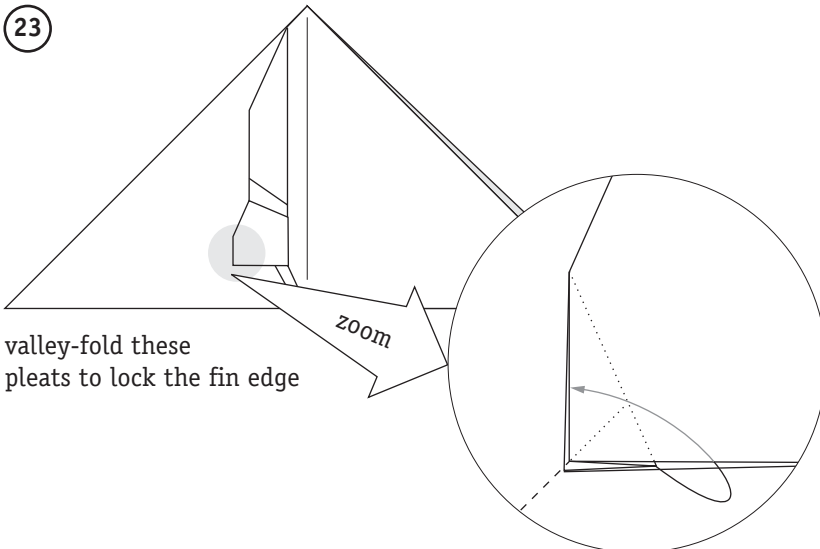
21



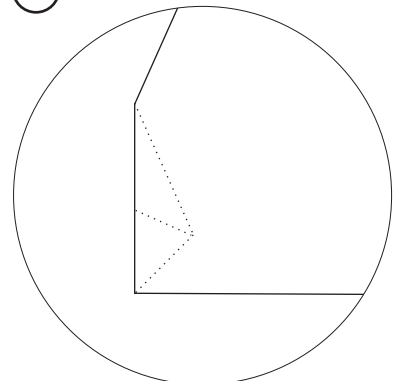
22



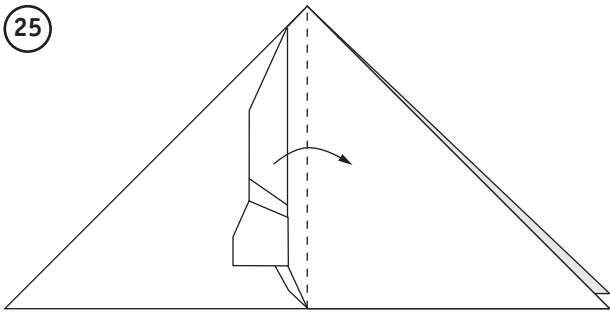
23



24

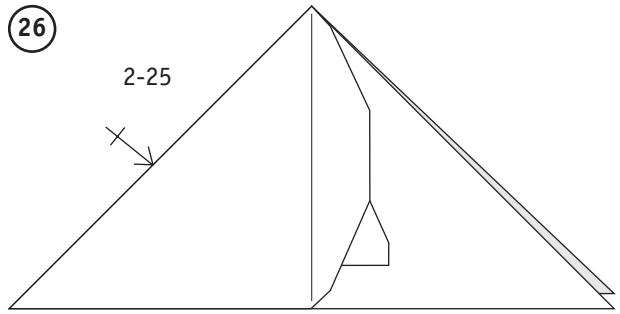


25



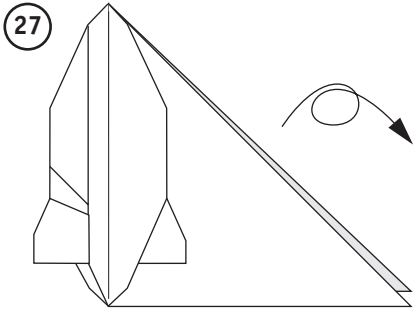
bring the upper left flap to the right

26



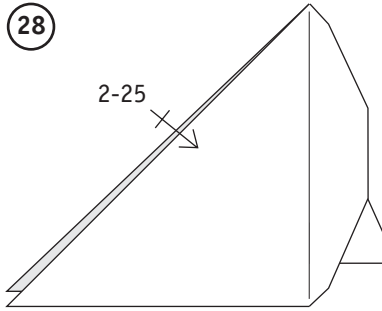
repeat steps 2-25 on the left flap

27



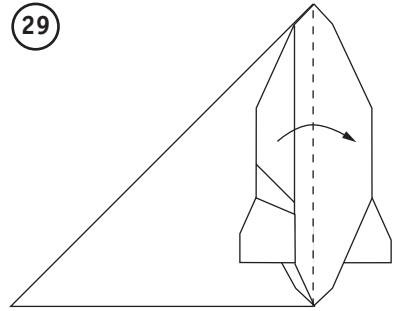
turn over

28



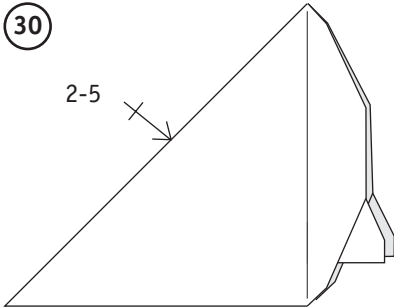
