



## Lavochkin La-7

The Lavochkin La-5 was a huge success on the frontline and popular with the pilots. But its Designer Semyon Lavochkin felt that it could still be improved. Beside the ASh-82FN radial engine, there was no other higher devel-

oped radial engine available. But over time, the La-5 received weight reduction, when metal for more metal parts became available. Apart from the weight reduction, Lavochkin's design studio also made some aerodynamic improvements, which were implemented on the La-5 '205', which was tested in the wind tunnel. These improvements were realized in the prototype of the new designated La-7, which took off for its first flight on February 2nd, 1944.

These included a repositioning of the

supercharger intake from above the cowling to the wing roots of the leading edges, which improved the aerodynamics and the pilot's view. Other visible changes included the repositioning of the oil cooler to behind the wing and an improved, slightly higher landing gear, which was completely enclosed to reduce drag.

The La-7 also received different instrumentation in the cockpit, but like the La-5 it lacked an artificial horizon. With the new top speed of 597km/h, the La-7

was not only a great improvement over the 546km/h of the La-5FN, but also outperformed the Focke Wulf Fw 190, its strongest opponent, whose top speed was 560km/h. The La-7 was rushed to the front lines. It was first flown in combat in September 1944.

It proved very successful in aerial combat, and in the early phase of its service more were lost to engine failure than to enemy fire. Towards the end of the war, the number of La-7's in service increased steadily. By January 1945 it were 398, and by May, when the War ended in Europe, it were 967 aircraft. The later versions were fitted with three newly developed automatic machine cannons instead of the two ones featured also in the La-5

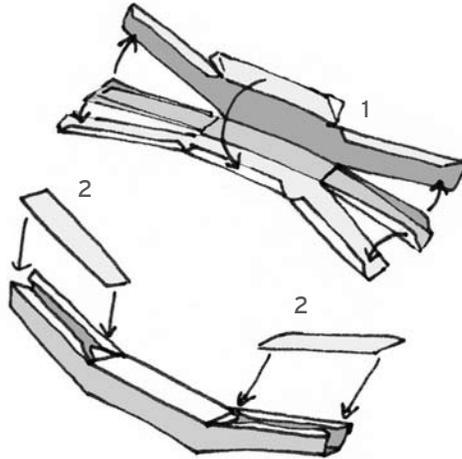
The La-7 was the first soviet plane that could take on the German Me 109 in vertical maneuverability and the Fw 190 in speed. It even stood its ground against the first german fighter jets: Ivan Kozhedub, nicknamed "Ivan the terrible", the highest scoring ace on the side of the allies, downed a Messerschmidt 262 jet fighter in his La-7. It was used for patrolling, escorting and air superiority missions as well as for strafing, bombing and reconnaissance missions.

After the war it stayed in service with the soviet forces until replaced by the La-9, which was a completely new development. In Czechoslovakia, the La-7 was flown after the war under the designation S-97 until 1960. In China and North Korea, the La-7 was flown until it proved inferior to a new generation of fighter jets in the Korea War. The La-7 became also known under the Nato reporting name "Fin".

5753 one seater and 584 two-seater versions of the La-7 were build.

