Douglas
F3D/F-10 Skyknight

The Skyknight was a very unique fighter due to its bulkiness. That was mostly owed to the fact, that it was designed to intercept bombers at night and was build around the only powerful intercept radar system that was available at the time, the Westinghouse AN/APQ-35. This made the radar vision of the Skyknight superior to any other fighter of its time, most of which did not have any radar.

The first Skyknight flew on March 23rd 1948. The first version, the F3D-1, was based on the prototype, and had notably smaller engine nacelles, than the later F3D-2. The F3D-2, which was the version to be delivered to operational squadrons, received a bigger engine, which led to the bigger nacelle, and the improved APQ-36 radar. Its bulky appearance earned the Skyknight its nickname,

"Willy the Whale". In its later career it was also called "Drut" (backward for **).

The Skyknight was first used in combat in the Korean war, were it soon became the main escort for the B-29-formations, which were vulnerable to attack by the nimble MiG-15. The Skyknight proved successful thanks to its powerful radar, which made it superior to smaller fighters at night, and especially the second radar in the tail proved useful, as it warned the pilot, if a Mig was on the tail.

During the Korean war, a Skyknight became the first Jet fighter to achieve an aerial victory at night, when Major William T. Stratton shot down a Yak-15.

During the Korean war, Skyknights scored six other aerial victories, which made it the most successful Navy/Marines type of the Korean war. The Skyknight was more successful with Marines squadrons, because while it did qualify for carrier landings, these were extremely tricky, so it was tried to avoid them and many Navy squadrons that operated the Skyknight didn't see combat.

After the Korean war, the Skyknight soon became obsolete as a fighter, when new swept-wing designs became available. Douglas proposed an improved swept-wing Skyknight, the F3D-3, to the Navy, but that version never reached prototype stage. The designs for the wings and tail where later modified for the creation of the A3D Skywarrior.

Thanks to its radar, and its stability in the air, the Skyknight became the development testbed for the new Sparrow-missile and as such was the first Navy aircraft that became operational with air-to-air missiles.

After being retired as a fighter, the Skyknight was used mainly for radar training. It was the only second-line type that was available, which had a strong enough radar and could fire Sparrow missiles, which could help to train the radar operators for the F-4 Phantom II.

Its bulky and spacious fuselage led the Skyknight to its final role, as an ECM-bird. As such, it saw action again in Vietnam, were it was flown by Marines Squadrons to support air-to-ground strikes with electronic countermeasures, until the Squadrons converted to EA-6's.

The last Skyknights were operated by Raytheon company as missile testbeds, as no other aircraft had the same stability in flight as the Skyknight.

1. Glue the lower sides of the wing stiffener together.

If you build landing gears up, jump to 5

2. Build the main wheel wells.

2x

glue the tabs to the outside

2 (3)

3. Cut out the marked holes for the wheel wells

5. Glue the upper sides of the wing stiffener to close it.

4. Glue the wheel wells above the holes inside
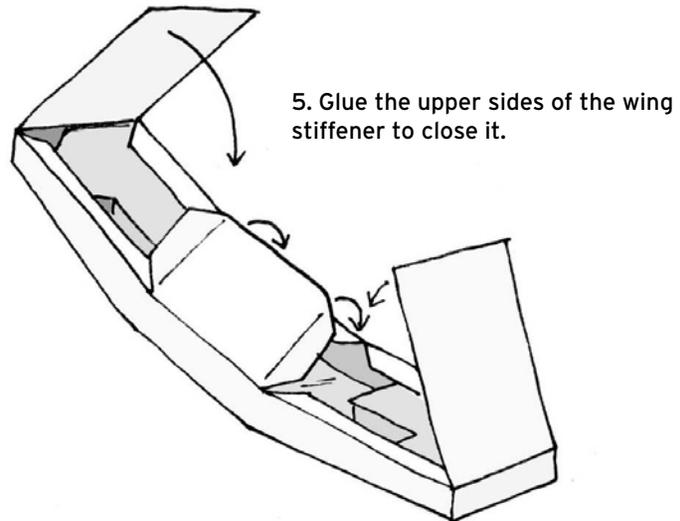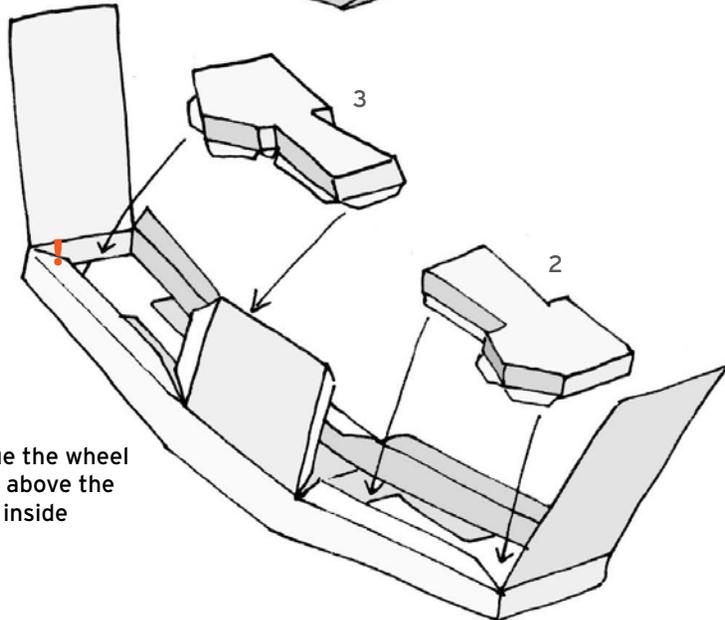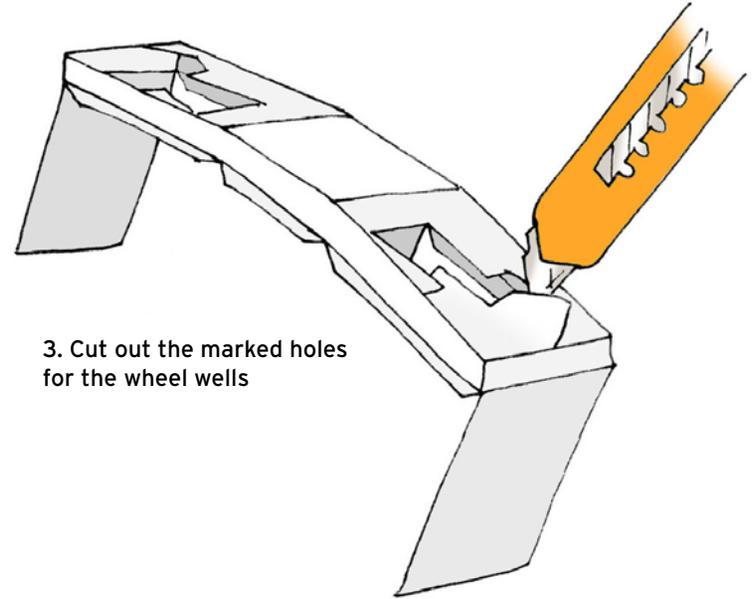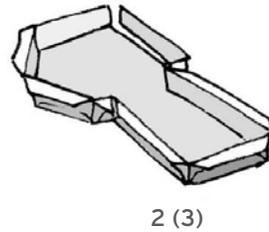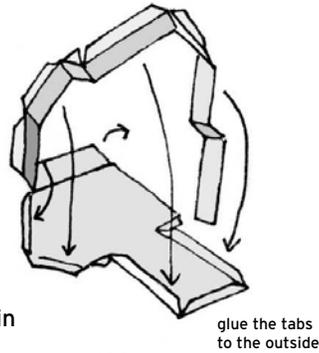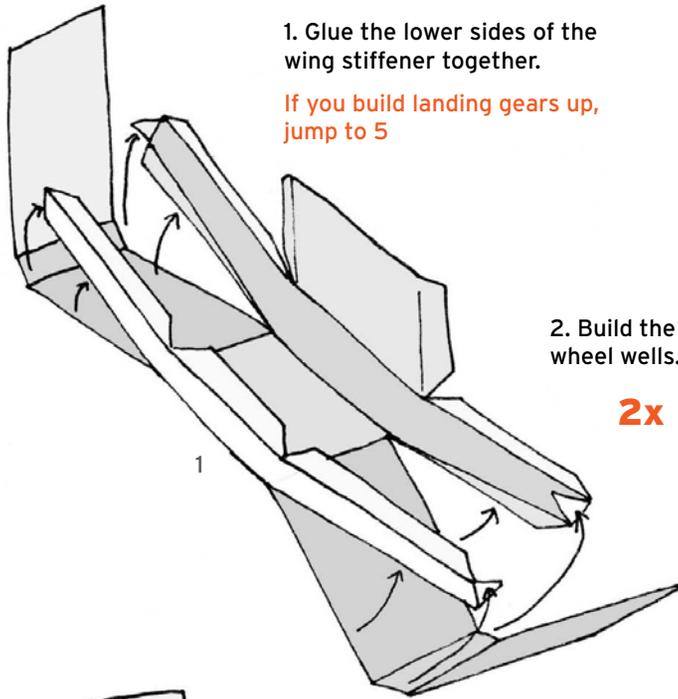
6. Score the dashed lines on the forward fuselage part .

Note:

Areas with a green cross should be cut out before assembly.