repeat steps 2-25 on the left upper flap

29



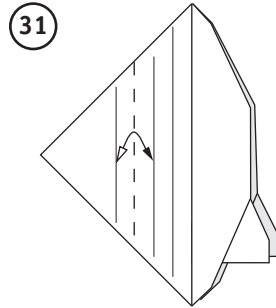
bring the left upper flap to the right

30



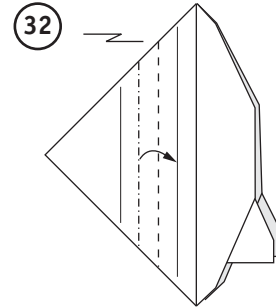
repeat steps 2-5 on the left upper flap

31



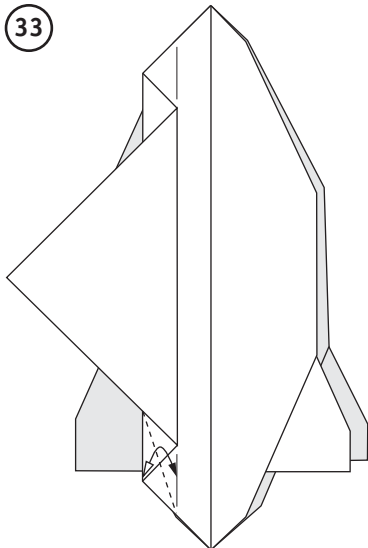
fold and unfold

32



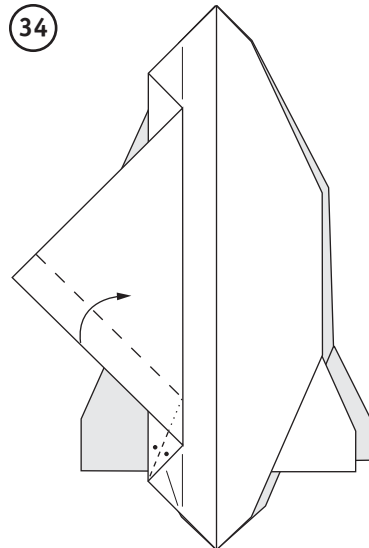
pleat-fold

33



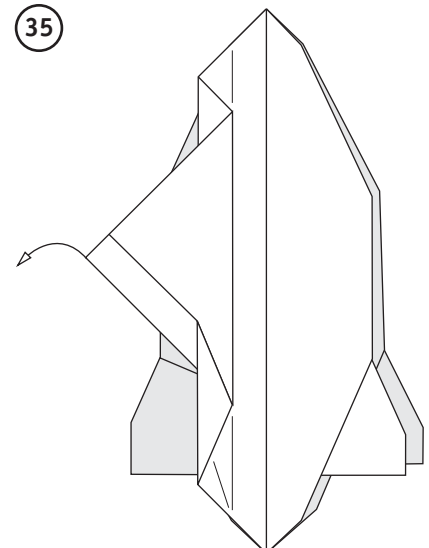
fold and unfold (keep in mind this crease for step 43)

