

Paper Plane Challenge # 1

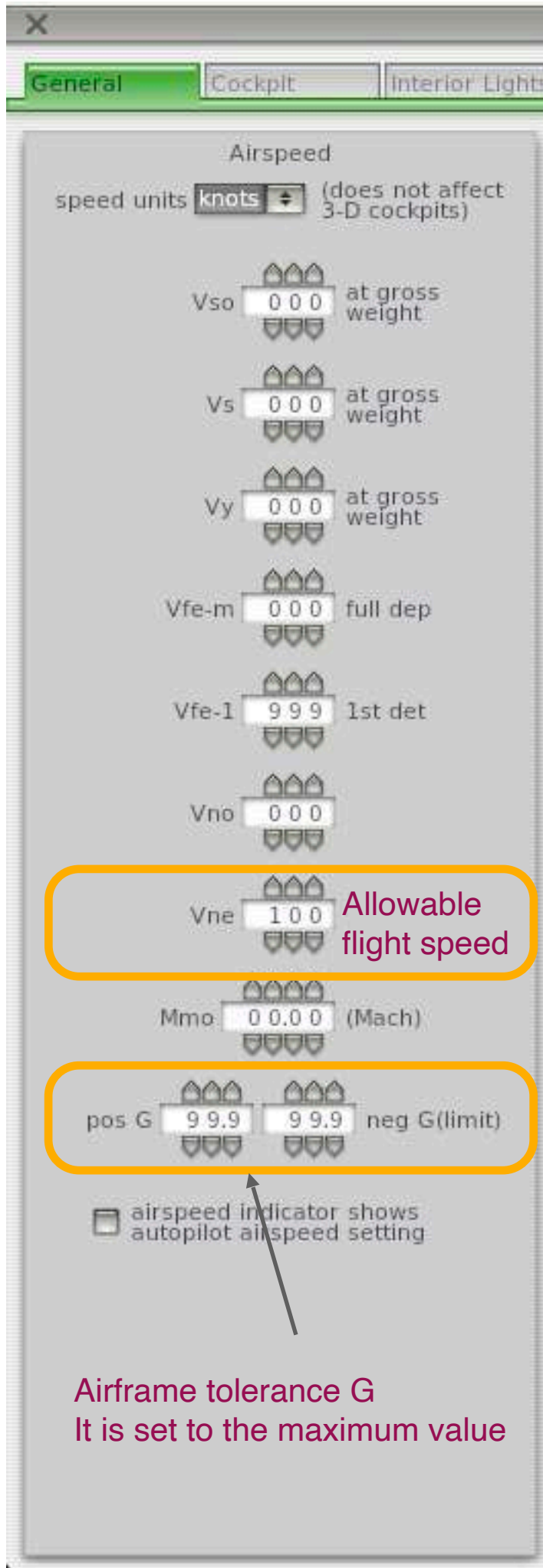
Who's aircraft will fly the most? Let's modify the template glider within the specified range and compete for the flying distance.