Areas with a red cross should be cut out after the construction of the fuselage

Make a hole
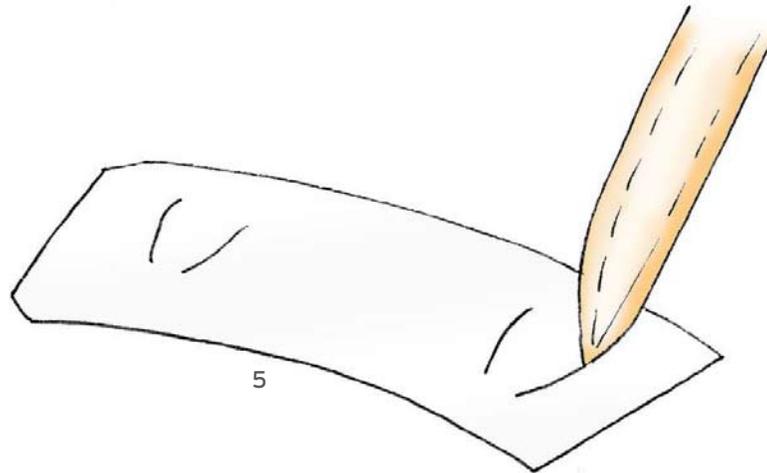
7. Glue together the two front fuselage parts

If you build landing gears up, jump to 10
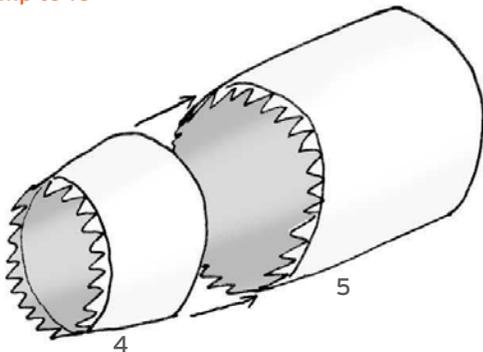
8. Cut out the nose wheel well.

glue the tabs to the outside!
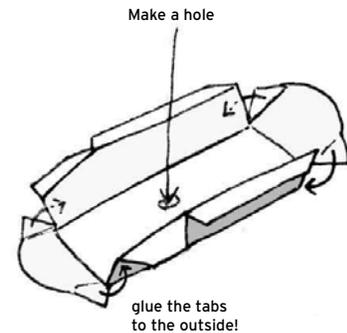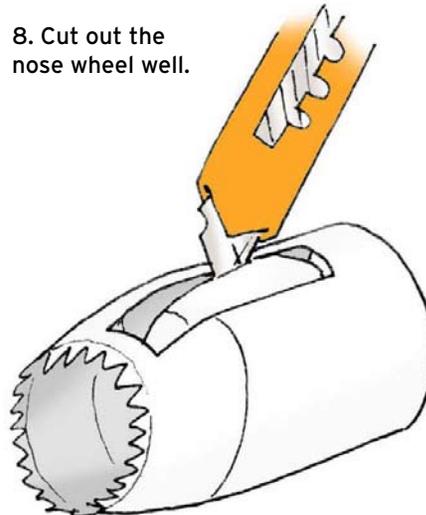
9. Build the nose wheel well and glue it into the front fuselage
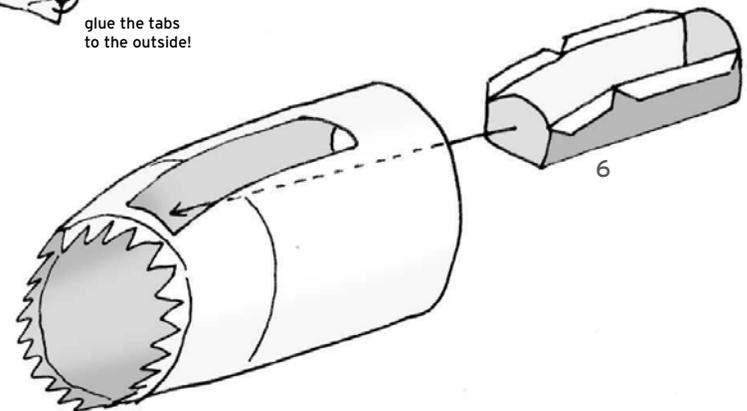
10. Glue together the middle rear fuselage parts 7 & 8

If you don't build the extended speedbrakes,
jump to 13

8

7
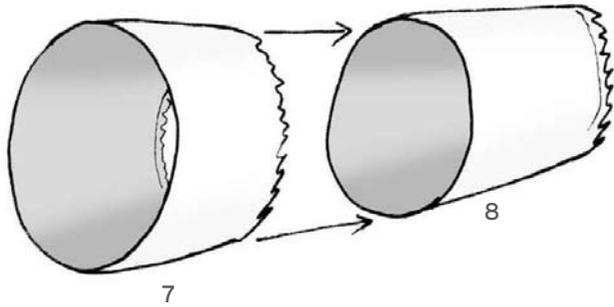
11. Cut open the speedbrakes
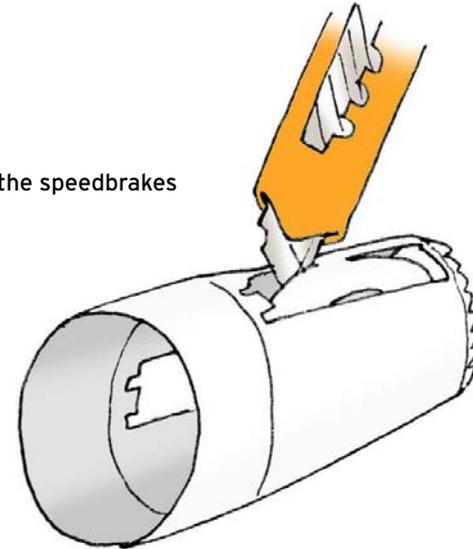
12. Glue the inner speedbrake walls inside

9

10
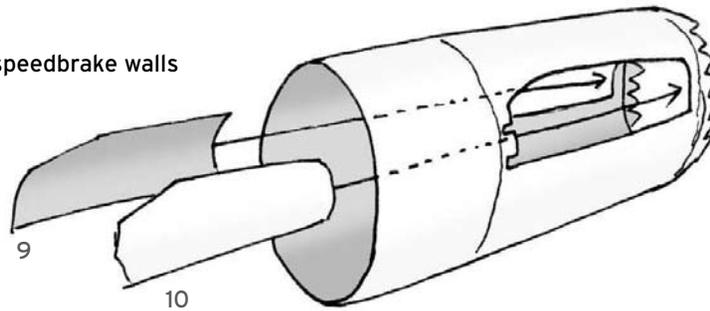
13. Main fuselage assembly

11

12

13

13
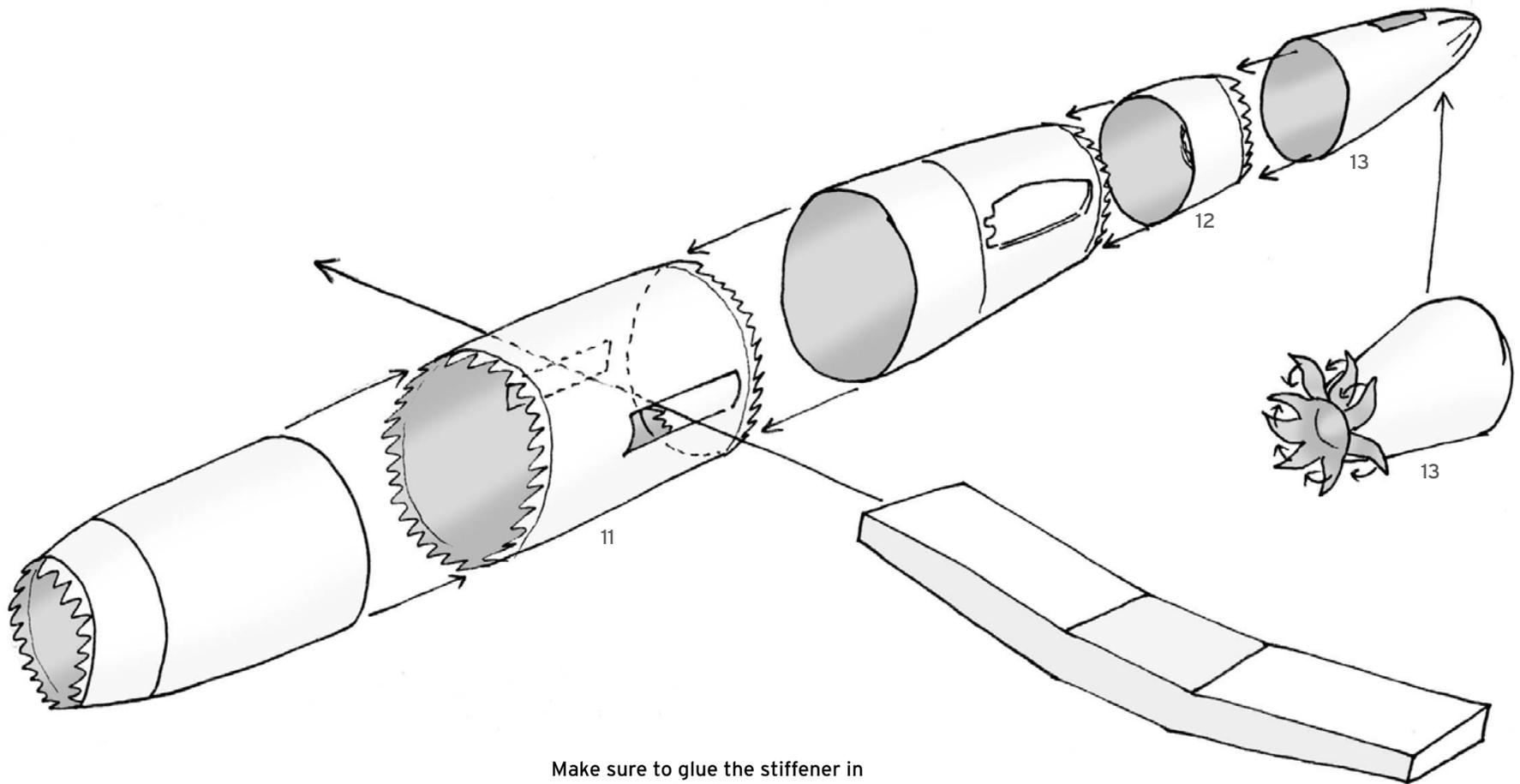
Make sure to glue the stiffener in
in the right direction!