34



swivel-fold

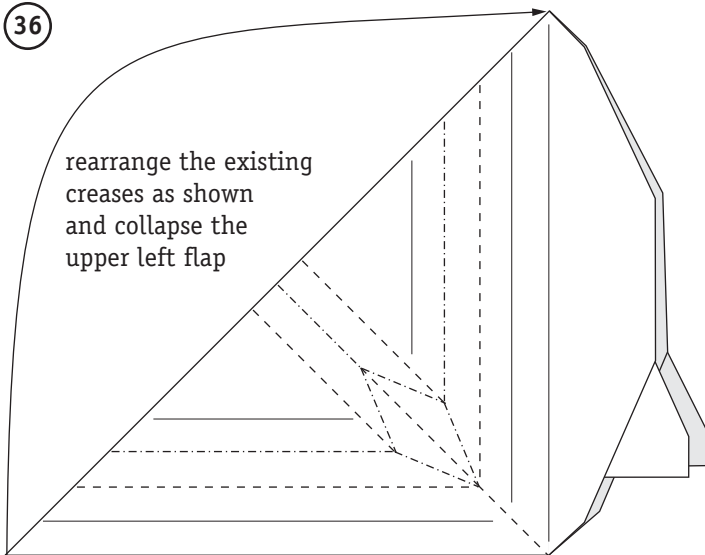
35



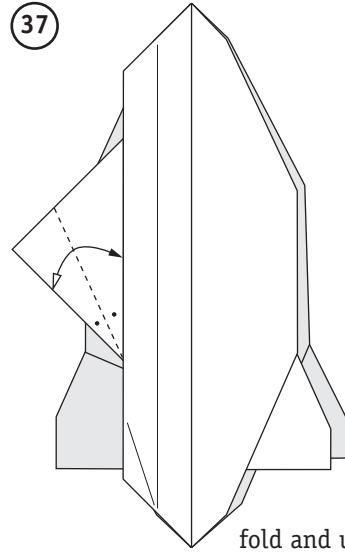
unfold the upper left flap to step 30

36

rearrange the existing creases as shown and collapse the upper left flap

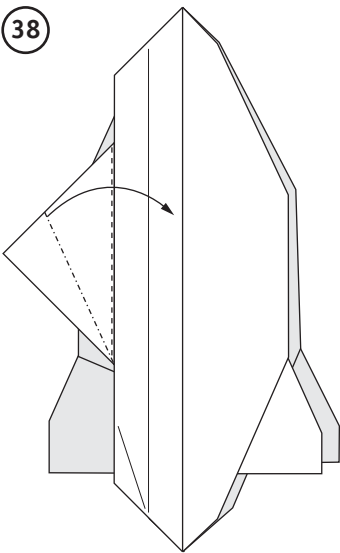


37



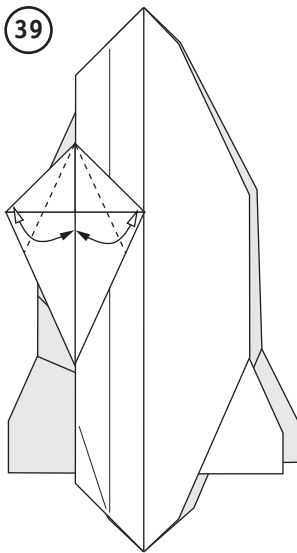
fold and unfold

38



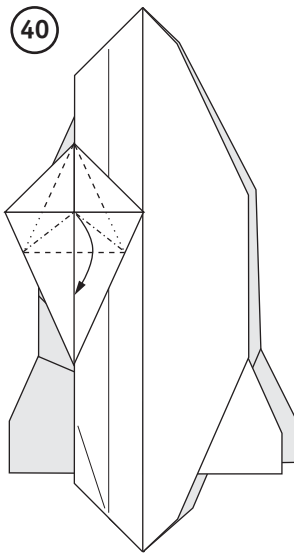
squash-fold

39