yoichi & Flyingtak1

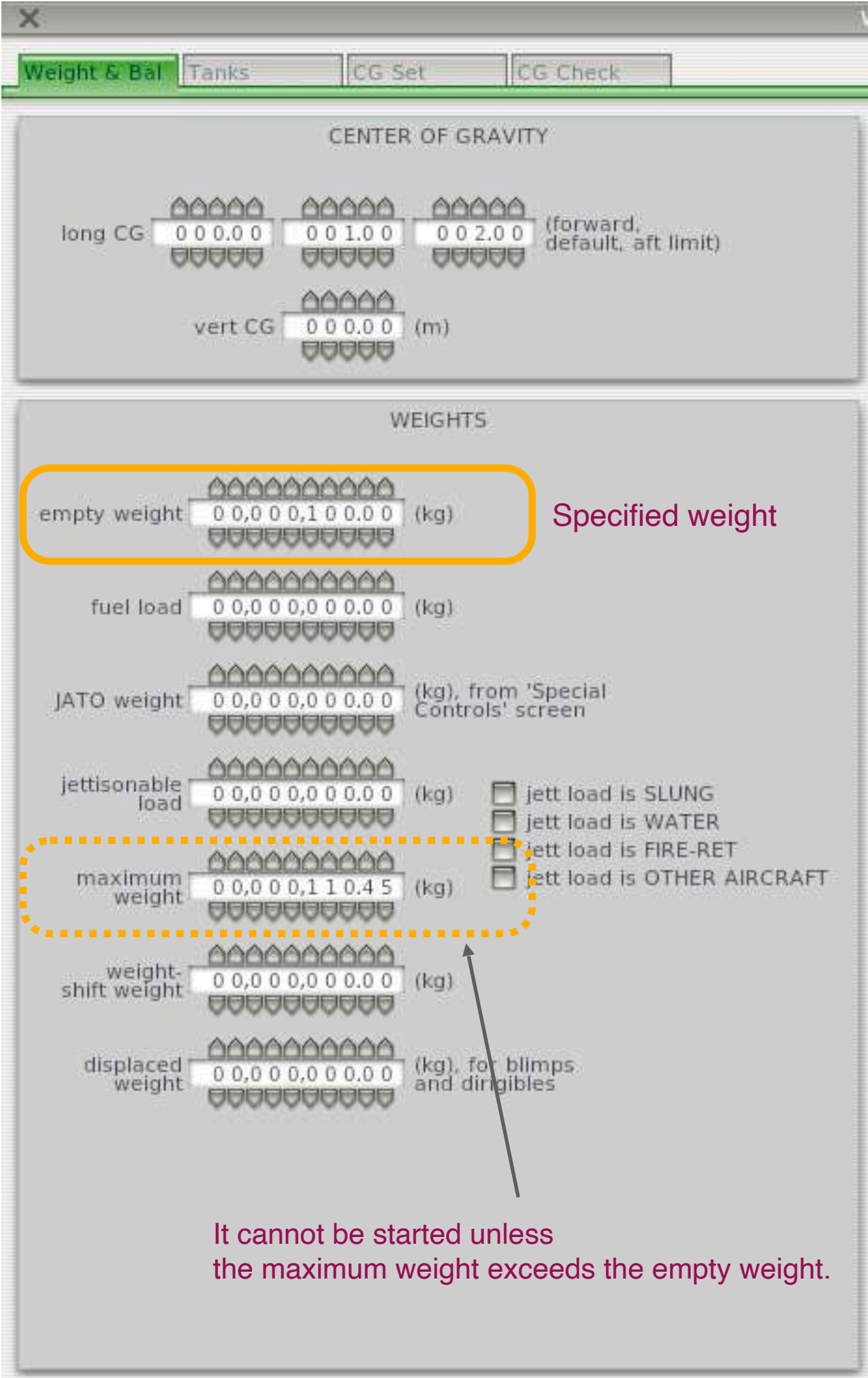
Glider template and specified range

Why don't you make your original aircraft, modifying the parameters of the template? Let's compete for the flying distance.