14. Cut out the holes in the fuselage marked with a red cross
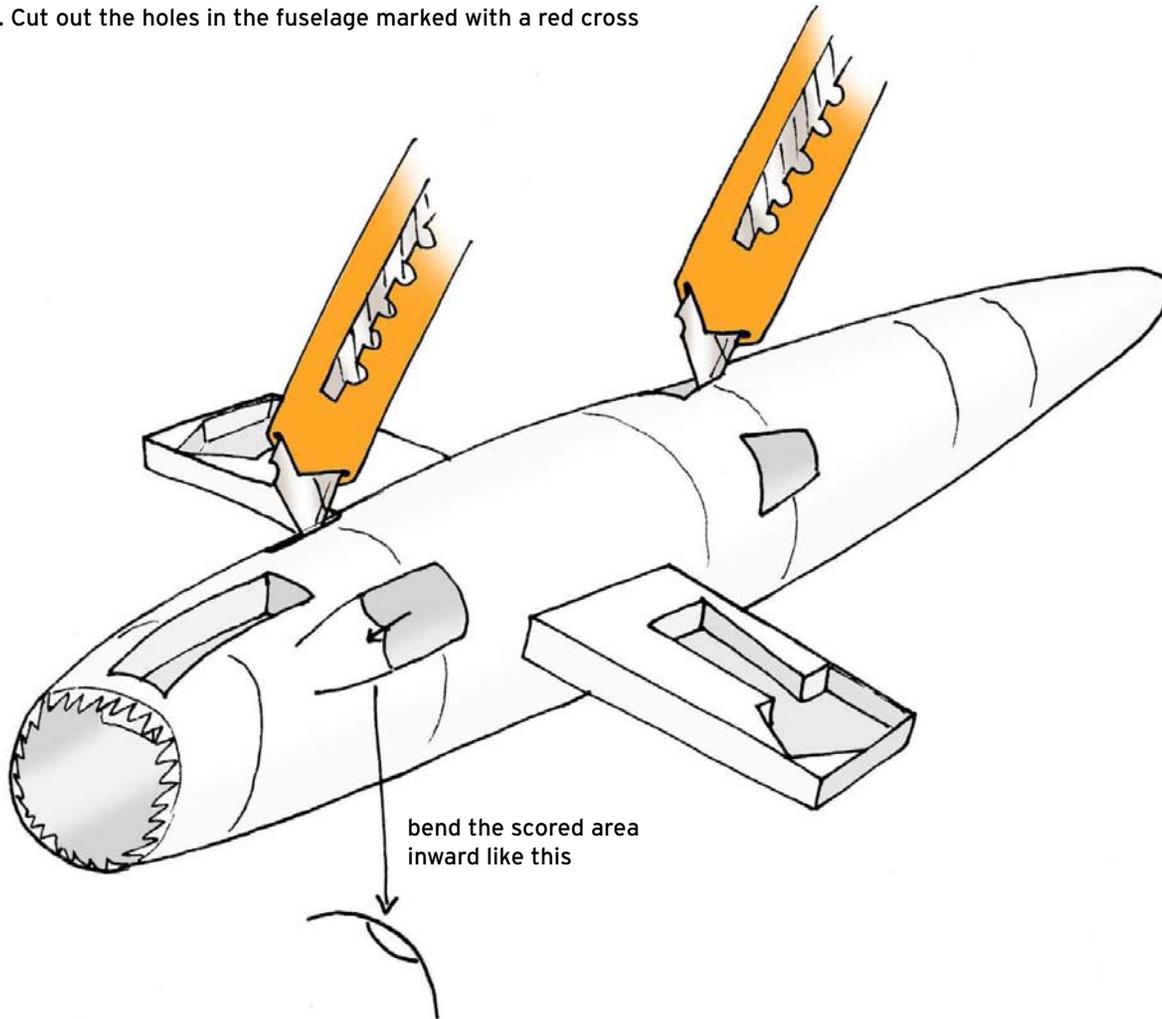
15. Build air intake tunnel and engine compressor

2x

16

15

14
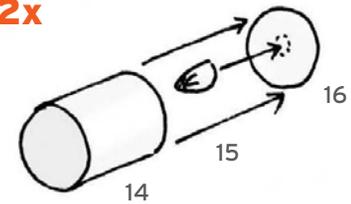
16. Glue the intake tunnels into the front holes

bend the scored area inward like this

14. Glue the engine section main parts on the fuselage. align the front edge with the front edge of part 11 and the rear edge with the marked line
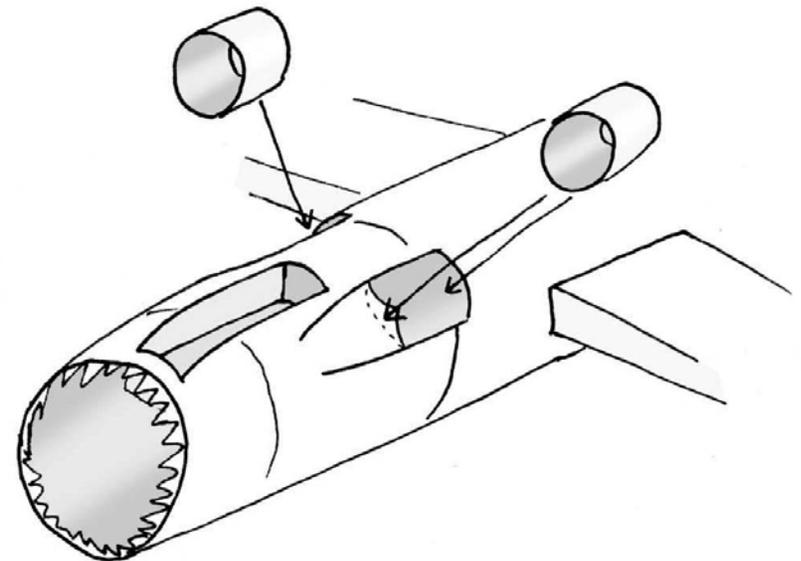
17. Glue the engine section main parts on the fuselage.
align the front edge with the front edge of part 11 and the rear
edge with the marked line

17

align to
this

18
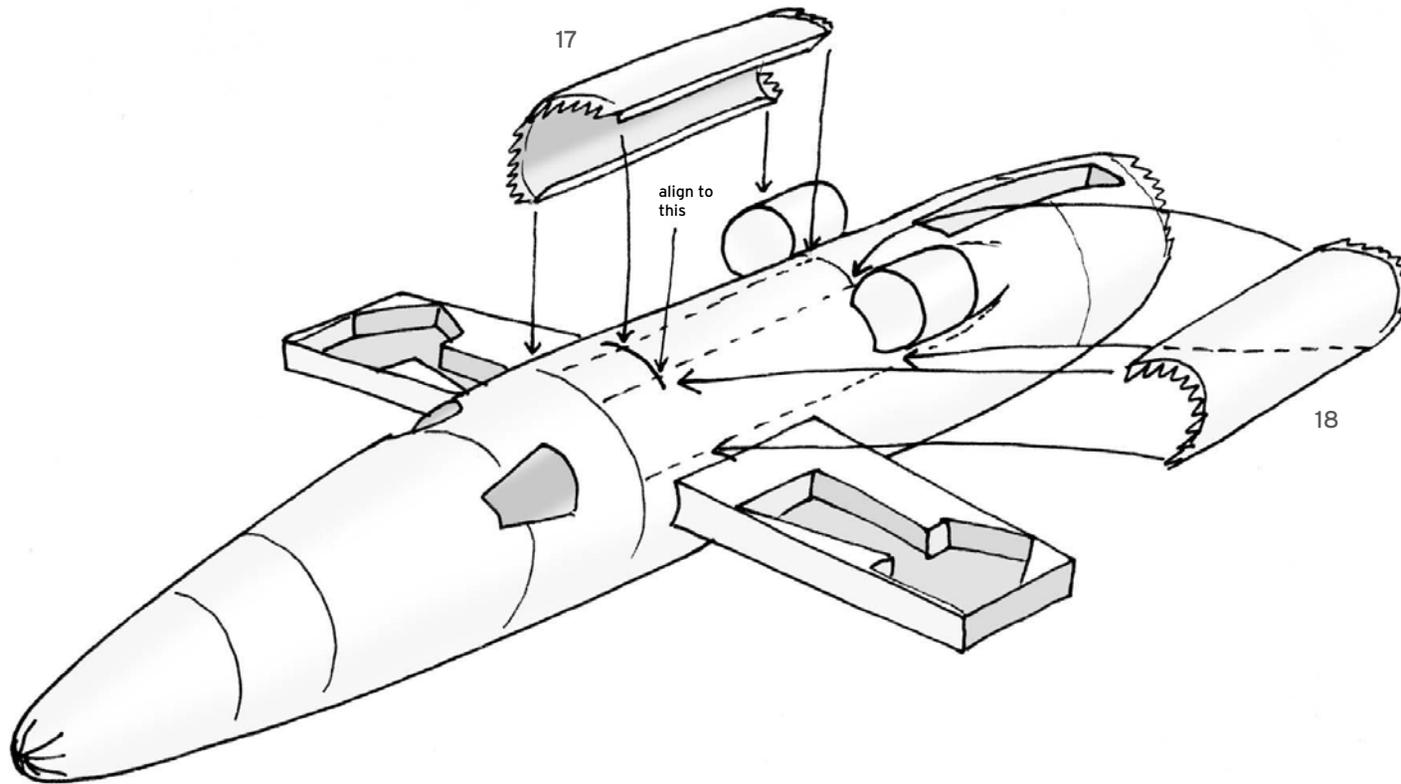
exhaust section

18. Roll and glue the inner exhaust area (with printed side to the inside)

19 (20)

**19.** Glue the outer exhaust area around it, align it to the tab as shown

21 (22)

**20.** Glue the exhaust plate in and the exhaust valley on the tabs as shown

25

23 (24)
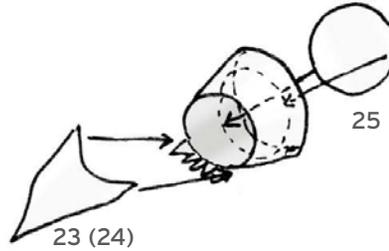
When finished, it should look like this:

21. Build the exhaust nozzle and glue it inside the exhaust tunnel

26
27
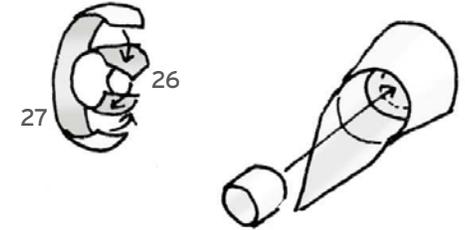
22. Build the engine section rear part

