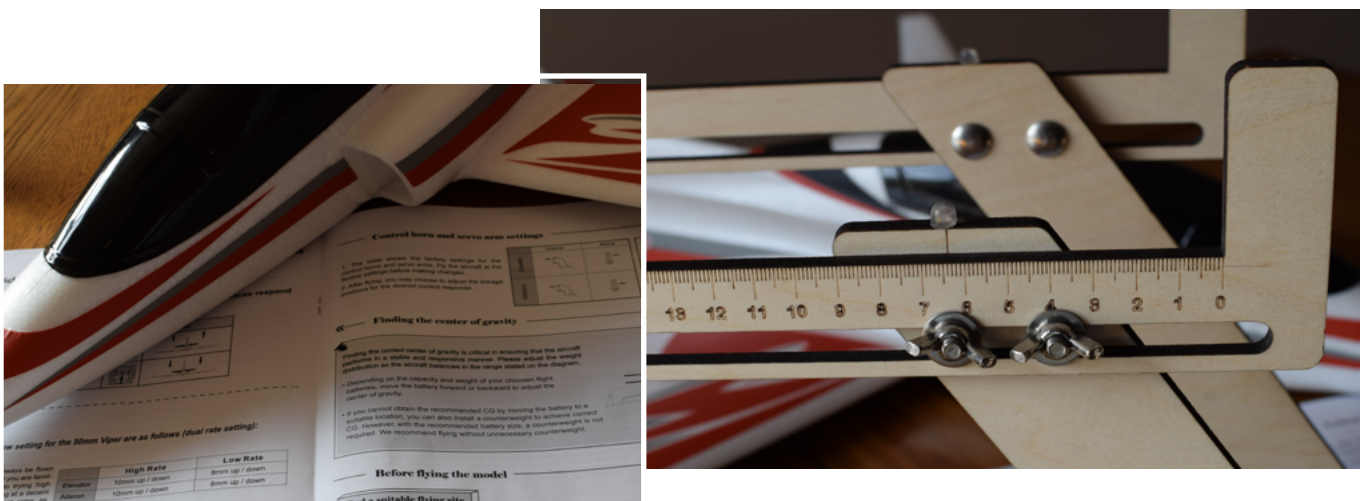


Setting up the frame and checking the centre of gravity.

Before checking the centre of gravity, it is worth mentioning that the aim of finding the centre of gravity is not an exact science, which sounds like a contradiction. The aim of the exercise is to find the a range that will allow controlled flight. An airframe which has a poor centre of gravity will certainly not fly very well, it may not even fly at all. Some experienced modellers prefer to find the centre of gravity simply using their fingers and there is nothing wrong with this approach, but we believe this device will not only give you accurate results every time, it allows the user the time to find out exactly how much weight is required to the balance the model, but more importantly, where to place or move weight to get the perfect centre of gravity range. This kit is also an ideal platform for more experienced modellers to set the centre of gravity, were they want it, for example some 3D aerobatic model pilots prefer a tail heavy airframe, but this is for only recommended for the most experienced pilot.

1. Place the frame onto a flat secure surface, remember that your model may need a large amount of space around you and must be free to pivot on the balancing bungs.
2. The centre of gravity value for your model, will be measured from the leading edge of the wing, this value is often found either in the instruction manual or the plan. You can of course do the calculation yourself. Release the nuts securing the slide rules and adjust so the scale is aligned with the pointer on the frame, secure the fixings but do not over tight en. Do this for both sides, ensure they are equal.



3. Measure the width of the fuselage adjacent to the centre of gravity position, add 5mm to this figure.

4. Release the wing nuts on the threaded rods adjust the width of the frames to suit the width of your fuselage plus 5mm, tighten the fixings, make sure as you tighten the frame you do not introduce a twist to make it out of square.



Note: Depending on the wing/undercarriage position the model may need to be placed upside down.
For I.C models. Ensure the models fuel tank is **EMPTY**.
For electric models. Insert your flight battery and secure this into position.

5. Place the leading edge of the wing up against the upright on the slide rule, allow for some movement, 1-2 mm is sufficient. Support the airframe, allowing the airframe to find its resting point.



Balancing the model pt 1

6. Check that the model has enough clearance against the uprights to move. Support the model on the balance bungs and check for level.
7. If the model slowly drifts between nose heavy and tail heavy with gentle input from you, the model is within the centre of gravity range. Double check, and go fly, good luck.

Balancing the model pt 2

As you can see from the image below the airframe is out of balance and needs weight in the tail.



Before adding weight - Try moving the flight battery first.

Remember adding weight is adding ballast. Always keep the model as light as possible

If you are unable to move things around, take the plastic bag that contained the fixings, make a small hole in the top and thread a piece of soft string through, or using masking tape secure the bag to the far end of the airframe, ensure you do not damage the covering or foam.



Coins are ideal to fine tune the balance point

Use the bag the fixings came in and secure as far back as possible (in this instance)



Jerry Hanson

modelling accessories

8. If the model is out of balance, you will need to find out how much weight you need to either add/remove or shift to find the correct centre of gravity.
9. For electric models try moving the battery forwards or backwards to improve the centre of gravity, remember once you have found the balance point to mark this within the battery bay clearly, so when you're on the flying field is an easy job of getting the battery position correct every time.

NOTE: It is important to place the weight as far back or forward as possible as you will need less weight this way.

12. Gradually add weight into the plastic bag on the model until the model begins to balance. If you need quite a lot of weight start with AA batteries, these are compact yet heavy, as you near the balance point add smaller items such as coins.
13. Once the model appears to be balancing on the balance bungs, secure the model and remove the plastic bag with the contents and place these onto a suitable set of scales and find your exact balancing weight.



Position of weight is for illustrative purposes only

14. Using the self adhesive weights included within the kit, which are conveniently separated into 10g and 5g segments, place these inside the plastic bag and reattach to the model and check the centre of gravity again, adjust as necessary.
15. Once you have found your target weight, you will need to locate a suitable place to add the weight. If you place the weight in a different position from where it was measured your centre of gravity must be double checked to confirm. Keep the model as light a possible.

All the best, Jerry