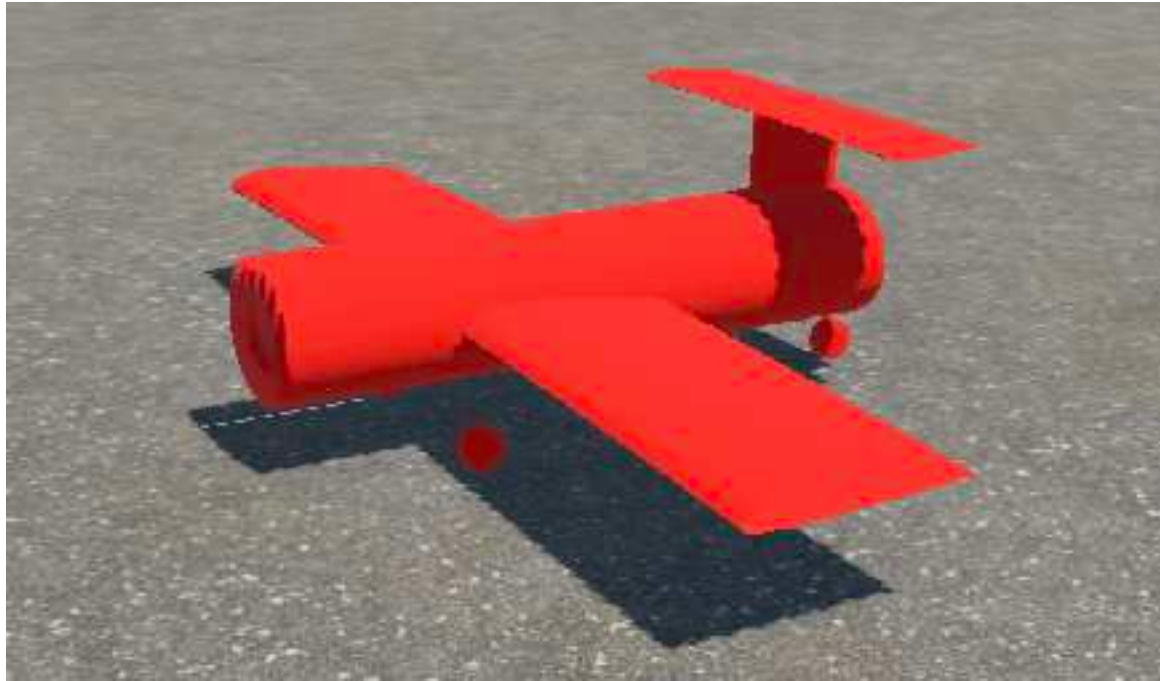
[Viewpoints basic settings]



[Specified weight: 100 kg]