29 (28)
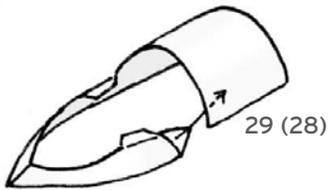
**23.** Glue the exhaust section into it.
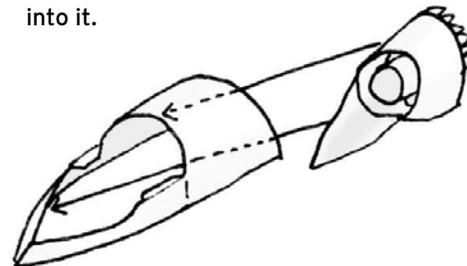
2x

Repeat steps 18–23 for the other side (numbers in brackets)

nose

24. Glue together the nose parts.
If you're building the F3D-2M, jump to 27

30
31
32
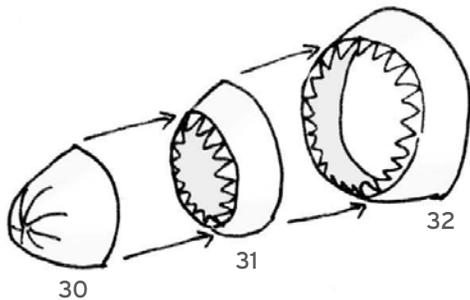
25. Cut out the gunport holes
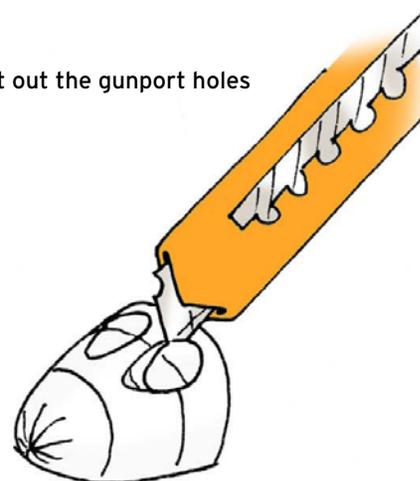
26. Glue the gunports inside the holes

34
33
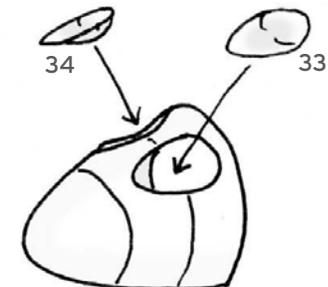
27. Glue exhaust sections and intakes on the fuselage

If you build landing gears up,
jump to 29

35

28+

36

29+
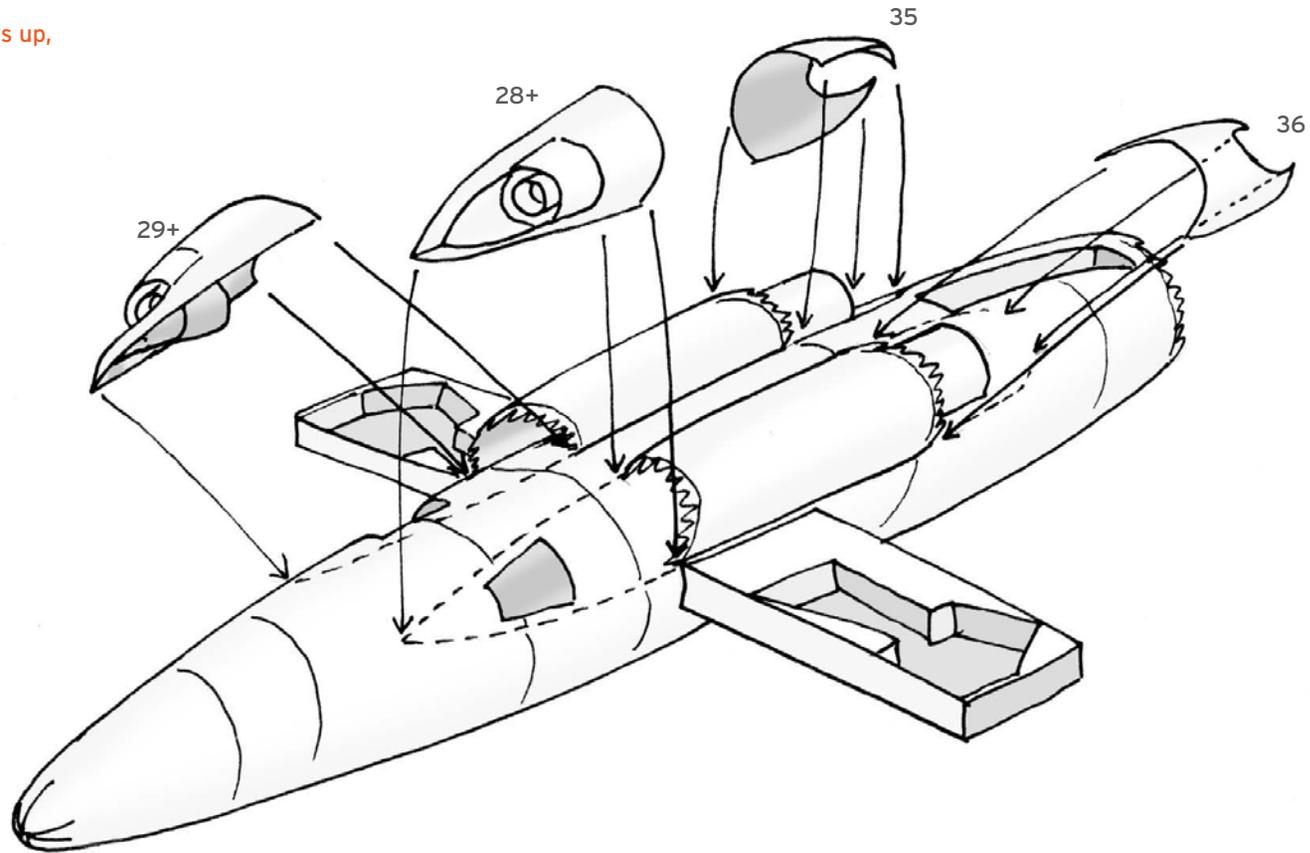
28. Score and cut out the landing gear doors

29. Glue together the upper and lower wings. Then jump to 37

2x
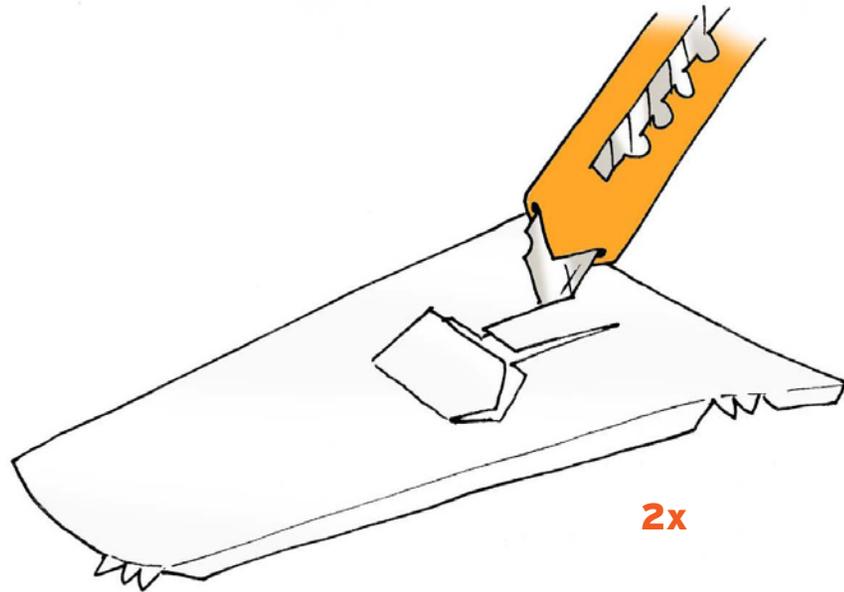
Use this as a reference:
Score dashed lines - - - - - - - - - - -
Cut regular lines ——————

39(40)

2x

37(38)
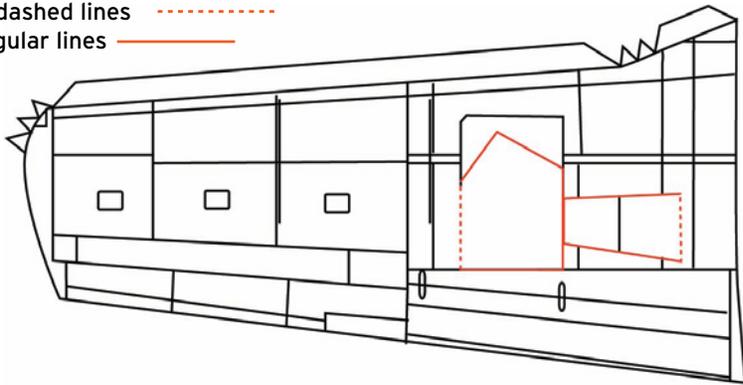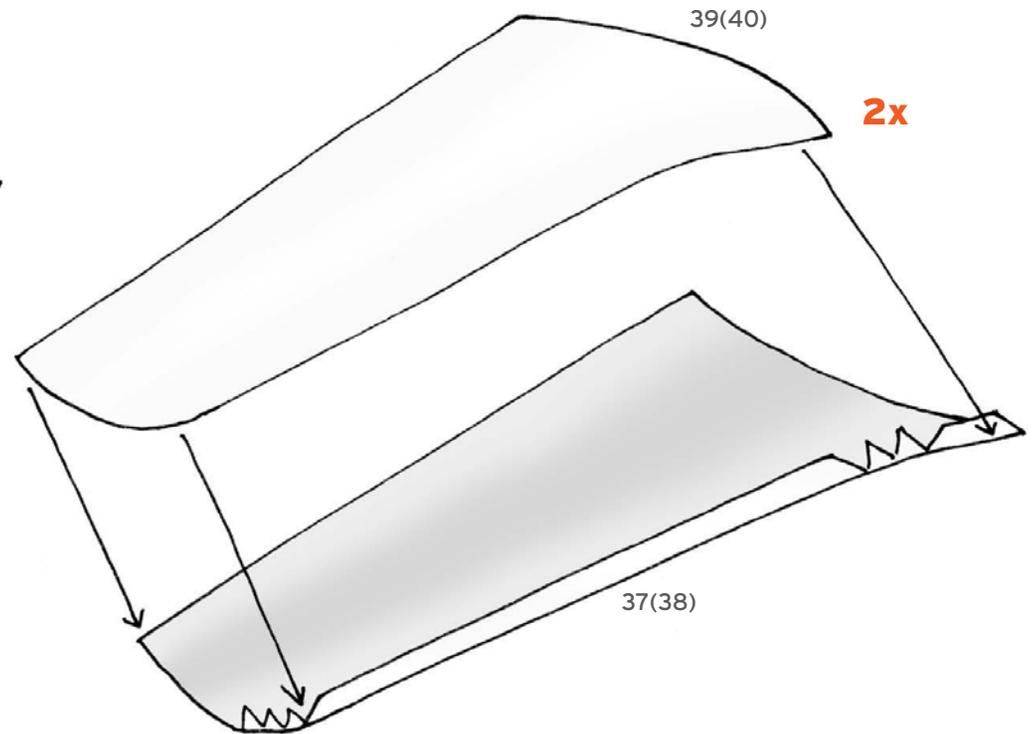
If you build folded wings continue here.

