

### **Assembly instructions for the MIG-19 jet model**

We start building the model by reading the instructions and the construction plan (drawing) included in the set. The package includes a set of structural elements and accessories that allow you to build and launch your own jet plane model.

**If you want to use the model only for rubber launchers, your age should not be under 14. However, if you plan to use the model for take-offs with the TSP L-2 model rocket engine, you should be at least 18 years old or under the supervision of a person over 18 years of age. Additionally, you must read the instructions for use and safety that come with the package with the TSP motors.**

**The package of the jet model kit should contain the following structural components for the model:**

1. 3mm-4mm balsa hull - 1 piece
2. Balsa direction stabilizer 1mm - 1 piece
3. Right horizontal stabilizer 1.5mm - 1 piece
4. Left horizontal stabilizer 1.5mm - 1 piece
5. Right balsa wing 1.5mm - 1 piece
6. Left balsa wing 1.5mm - 1 piece
7. Container for the TSP L-2 engine - 1 piece
8. Self-adhesive aluminum foil - 1 piece
9. Starting hook - bamboo fi2mm - 1 piece

**And additional components:**

- Stickers with jet markings / graphics - 1 set
- SuperGlue glue - 1 piece
- Balance (plasticine) - 1 piece
- Sandpaper - 1 piece
- Modeling rubber 1x3x500mm - 1 piece

Once you have checked if all the above-mentioned items are included in the set, you can start building the model:

1. Attach the directional stabilizer (2) to the fuselage (1), be careful to stick it exactly vertically on the fuselage axis, in the place indicated on the drawing / plan.
2. Then, start the assembly of the wings - insert the right wing (5) into the oblong assembly hole (notch) on the right side of the fuselage. During this operation, make sure that the wing tongue only enters the half of the fuselage mounting notch, so that there is space for sticking the left wing (6).  
Then set a 6-8mm rise on the tip of the wing and carefully glue the point where the wing meets the fuselage.
3. Glue the left wing (6) in exactly the same way as the right wing (see point 2), also giving it a 6-8mm lift.
4. Glue both parts of the tailplane (3,4) - (right and left) in exactly the same way as the wings, into the mounting spot cut in the rear part of the fuselage, but in this case the elevation at the ends of these wings is not necessary - be careful, that both its parts are glued at an angle of 90 degrees to the hull.
5. Install the starting hook (9) in the place indicated on the plan. However, first cut the bamboo stick in half. Then hammer the hook with the sharp end in the center of the hull axis, in the manner and place indicated on the plan, while taking care that the sharp end of the hook does not pierce the hull from any side. Finish the operation by gluing the hook using the glue included in the set.
6. OPTIONALLY, stick the hopper (7) on the TSP L-2 engine, for this purpose put the hopper turret with the mounting cutout on the hull in the place marked on the plan. Set the right angle of the turret in relation to the axis of the carrier blade - the exact angle can be found on the model construction plan.
7. OPTIONALLY, tape the model's hull behind the engine compartment with self-adhesive aluminum tape (8) in order to protect the fuselage from hot gases coming from the TSP L-2 engine nozzle.
8. Finally, you can add authenticity to your model by decorating it with the graphics and paints with a brush included in the set. Paint the edges of the laser cut with the appropriate color (remember that the paint included in the package is acrylic, so you can wash it off with water before it dries), then stick the graphics / stickers in the places marked on the plan.

Your model is almost ready for its first flight. Before flying, you need to properly balance your model, to do this check the center of gravity (CG) - to do this, support the model with two fingers (thumb and forefinger of one hand) under the wings, in the place marked on the map as the center of gravity (CG). When properly balanced, the front of the model should be slightly tilted downwards. If the model tilts on the tail, stick the piece of balance (plasticine) included in the kit to the front of the model. If the opposite, stick a piece of balance to the rear end of the fuselage (tail).