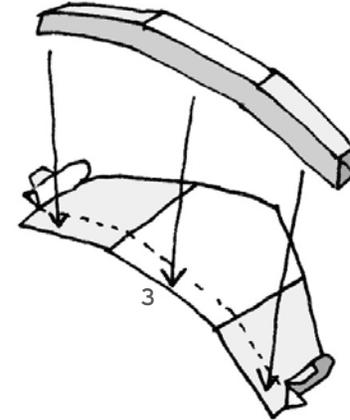
## 1. Build the wing stiffener

If you don't want to build the La-7 with landing gear down, jump to 3



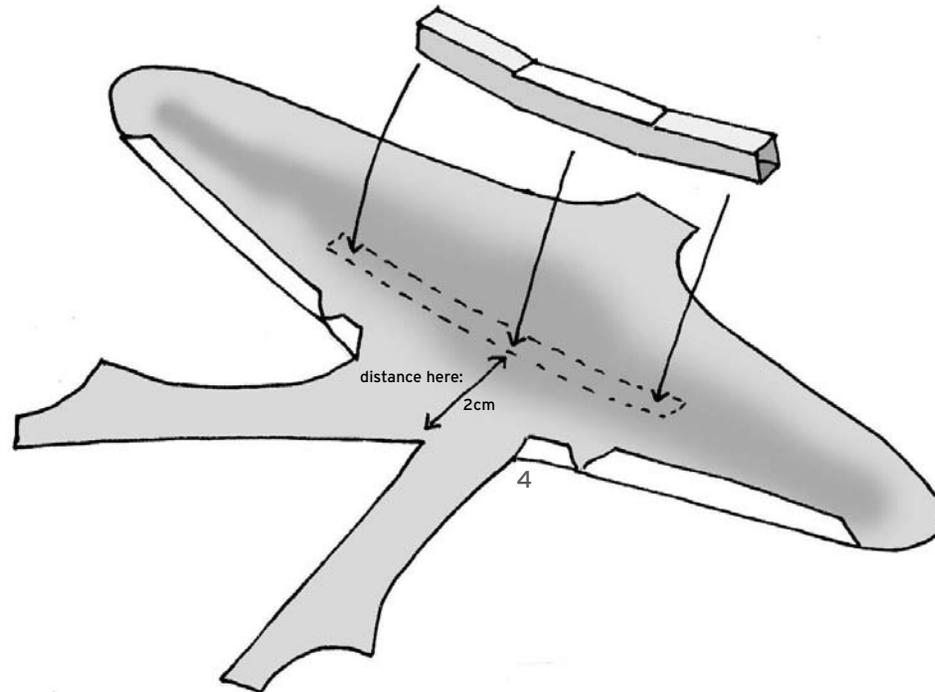
## 2. Fold the wheel well part, then glue it the stiffener on it at the indicated position