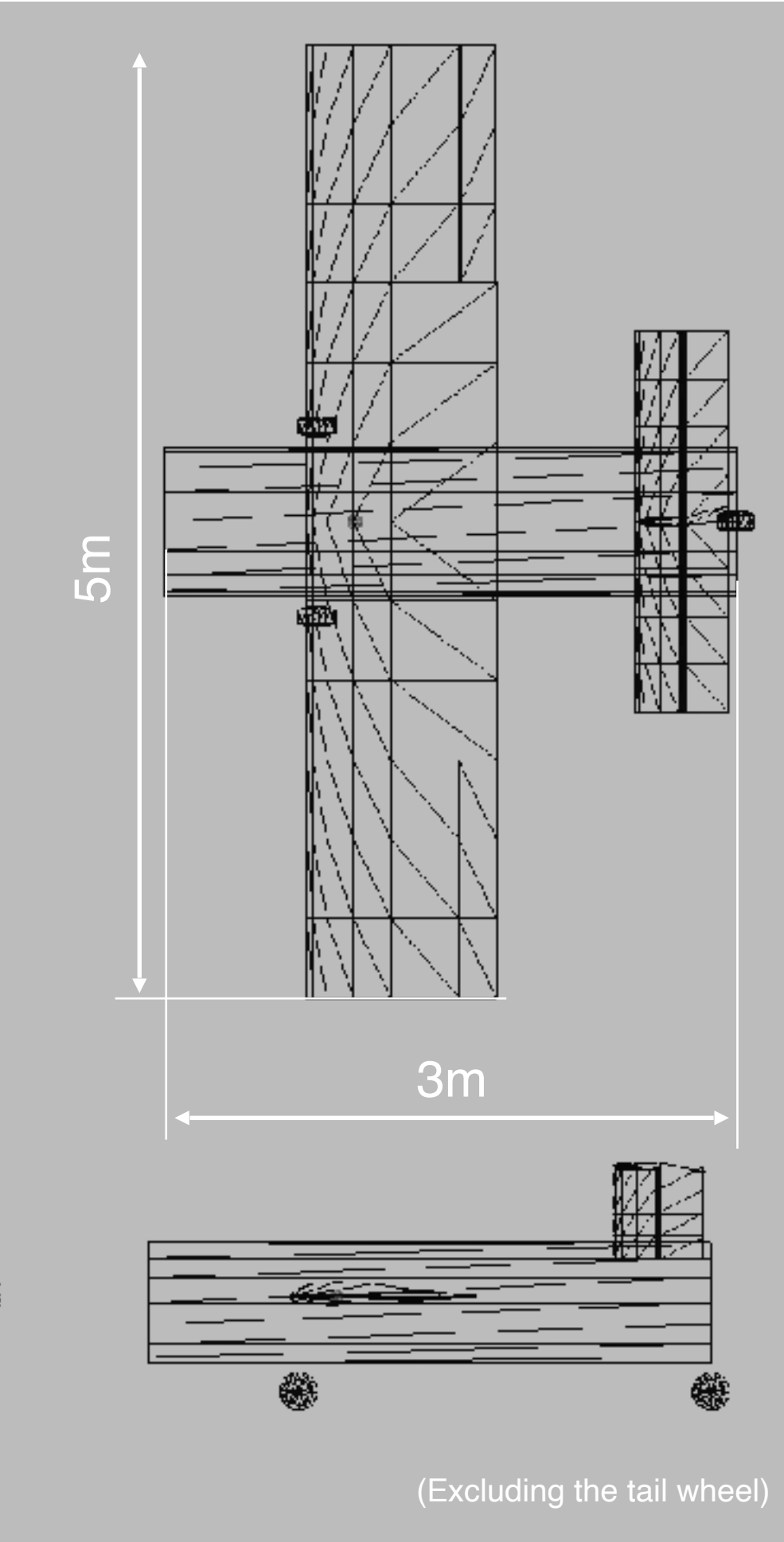
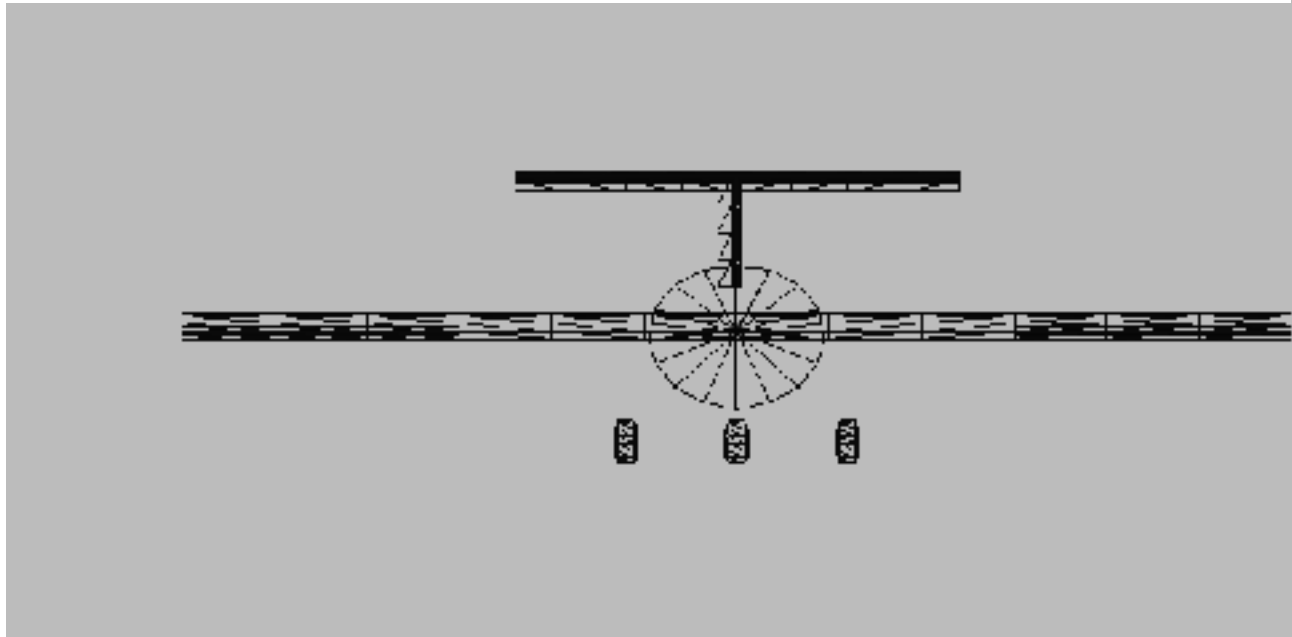
[Specified dimensions: wingspan 5m x total length 3m or less]



