

## Assembly instructions for the SPARK (ISKRA) FIGHTER JET

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 to take off with the TSP L-2HP model rocket engine, you should be at least 18 years of age 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. 1mm balsa vertical stabilizer (direction) - 1 piece
3. 3mm turret for vertical stabilizer
4. 1.5mm balsa horizontal (height) stabilizer - 1 piece
5. 1.5mm balsa wing - 1 piece
6. Container for the TSP L-2HP engine - 1 piece
7. Self-adhesive aluminum foil - 1 piece
8. Starting hook - bamboo fi 2mm - 1 piece
9. Hull cladding

### And additional components:

- Stickers with jet markings / graphics - 1 set
- Paint kit
- 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. Glue the turret for the fins (3) to the fuselage (1), do it in the place of the fuselage marked on the plan, remember to place it in line with the fuselage axis.
2. Then, start assembling the wing panel - set the rise on every of the wing ends (5) about 10-12mm, then glue the rise in the middle of the wing with glue. Then insert the wing flap into the oblong mounting hole (notch) in the fuselage, before sticking the wing to the fuselage, make sure that the rise on the left and right tips of the wing is equal to the fuselage, then, looking from the top of the model, make sure that the wing is at a 90-degree angle relative to the hull. Now you can stick the wing to the fuselage.
3. Glue the horizontal / height stabilizer (4) in exactly the same way as the wings into the assembly place cut in the stabilizer turret, previously glued to the fuselage. However, in this case, the rise at the ends of the fin is not necessary - be careful to stick it at a 90 degree angle to the fuselage, also looking from the top of the model.
4. Then stick the directional / vertical fin (2), do it by sticking it on the fin turret in the place marked on the plan, remember to position it exactly in the fuselage axis.
5. We proceed to stick the fuselage claddings (9), they should be glued to the front of the fuselage, in the place indicated on the plan, it is best to help yourself in this with carpentry clamps (crocodile clips).
6. Install the starting hook (8) 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.
7. **OPTIONALLY**, stick the hopper (7) on the TSP L-2HP 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.
8. **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-2HP engine nozzle.
9. 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 it is 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.

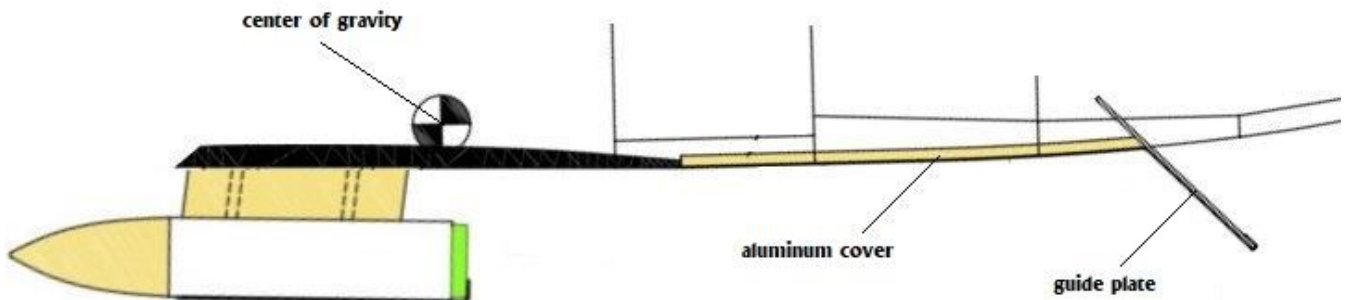
Start flying by adjusting the glide with or without an empty hopper - if you will not be using the TSP L-2HP rocket engine.

When the weather is windless, the model, let go of your hand, should gently fly a few to several meters in a straight line. Next, cut the rudder in the directional stabilizer with dimensions of about 7x20mm 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!

If you use the TSP L-2HP model rocket engine, the first step is to read the operating and safety instructions attached to the package with TSP L-2HP engines, once you have done it, you can start taking off - arm the TSP L-2HP 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. Once you have practiced hooking the model to the rubber launcher, fire the fuse and attach 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 starts working - 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-2HP 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.