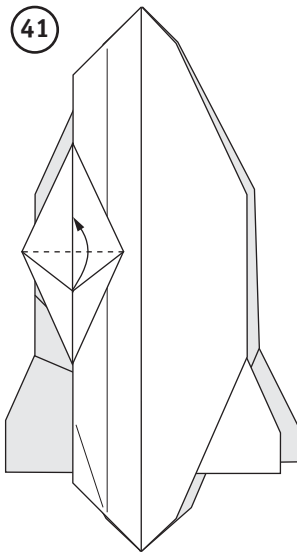
fold and unfold

40



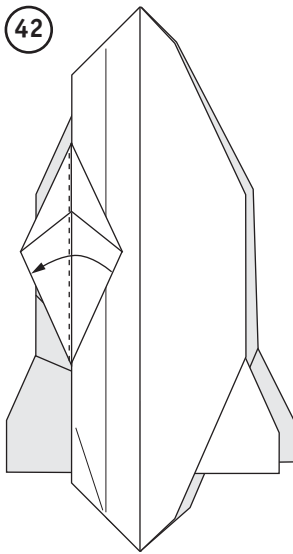
petal-fold

41



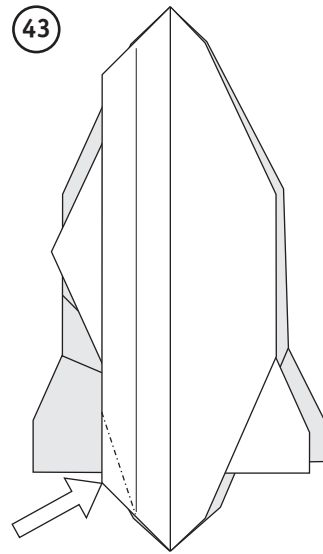
valley-fold

42

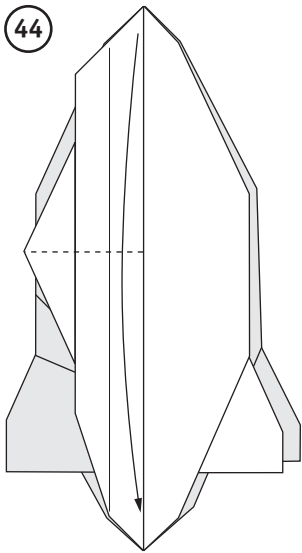


close

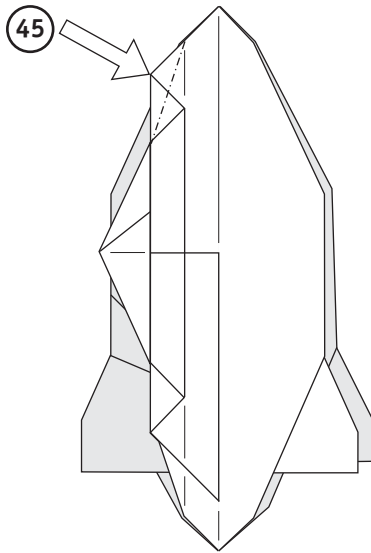
43



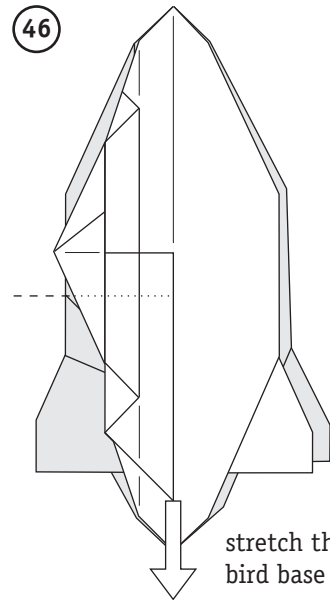
closed sink in using the crease from step 33 (this is the first hardest step)