You can change the color by editing the Paper Plane_paint.png



Plane Maker Beginner's Manual



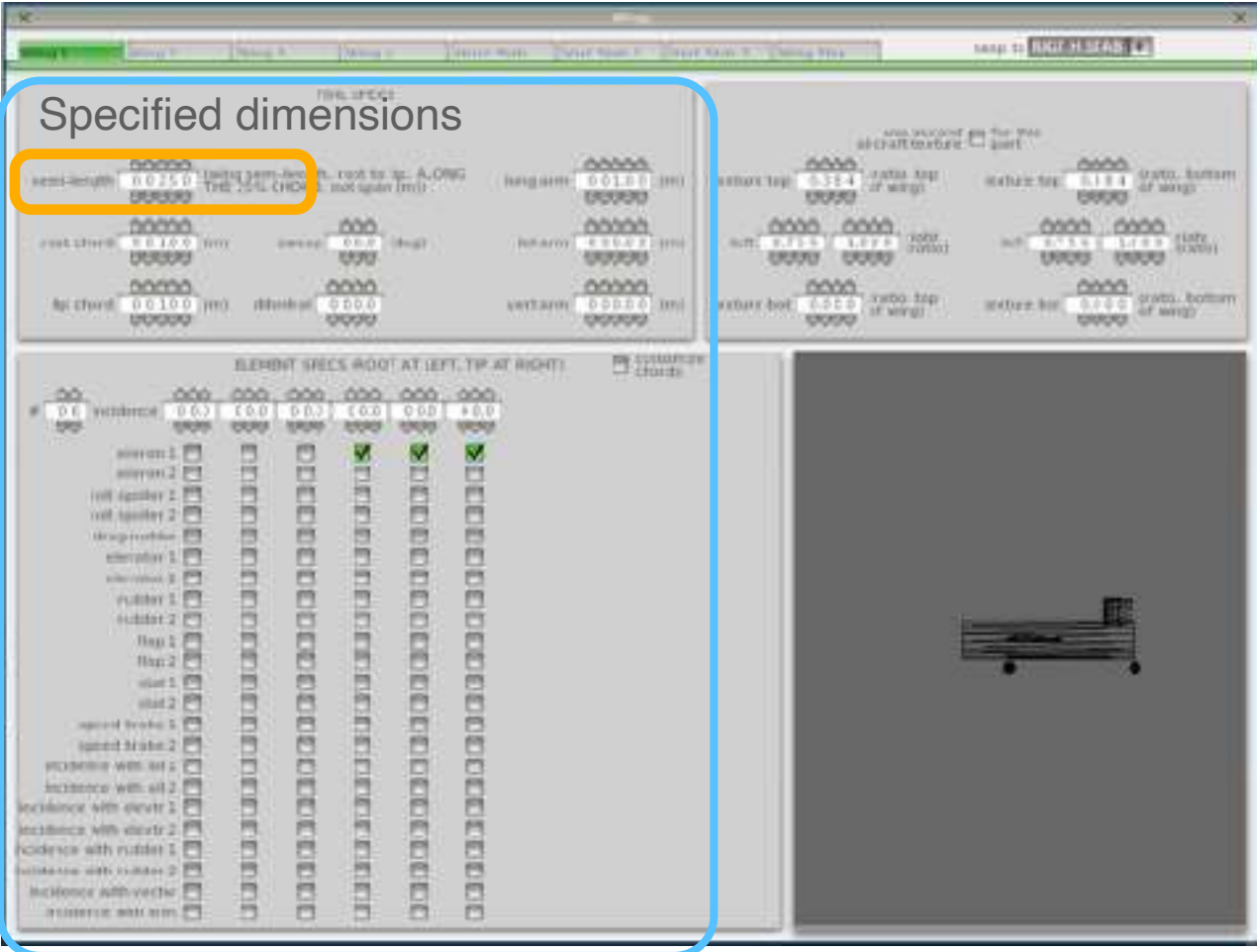
[Takeoff method] Takeoff by winch launch