30. Cut the wings into two parts as shown:
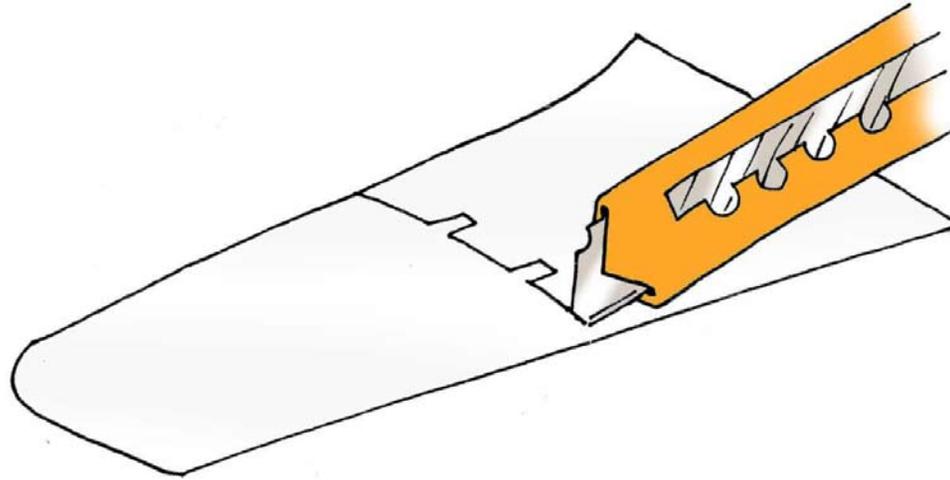
Use this as a reference:

37(38)

39(40)
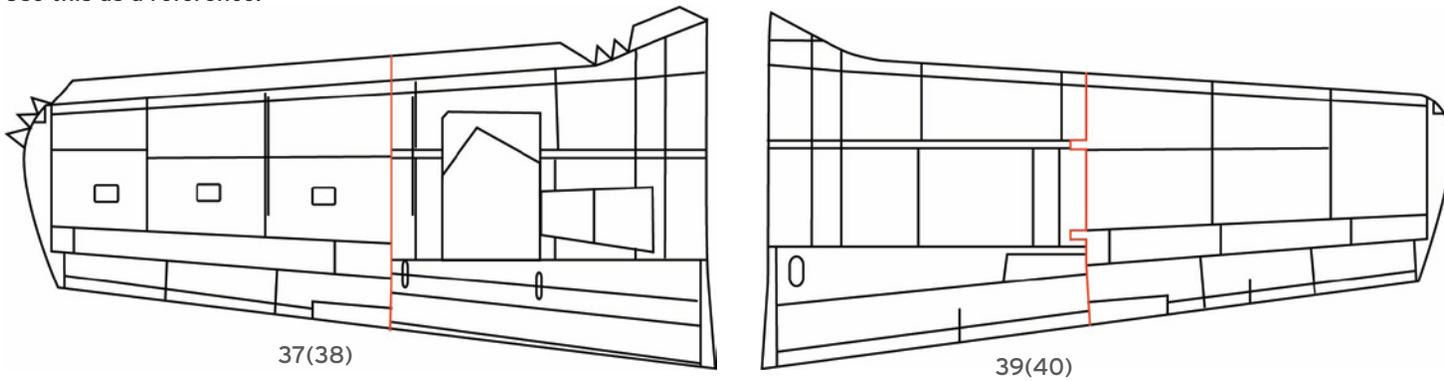
31. Glue together the two inner wing parts in the front only

40 (39)

38 (37)
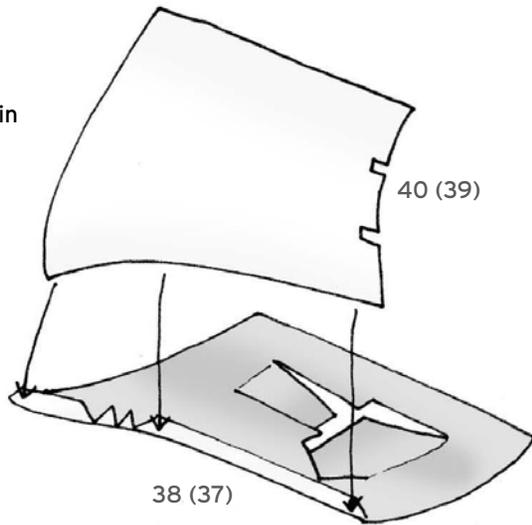
32. Glue together the two outer wing parts in the front only

40 (39)

38 (37)
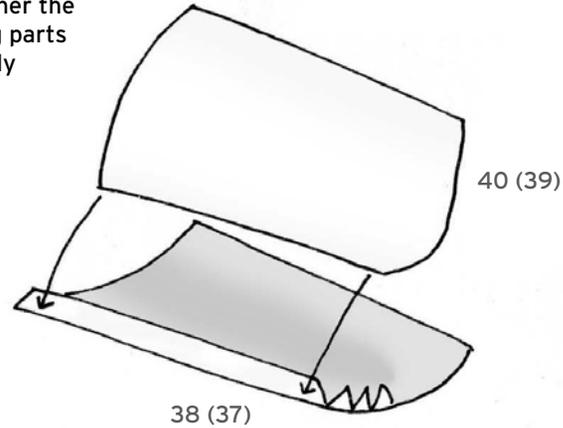
2x

**33.** Glue the fold edge into the inner wing

42 (41)
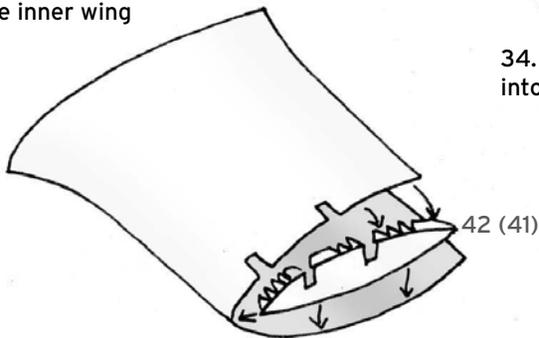
34. Glue the fold edge into the outer wing

44 (43)
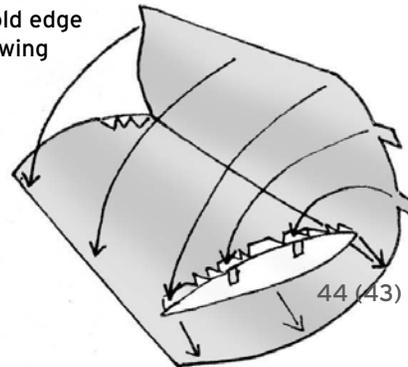
36. Glue the angles into the outer wing parts

The section should look like this.

47/49

45/46

47

48

rear angle

45

46

forward angle
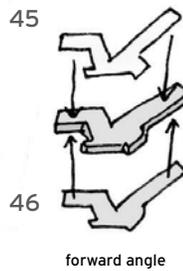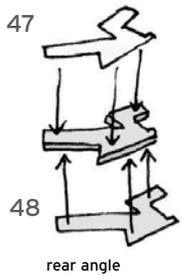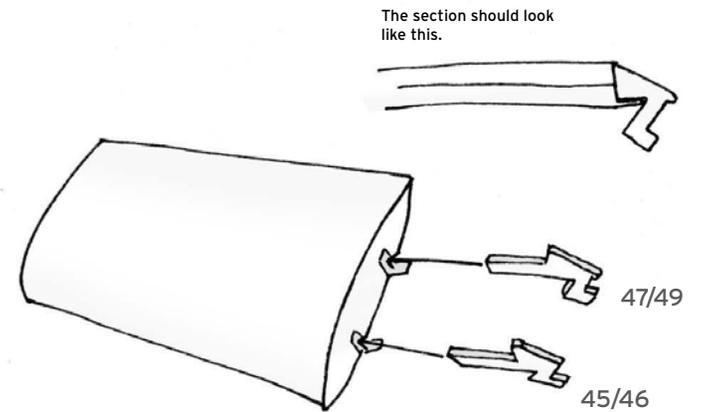
35. Glue the fold angles on stronger cardboard to make them stiff

37. Wing and nose installation

If you are building the landing gear retracted, make sure the wheel well aligns with the gear door openings