Jump to 4

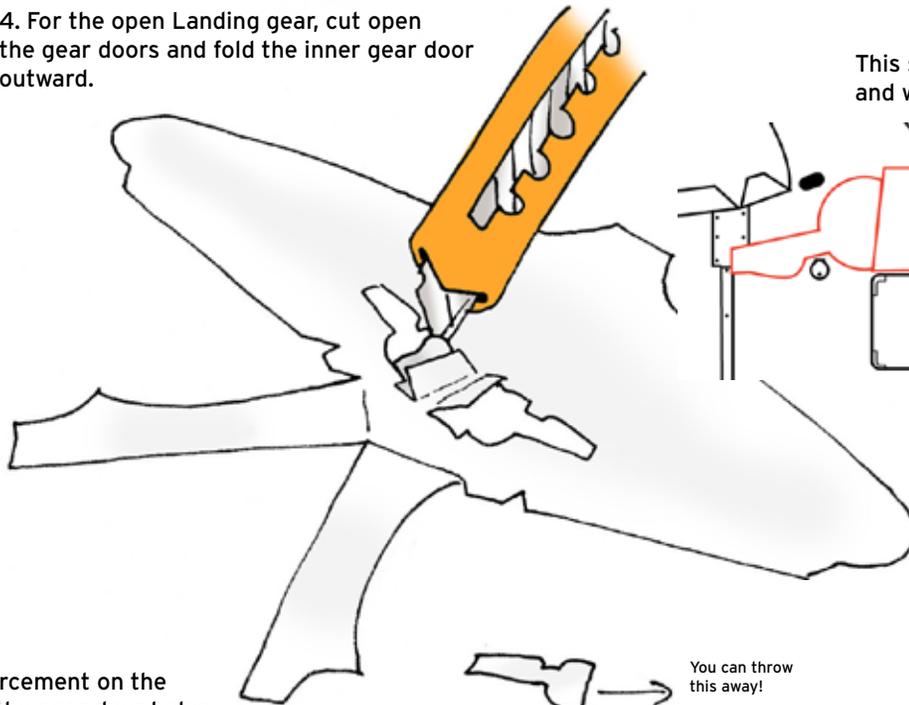


## 3. Rounden the main wing part then glue the wing stiffener in the center of it.

Jump to 8

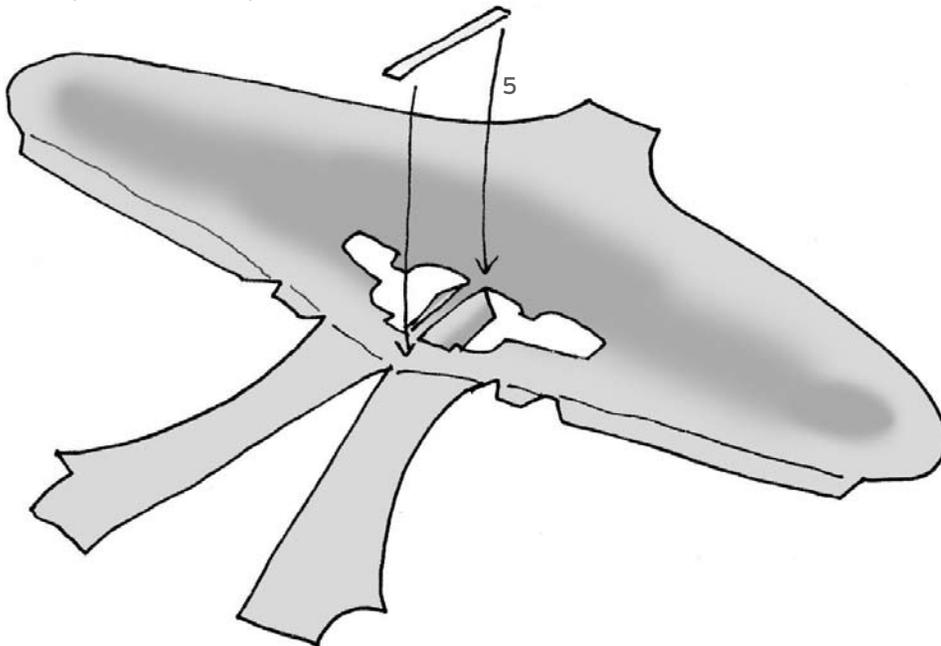


4. For the open Landing gear, cut open the gear doors and fold the inner gear door outward.

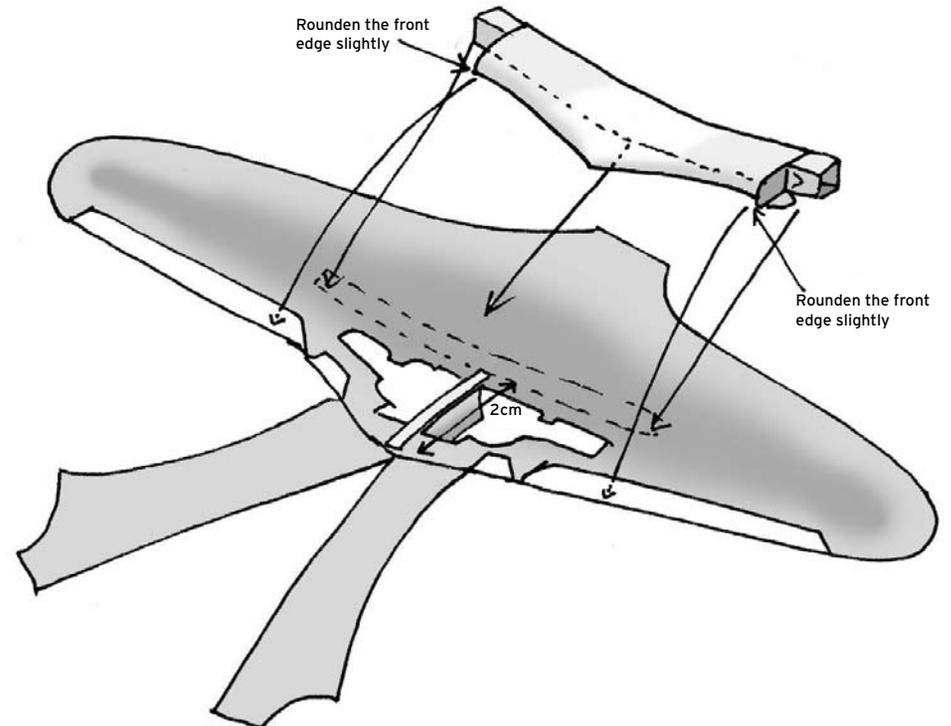


This shows, which lines to cut (regular lines) and which lines to score and fold (dotted):

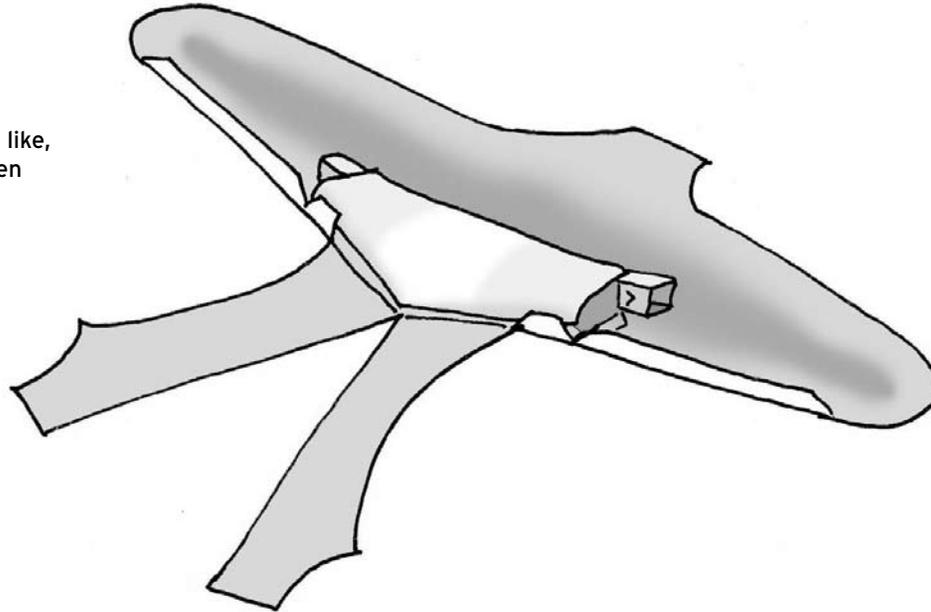
5. Glue the enforcement on the bridge between the gear door holes



