



## Douglas F5D Skylancer

The Skylancer was a derivative of the F4D Skyray which was developed as an all-weather interceptor under the designation F4D-2N. The Skylancer was meant to run on the newly designed Pratt & Whitney J57 engine, and due to that reason at some point the changes in the concept became so big, that it received its own designation. Only the basic concept of the Skyray was kept, while all parts were redesigned: The wings became thinner, the Tail taller and the fuselage longer. The internal fuel capacity was increased for 35%. In the end, the Skylancer received the improved J79 engine, which was meant to give it higher stability, especially at supersonic speeds.

The Skylancer made its maiden flight on april 21st 1956 and turned out to be a high performance craft that was super-

sonic and easy to maneuver. The U.S. Navy ordered 19 test aircraft to evaluate the Skylancer, but only 4 were built, after the decision was made to order the Vought F8U Crusader, which had similar capacities. Some sources state, that this was mostly a politic decision. It was feared that Douglas could gain a monopoly since almost all of american Naval Aircraft were built by Douglas at that time.

If it would have ever entered service as an interceptor, the Skylancer was meant to carry four 20mm guns in the wing roots with 72 unguided 51mm rockets carried in an extensible launcher or two half-recessed Sparrow missiles, and up to four Sidewinder-missiles on external hardpoints.

The only four Skylancers were acquired by NASA to be used as test aircraft,

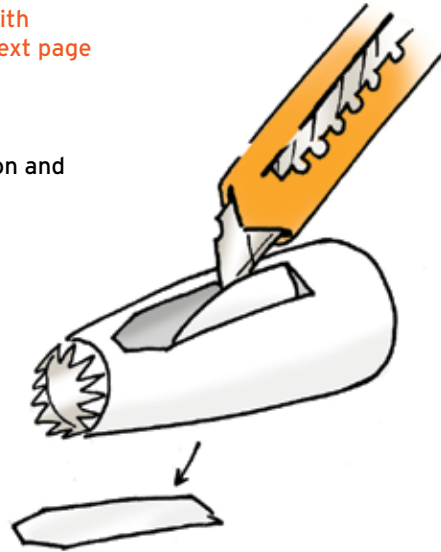
the decisive argument being their high performance in connection with their wing shape, which let the Skylancer have a similar handling as the projected X-20 Dynasoar space-plane. The Skylancer was mostly used to simulate re-entry maneuvers and abort-procedures. In the abort-procedure-tests, the Skylancer was flown vertically up to simulate the Dynasoar's start from the top of a titan-class rocket. Then the pilot would let the Skylancer stall to simulate the Dynasoar's return to the ground in the case the start was aborted. The Skylancer also proved useful to these tests, because she was one of the first planes that had the capacity to fly upward vertically. It is said that test pilots regarded these maneuvers as big fun. One of them was Neil Armstrong, who went on to become the first man on the moon. After

the X-20 program had been cancelled, the Skylancers were used as chase planes. Chase planes are the planes that fly behind experimental aircraft to give support to their pilots. Among the tests in which the Skylancers served as chase planes was the Lifting-body-program. One of NASA's four Skylancers was refitted with an ogival-wing and extended air intakes to be used as a test platform for the american supersonic-transport-program. Data of these tests was later used in the construction of the european Concorde, whereas the data collected during the test of the Dynasoar-project played an important role in the development of the first space shuttle.

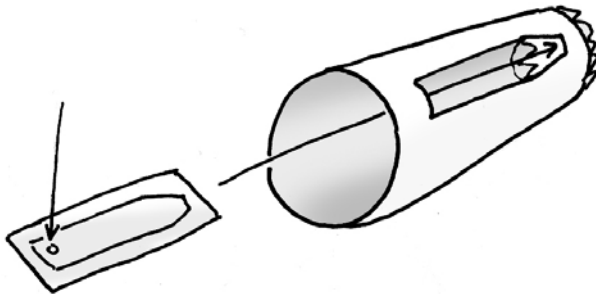
NASA's last Skylancer was retired from service in 1970 and can be seen today at the Neil A. Armstrong Museum in Wapakoneta.