Tail stiffener

49
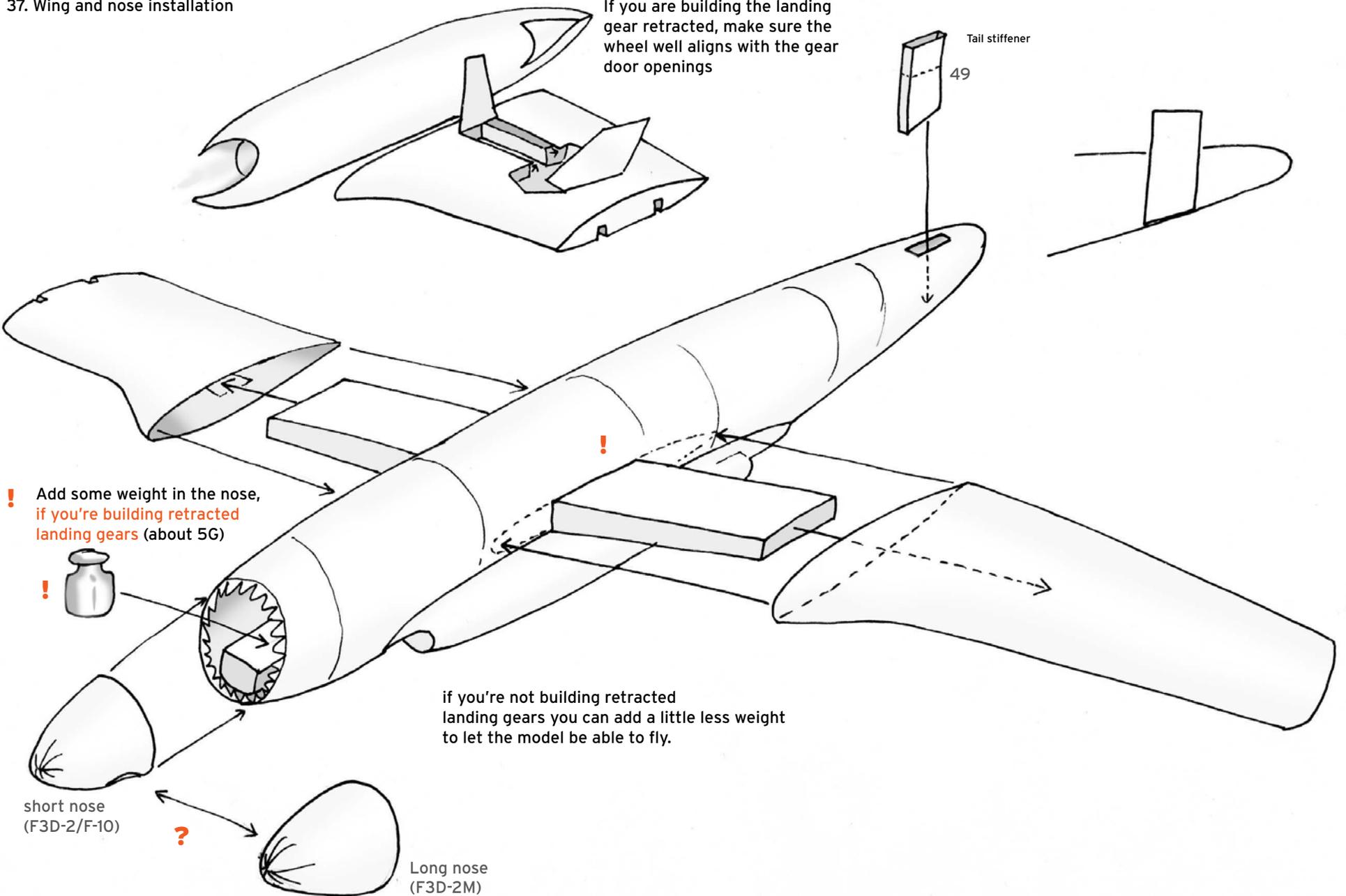
! Add some weight in the nose, if you're building retracted landing gears (about 5G)

if you're not building retracted landing gears you can add a little less weight to let the model be able to fly.

short nose (F3D-2/F-10)

?

Long nose (F3D-2M)

38. Tailplane and canopy

50

vertical stabilizer

51

53 canopy

horizontal stabilizer (tail)

section drawing:

52

speedbrakes

54   55

57 (56)

ff you are building landing gears down, I recommend to wait with the installation of the speedbrakes until all else is finished

57+

58
Antenna

39. Details

56+

60

59   Antenna

! tailwheel

62

63

61   Arrestor hook

! Build parts 62 and 63 only if you build landing gears up
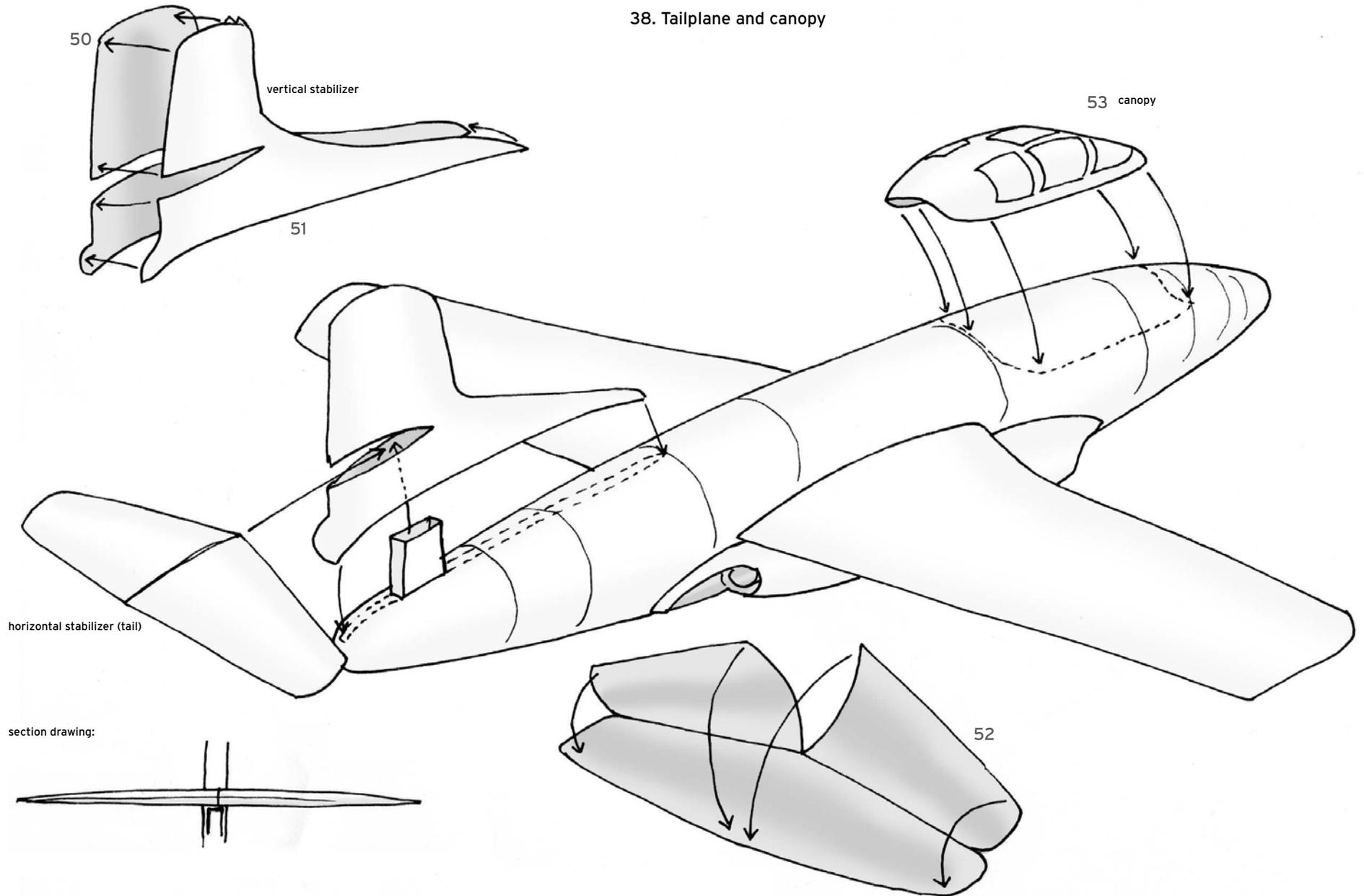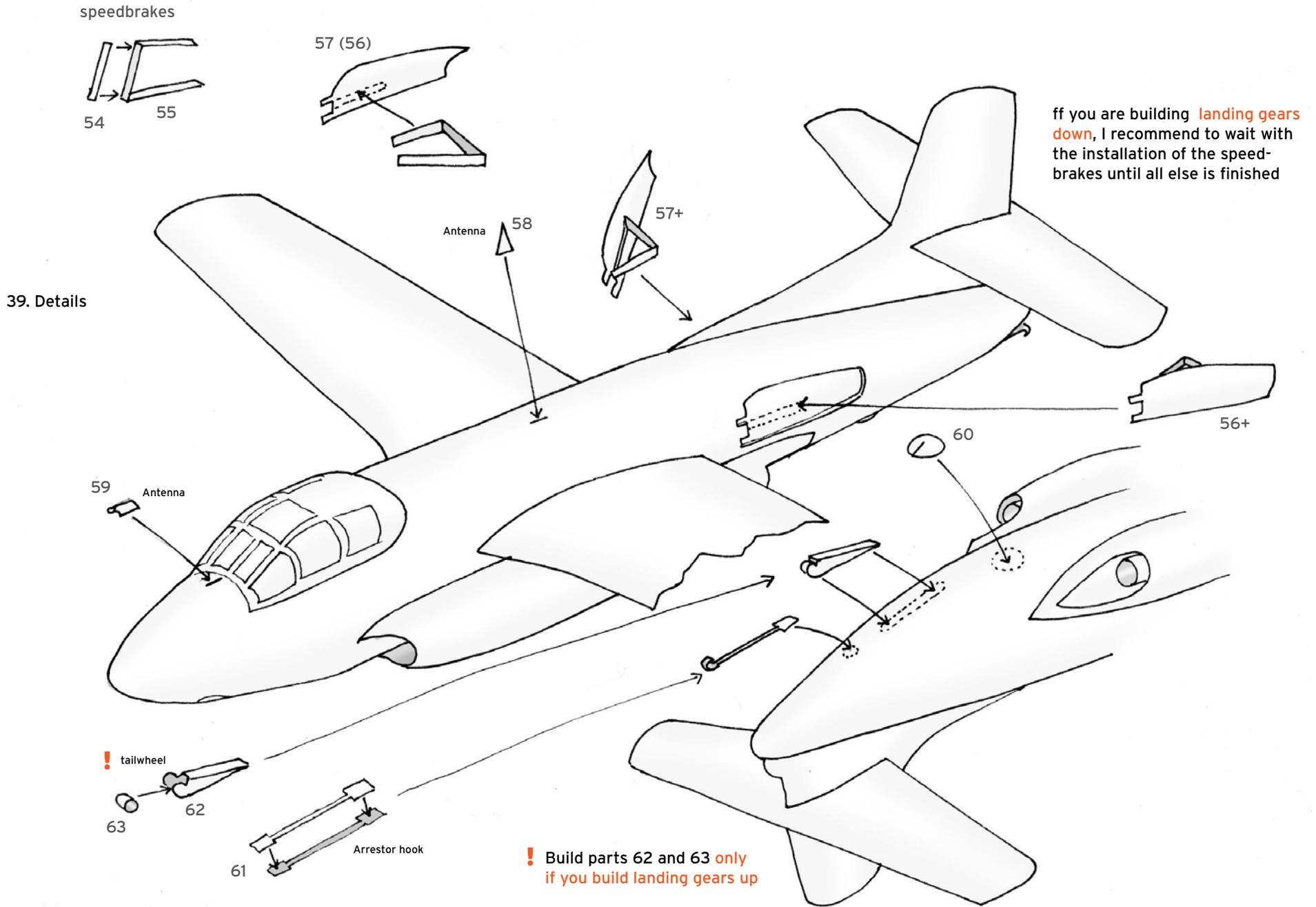
40. Landing gears

Cut in the wheel treads in the marked positions to push the toothpicks through them.