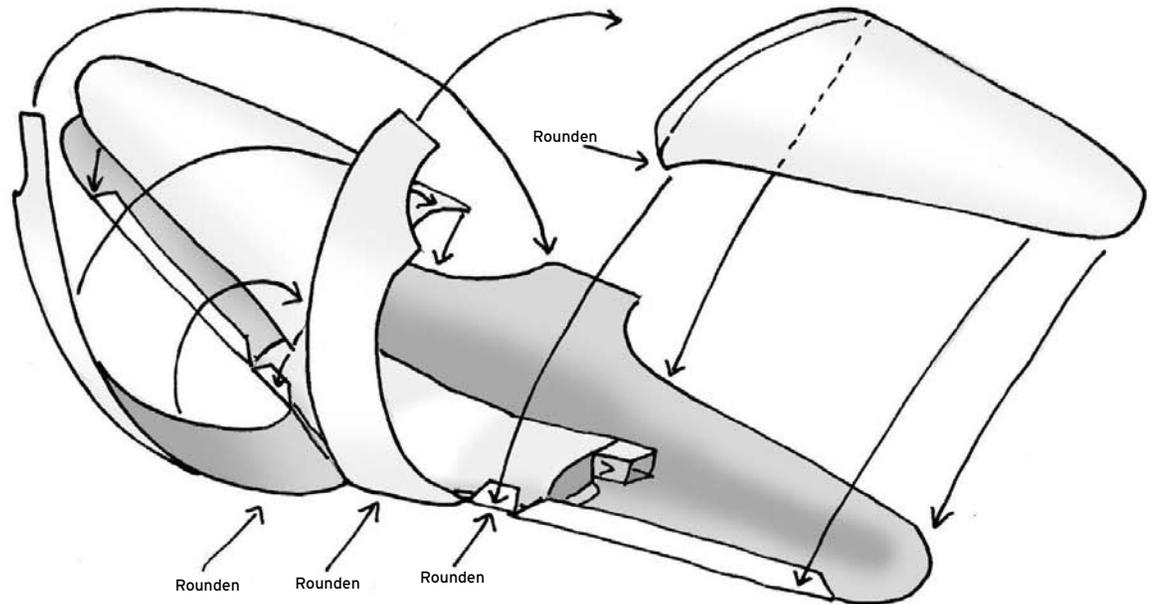
6. Rounden the wungs, then glue the Stiffener/wheel well onto them



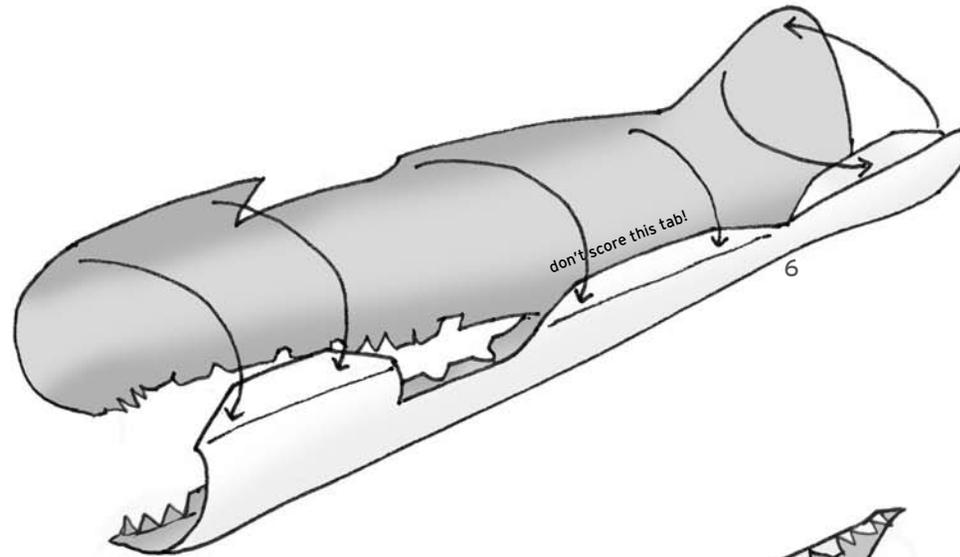
7. This is how it should look like, once the wheel well has been installed.