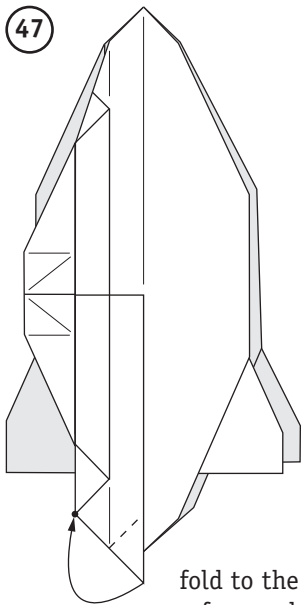
44 fold the tip of the left upper flap down



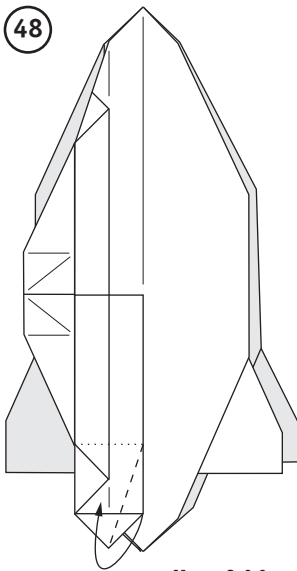
45 closed sink (this is the second hardest step)



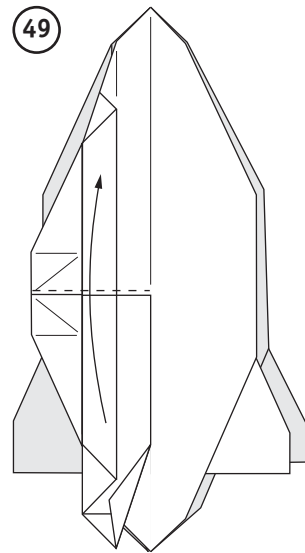
46 stretch the half bird base as far as you can



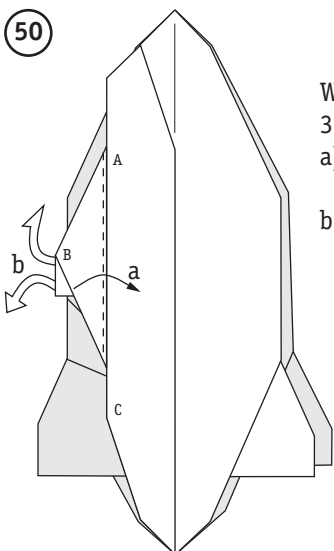
47 fold to the referenced point



48 valley-fold

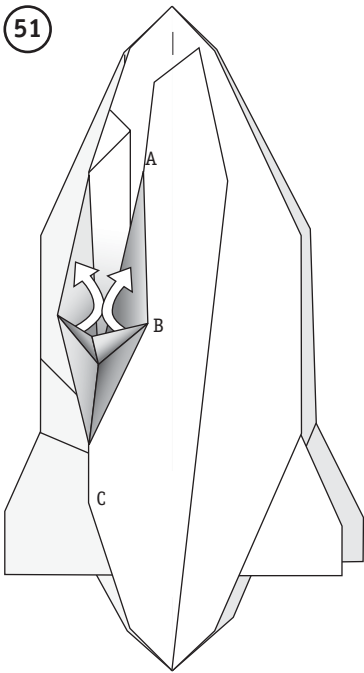


49 fold the flap to the top



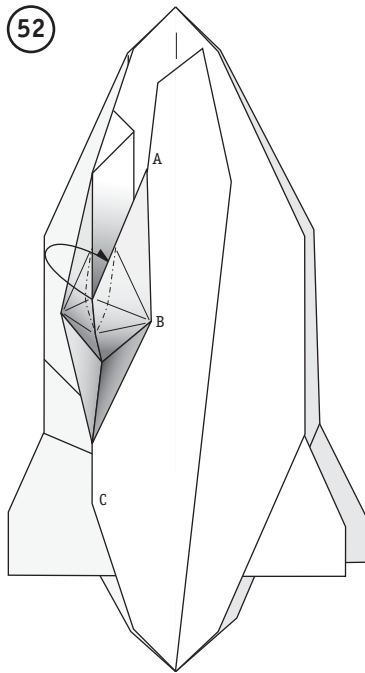
50 We curve the gondola 3-dimensional now:
 a) bring the left flap in front to you and
 b) spread it as shown in step 51, the model shell doesn't lie flat