If you want to build the Skylancer with landing gear up, jump to 5. on the next page

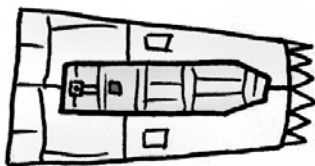
1. Glue together forward body section and cut out the gear shaft with a knife



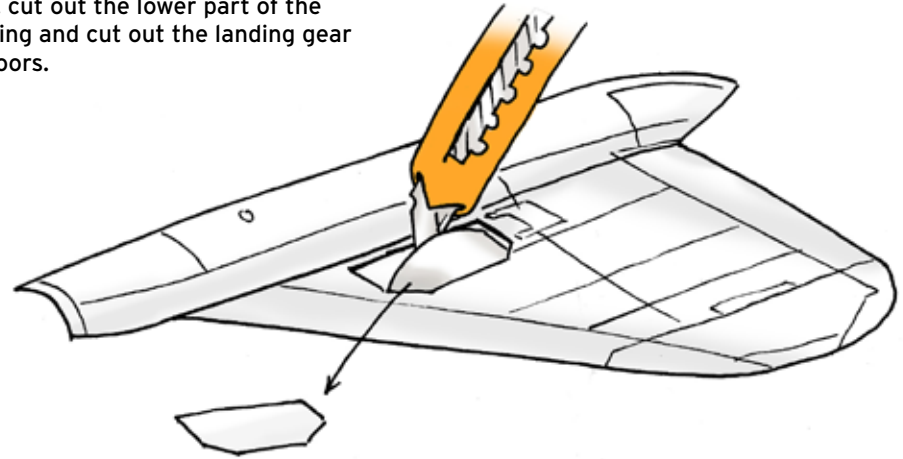
2. glue the forward landing gear well from inside into the hole's position after making a hole in the marked spot.



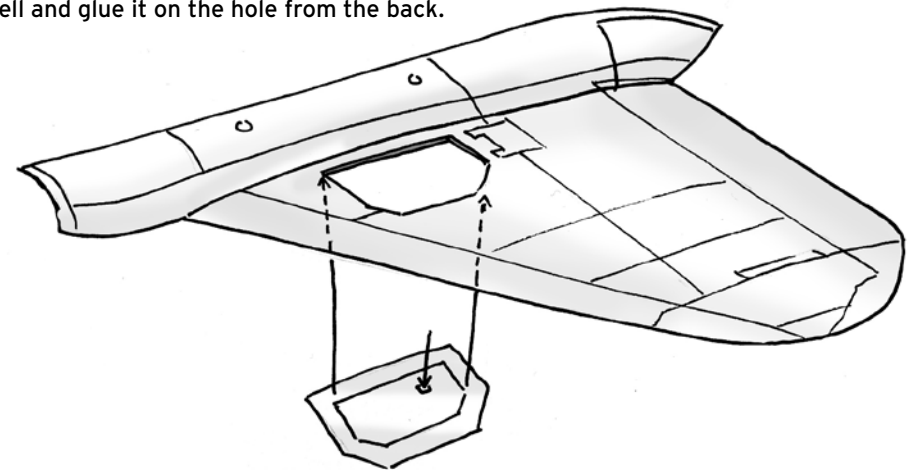
When glued, it should look like this:



3. cut out the lower part of the wing and cut out the landing gear doors.



4. make a hole in the fitting landing gear well and glue it on the hole from the back.