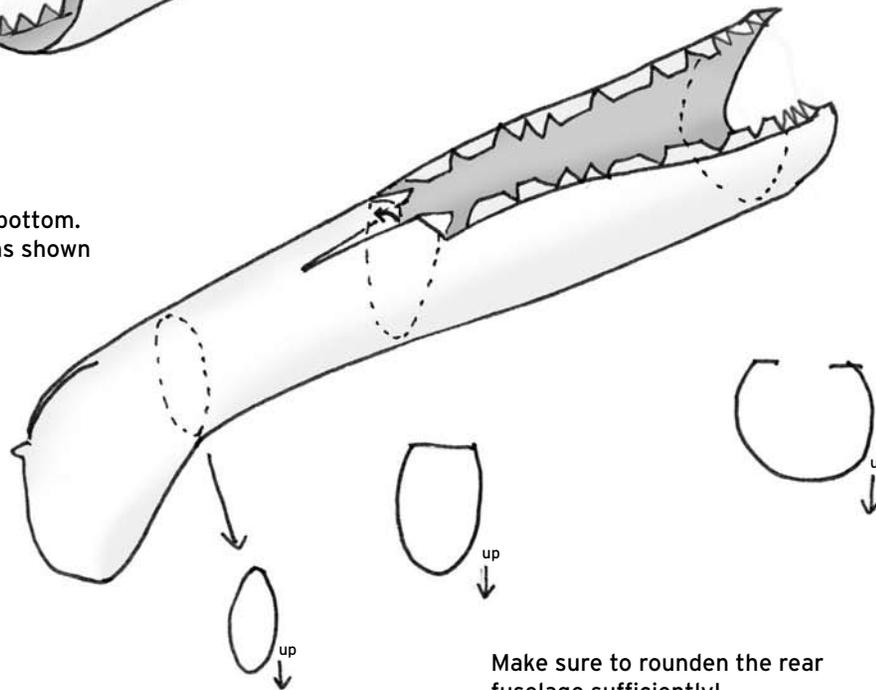
8. Rounden the wings to make an airfoil. First glue the upper wing parts on the tabs, then **rounden the leading edge**. once the upper wing parts are installed, rounden the Swallow-tail like ends and wrap them over the center of the wing. Again, **make sure to rounden the leading edge good enough**.



9. Roll the main fuselage.  
Then glue it together, from the tail  
to the front.

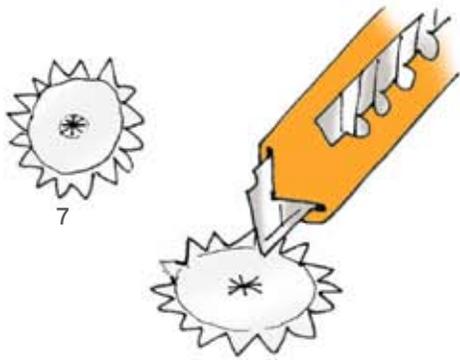


10. Glue the little overlap in the bottom.  
Form the fuselage to the sections shown

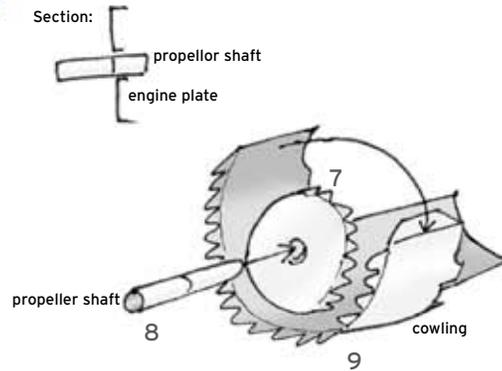


Make sure to rounden the rear  
fuselage sufficiently!

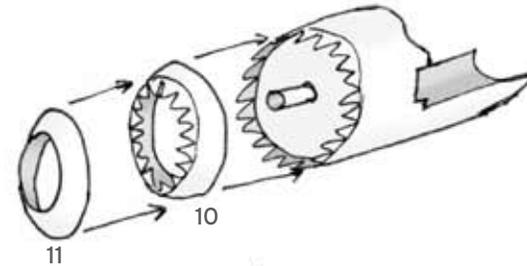
11. Cut out the engine plate and cut in as shown



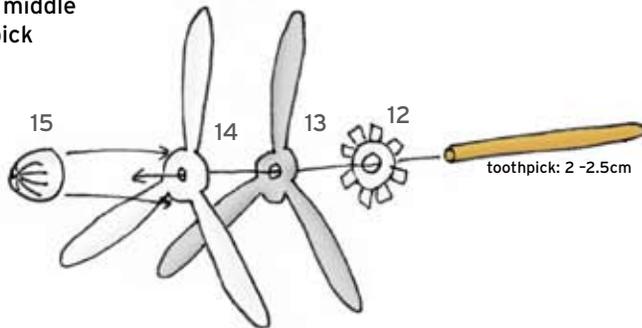
12. Roll the cowling around the engine plate and glue the propeller shaft through the engine plate. align as seen in the section