Remember that you must comply with the regulations regarding the take-off of model aircraft, the most important are:

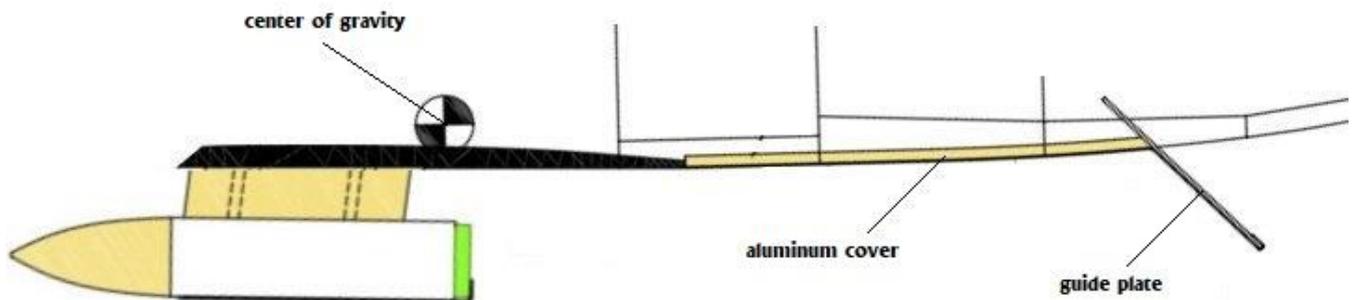
1. The take-off area must be at least 300 meters in diameter from any buildings, trees or electricity poles.
2. It is not possible to fly in high winds - above 8m / s.
3. The model's flight path must be clear of any obstacles (people, trees, vehicles, buildings, tall grass or thickets, etc.).
4. Before taking off the model, make sure that no one is flying over the place of flight: airplane, hang glider, powered hang glider, paraglider, model airplane or any other object with which a collision could occur.

Start flying by adjusting the gliding flight with or without an empty hopper - if you will not be using the TSP L-2 rocket engine.

In no wind weather, the model should be released from your hand in a straight line, gently for a few to several meters. Then, cut the rudder in the directional stabilizer with dimensions of 10-30mm and deflect it to the left by about 2-3 degrees. If the model, after release, makes a slight circle to the left, seal the rudder permanently with the glue from the kit. Then prepare a rubber launcher by tying both ends of the modeling gum from the kit together. Now practice hooking the model's hook to the rubber launcher. Then you can start having fun flying with your new jet model!

In the case of using the TSP L-2 model rocket engine, the first step is to read the operating and safety instructions included in the package with TSP L-2 engines, once you have done it, you can proceed to take off - arm the TSP L-2 engine with a fuse and then fix in the model by inserting into the tray. If the motor has a tendency to slip out of the hopper, cover it a little bit with paper tape with a minimum width of 20mm, preferably on the back side. When taking off, be sure to tilt the model to the right by approximately 30-40% to avoid the tendency to dive in the left corner. After take-off from the rubber launcher, the model should ascend to the right corner, and after the engine is fired, it should go to an ascending glide to the left with the engine running. After you have practiced hooking the model to the rubber launcher, fire the fuse and hook the model to the rubber launcher, then launch the model into the air, following the above-mentioned tips - be sure to do it before the engine is busy - this method allows you to maintain appropriate safety distances.

**An additional possibility of adjusting the nose of the model during the flight on the TSP L-2 engine is to perform down thrust tab hawk, directing down the gases flowing out of the engine, you can make such a thrust tab from, for example, a plaque from the soda can, its width should be 10-15 mm and length about 15-20mm. Below is an example drawing showing the location of such a plate:**



Additionally, I invite you to visit the website of our partner [Jetex.org](http://Jetex.org). On the forum of the site you will find a topic devoted to our kits and in it tips and hints on, among others, flying models. And a lot of information related to this fascinating branch of aviation modeling as well as a multitude of modeling plans.