51



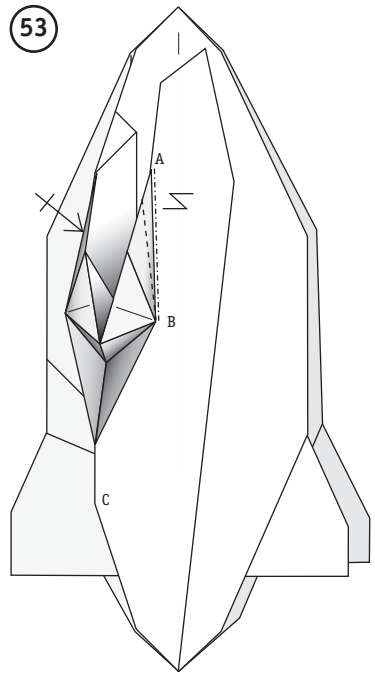
pull out the paper

52



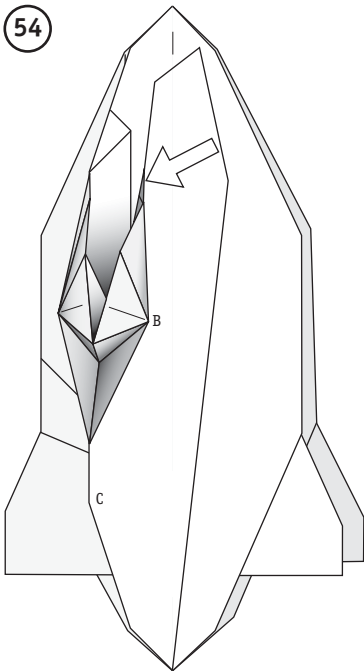
fold to the inner between the existing creases (from half bird base folds)

53



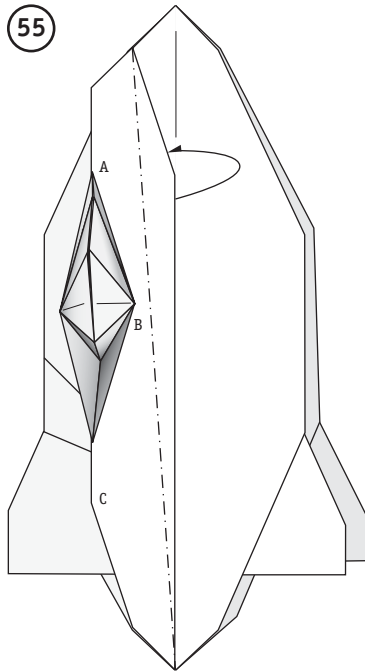
pleat-fold with using the edge A-B, repeat on the other side of the gondola

54



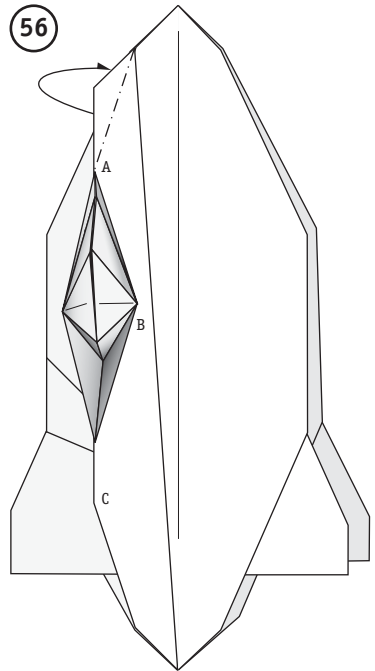
close the gondola's front in pushing the tip A to the left