13. Complete the cowling by adding the front sections.

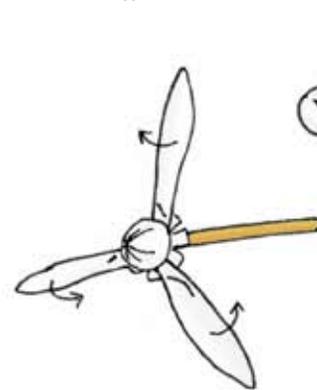


14. Build the propeller and glue it onto the middle part of a toothpick

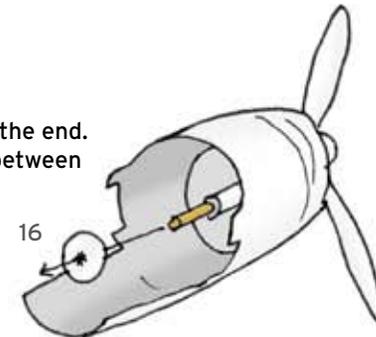


Use this section as a reference for the blade angle

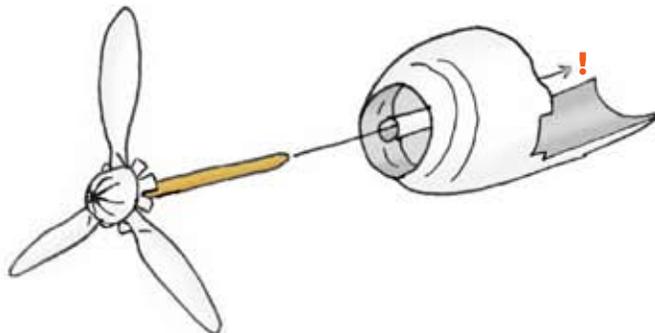
15. Bend the propeller blades



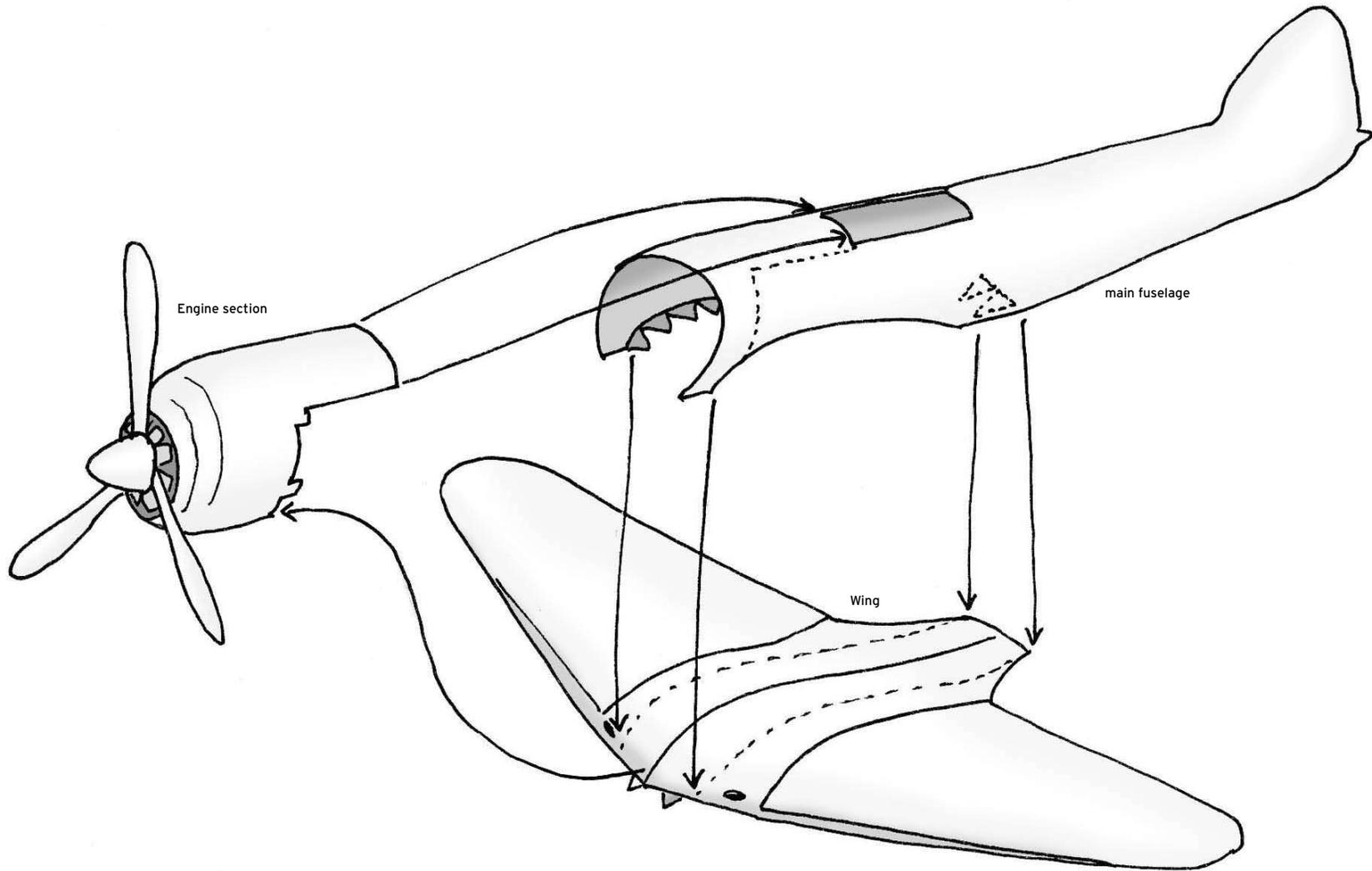
17. Glue the shaft hub to the end. Make sure no glue gets between toothpick and shaft.