When glued, it should look like this:

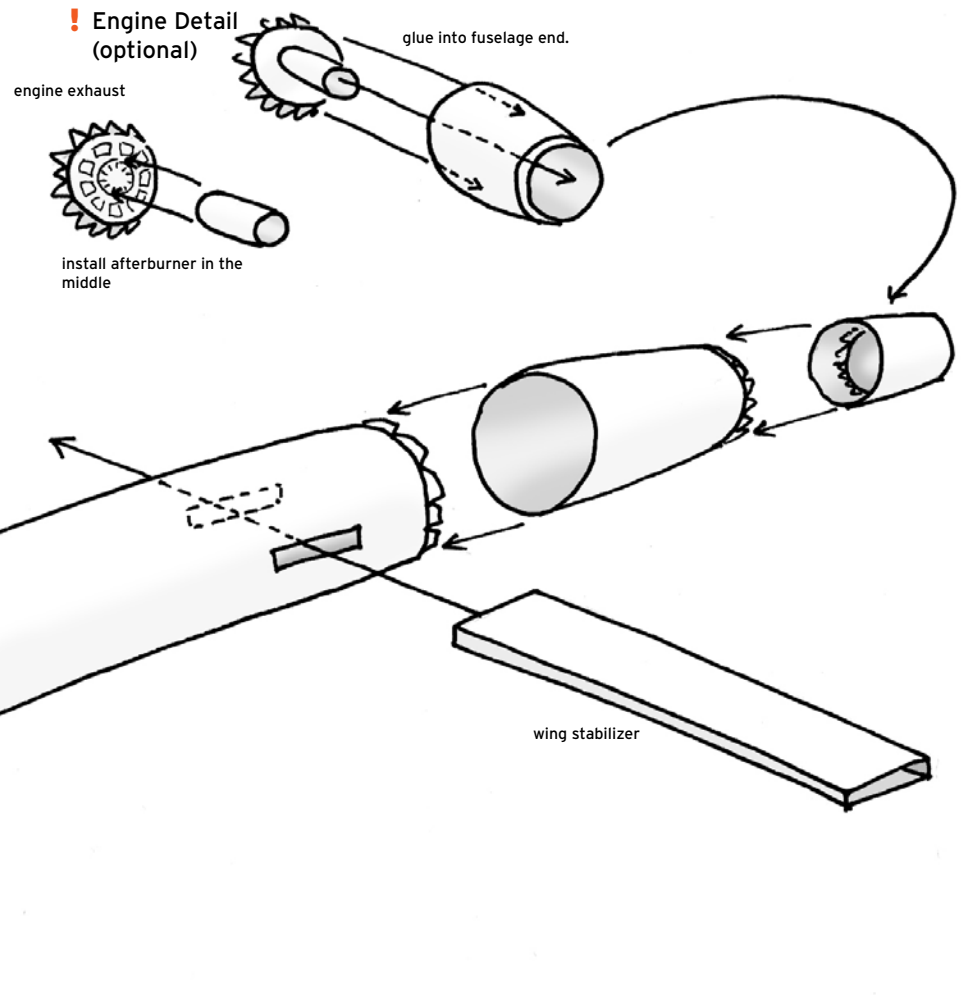


**2x!**

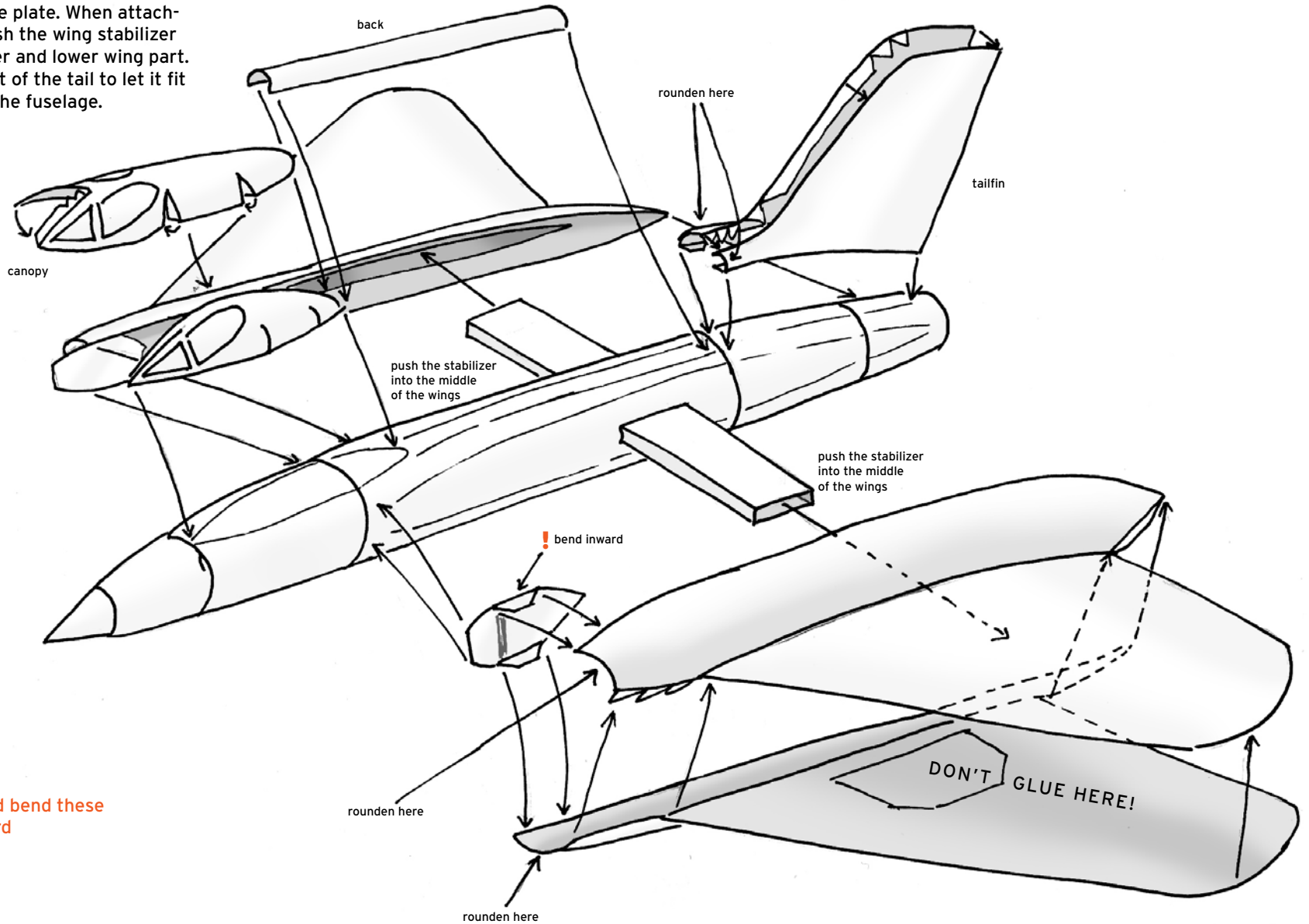
Repeat this for the second wing.

5. Glue together the fuselage parts. Then pull the wing stabilizer through it and glue it in place in the middle.

! Install the optional engine details first if you want to build them.