Wing settings

Leave the standard Airfoil used. (Do not use Airfoil Maker)
If you use a custom Airfoil, it will be in a different category. Please declare at the time of posting.

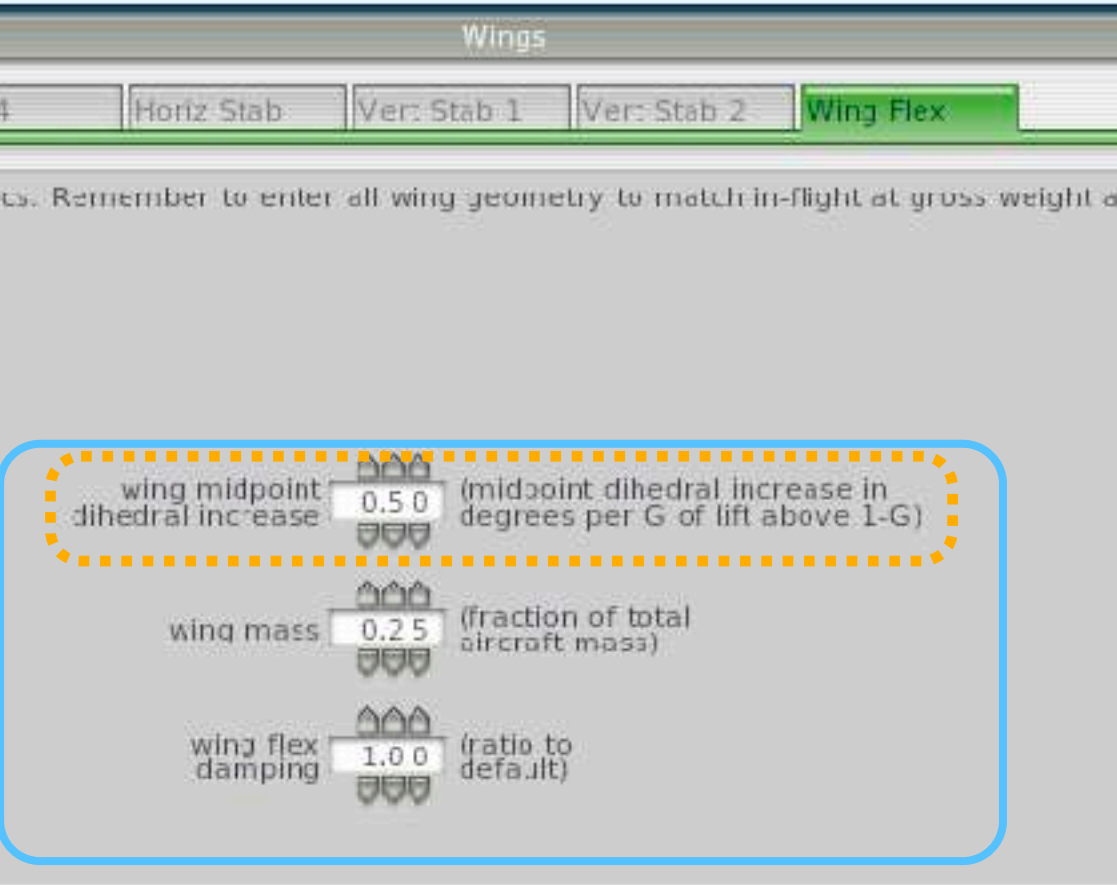
You can change any settings freely within the specified dimensions. As soon as you enter a value, it will be reflected in 3D.

[Main wing]



Other than the wingspan, you can change it freely.