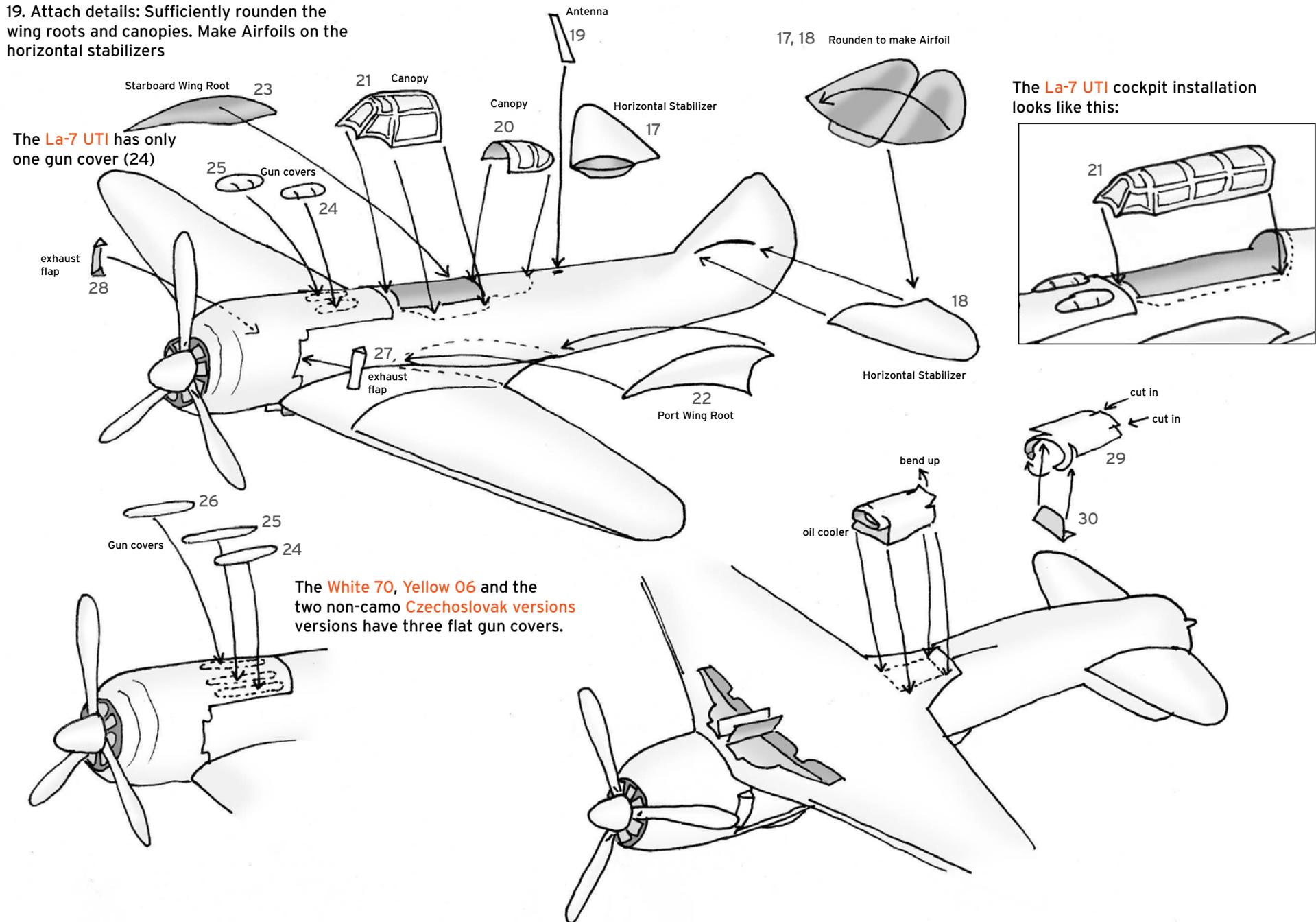
16. Push the Propeller through the shaft.  
Don't glue !