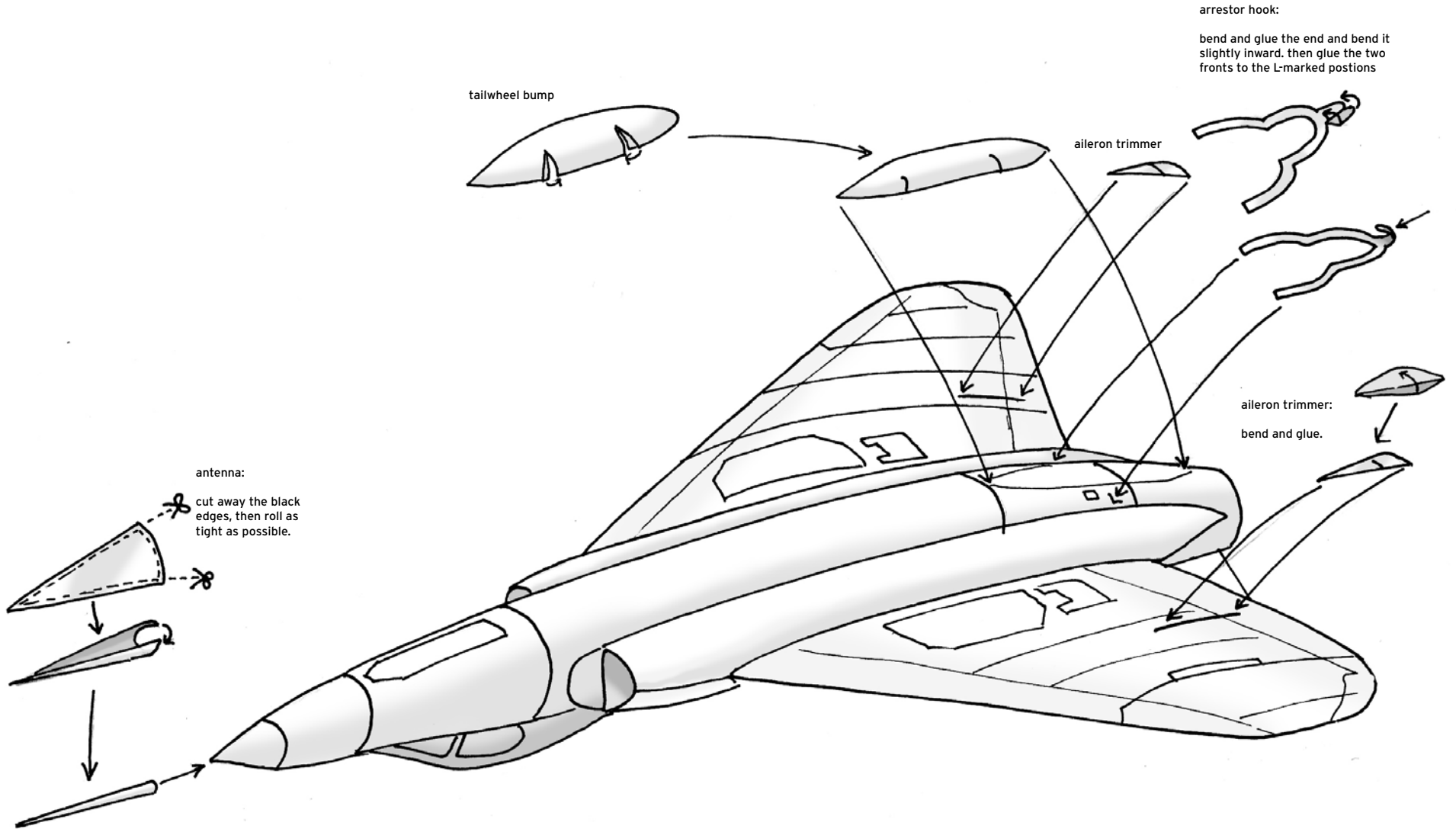


6. Glue the wing parts together first, rounden the air intake and then glue them to the intake plate. When attaching the wings, push the wing stabilizer between the upper and lower wing part. Rounden the front of the tail to let it fit with the back of the fuselage.