55



tuck into the pocket to fix the gondola

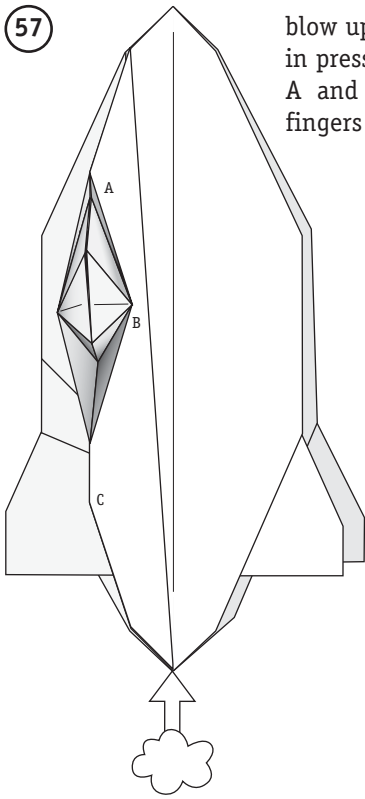
56



tuck into the pocket (closed sink from step 45) to fix the gondola front

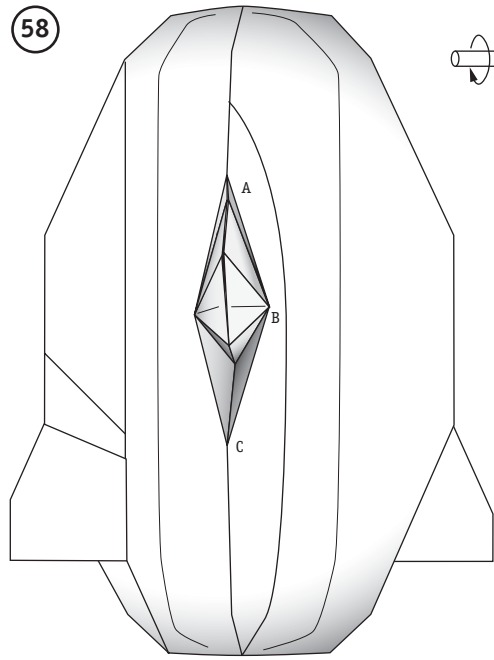
57

blow up the balloon
in pressing points
A and C with your
fingers



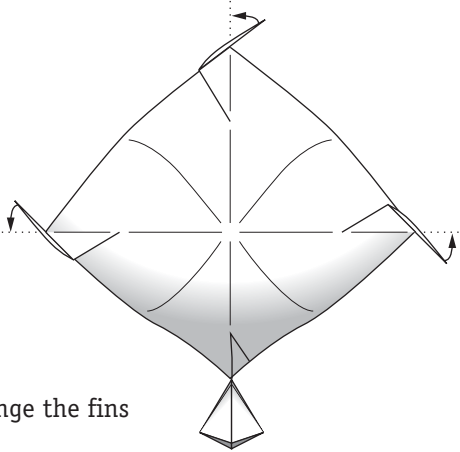
58

90°



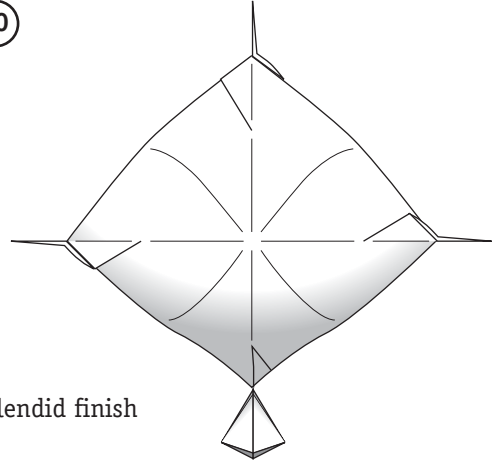
rotate the model vertically: front view follows

59



arrange the fins

60



splendid finish