(66, 77)

main landing gear

75

71+

76

76

main landing gear

tailwheel

64

65

63

71+

75

74

74

nose landing gear

80

landing light

82

83

81

2x

71

72

73

glue this strut with its edge under the other

use toothpicks to stiffen the landing gears

69

The toothpick should be offset to the side, where the strut goes down to the wheel

68

66

67

70

Section

79

77

78

2x

41. Drop tanks (optional)

drop tank

92

ECM-pod

drop tank

92
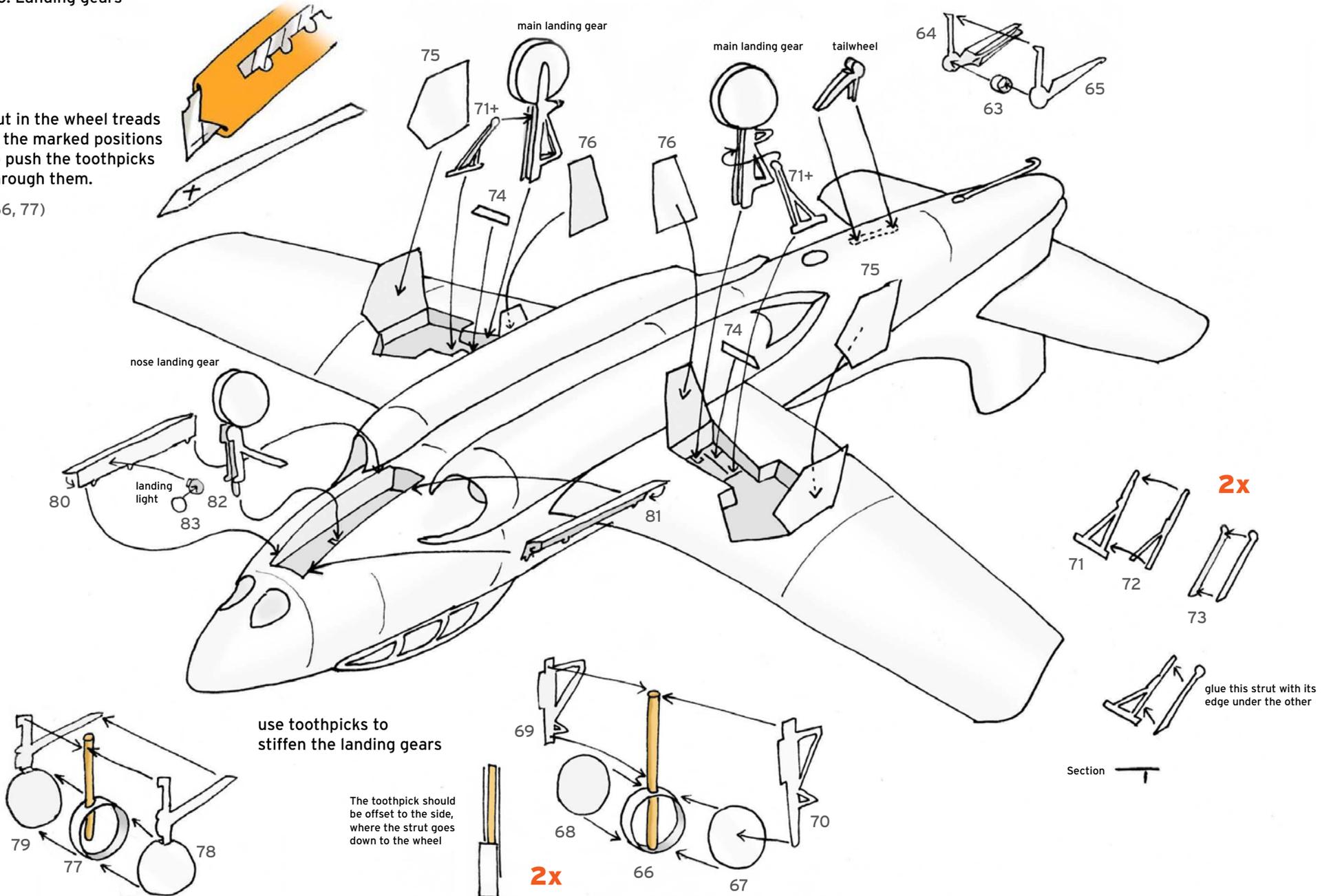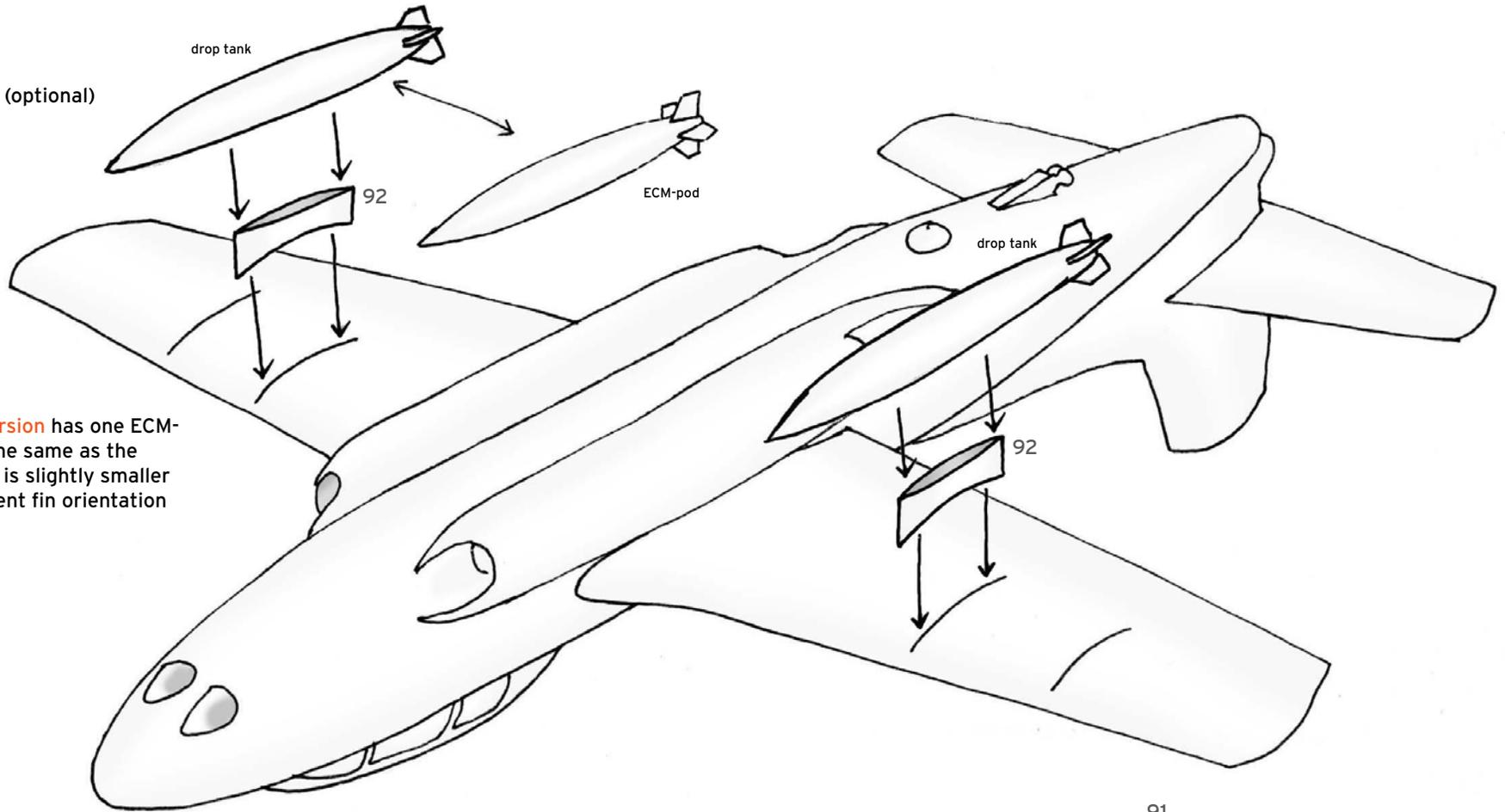
The **EF-10B version** has one ECM-pod. It looks the same as the drop tank, but is slightly smaller and has different fin orientation (see below)

Fin orientation:

ECM-pod

drop tank

84

85

86

87

88

89

90

91

91
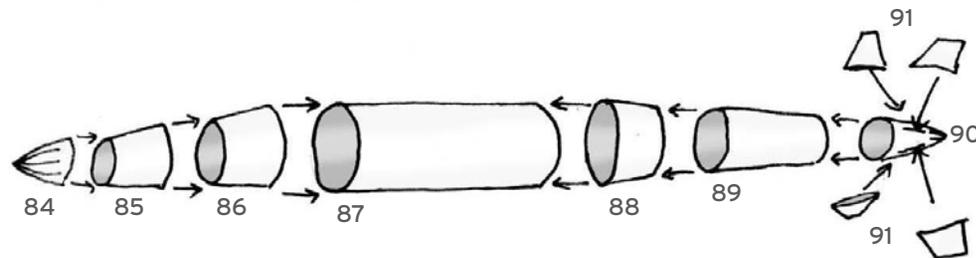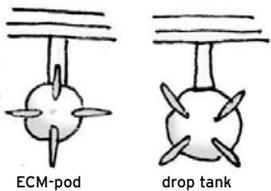
41. Sparrow missiles (F3D-2M)