18. Main Assembly: Glue the fuselage to the marked position on the wing first. Then push and glue the Engine on both from the front.

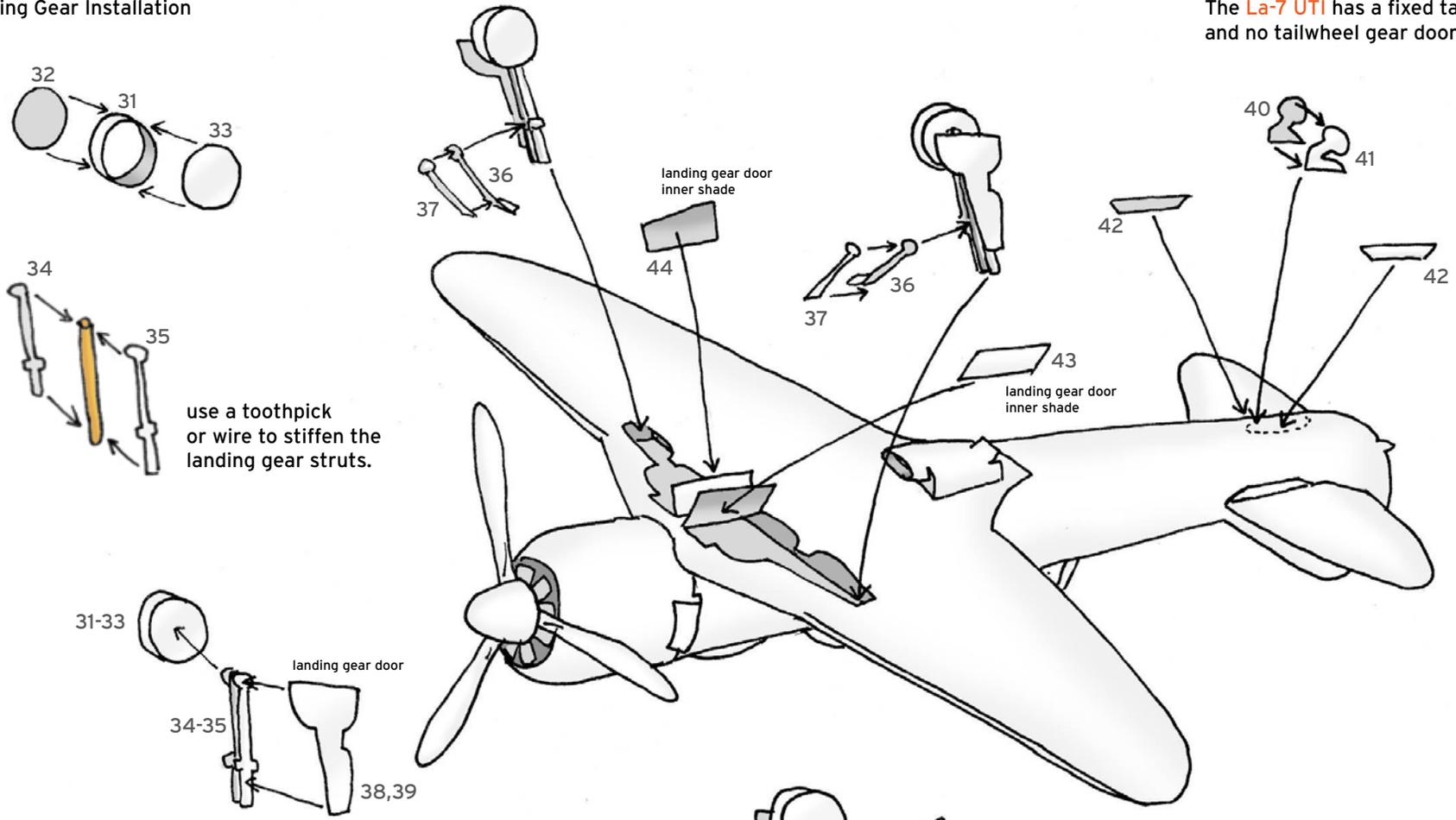


19. Attach details: Sufficiently rounden the wing roots and canopies. Make Airfoils on the horizontal stabilizers



## 20. Landing Gear Installation

The La-7 UTI has a fixed tailwheel and no tailwheel gear doors (42)



glue together the inner (38) and outer (39) parts of the landing gear doors

21. Glue together the gear door hydraulic arms, rounden them and glue them between wheel well and gear door.