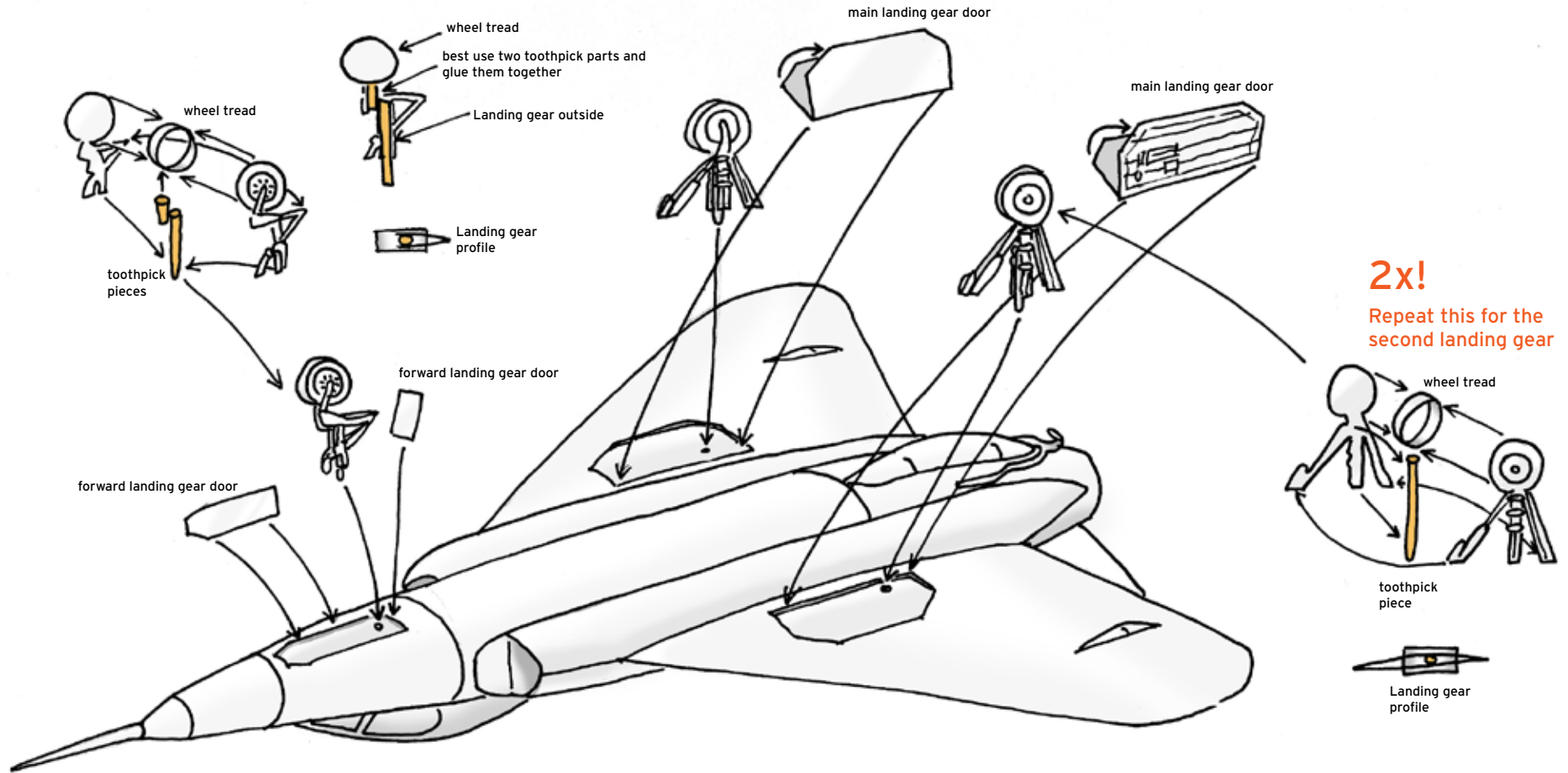
! score and bend these flaps inward

## 7. Attach details



If you wanted to build the Skylancer with landing gear up, then you are finished now!

8. Assemble the landing gears first.  
Stiffen the struts with toothpicks.  
Don't mix up left and right main landing gears.



You finished building  
the F5D Skylancer