93

94

You can download the Sparrows
armament pack to equip any
other version with missiles

94

93
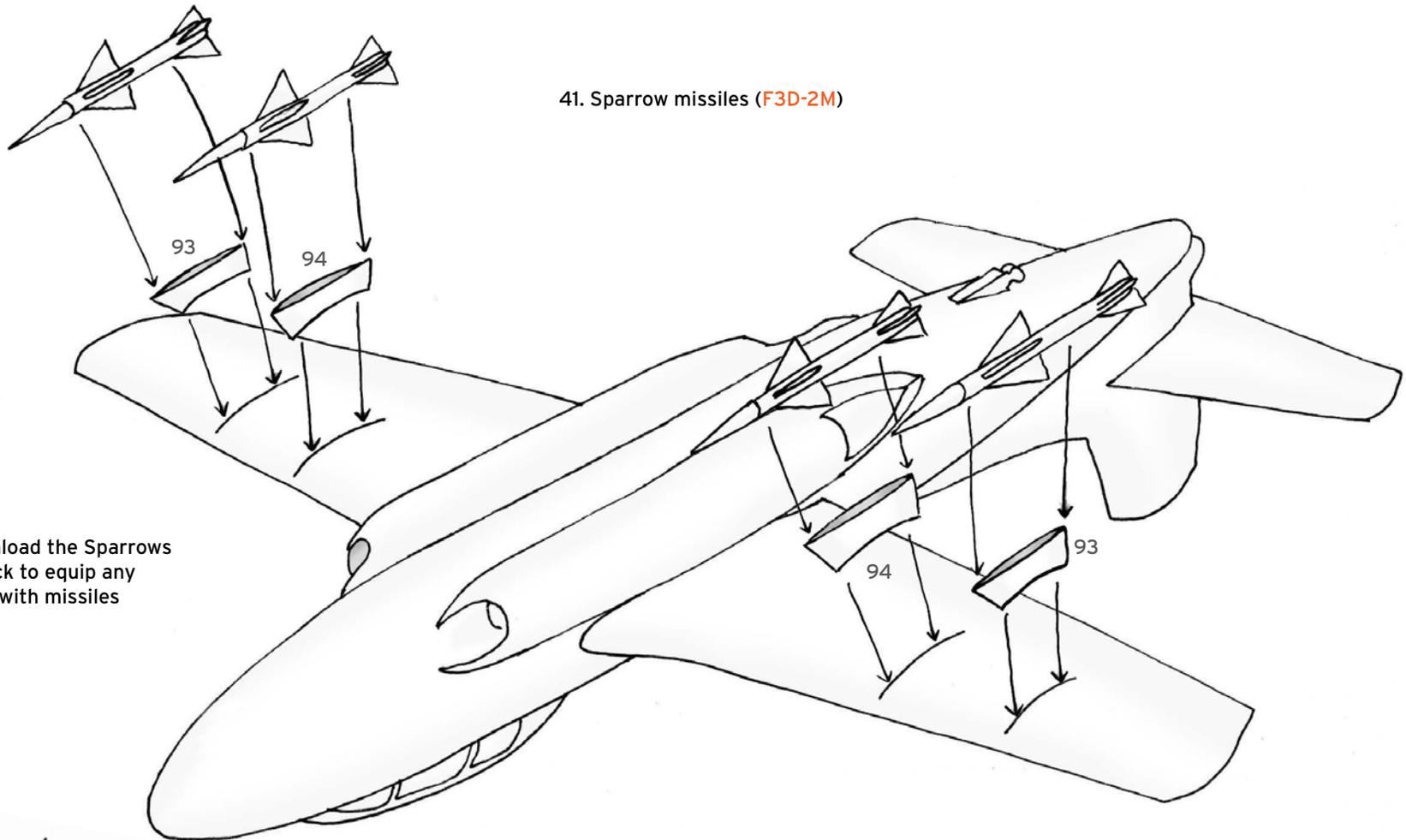
cut in the main
missile part

96

**attach fins
and nose**

roll and glue

99

98

96

97

101

102

100

101

100
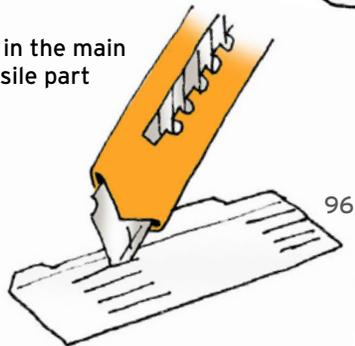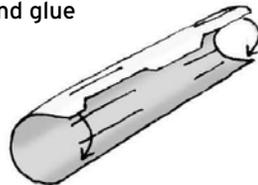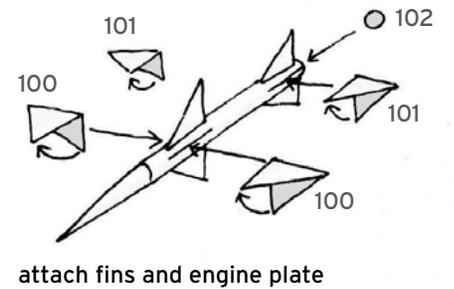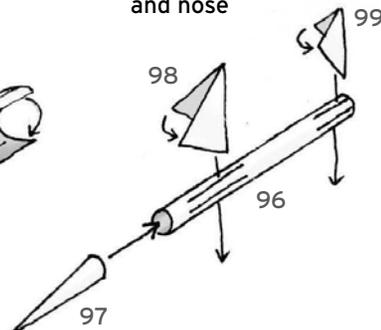
attach fins and engine plate

42. Folded wings

Glueing positions
for the locking rod

starboard
outer wing

locking rod

95

speedbrake (see step 39)
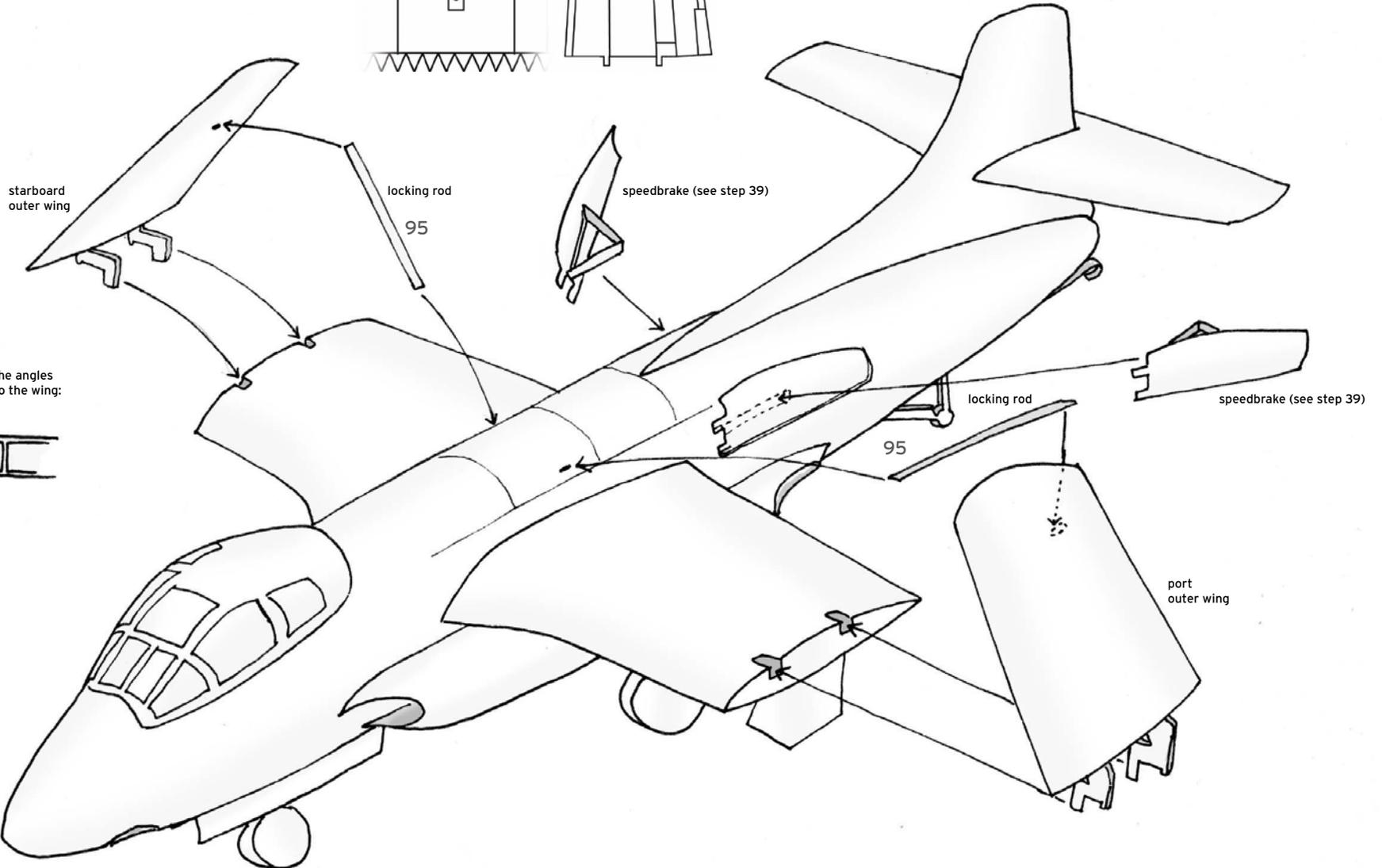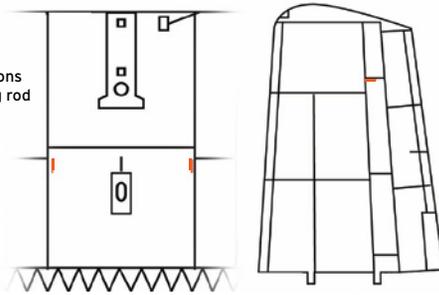
This is how the angles
are glued into the wing:

locking rod

speedbrake (see step 39)

95

port
outer wing