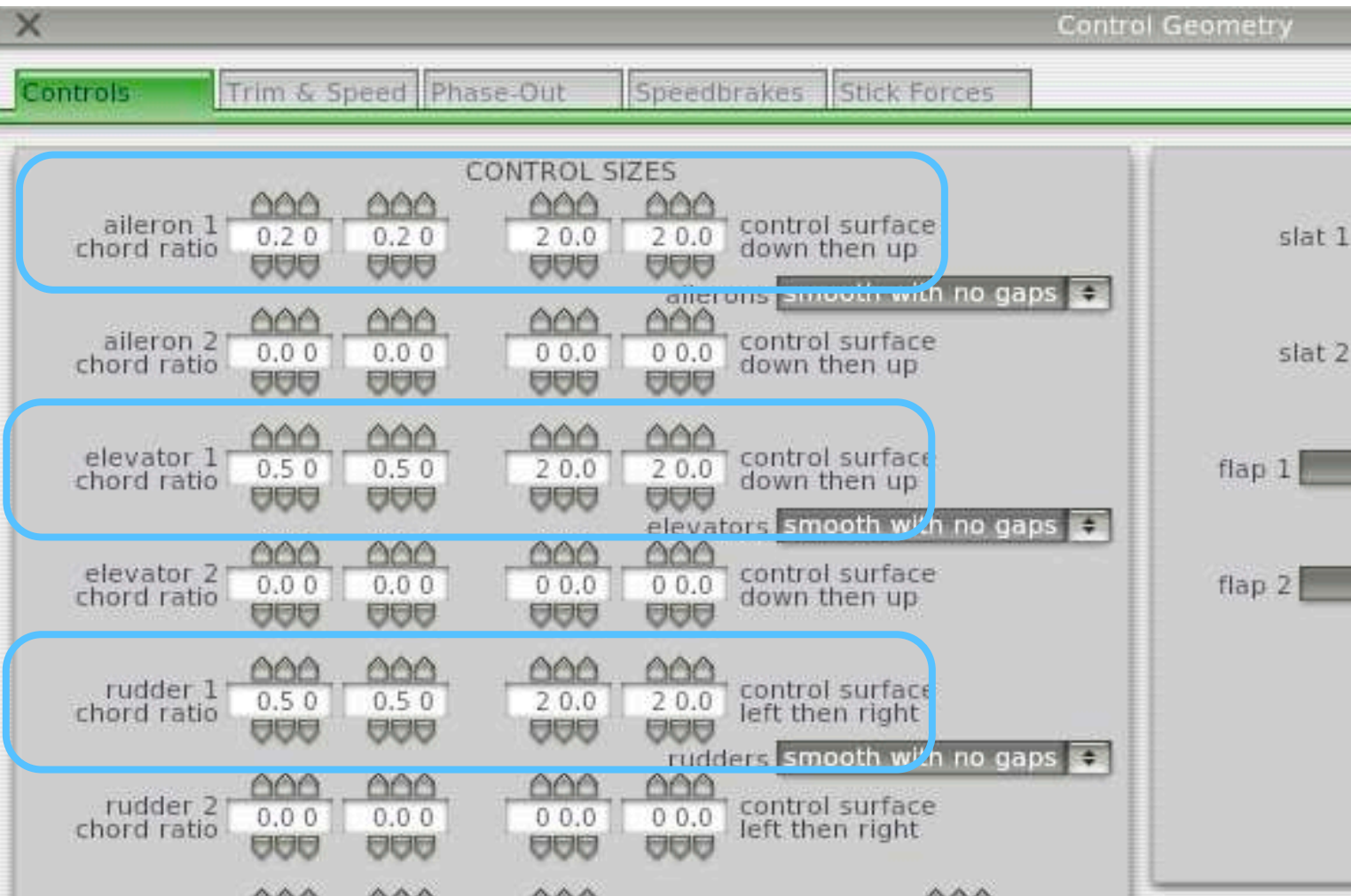
[Bending of wings]



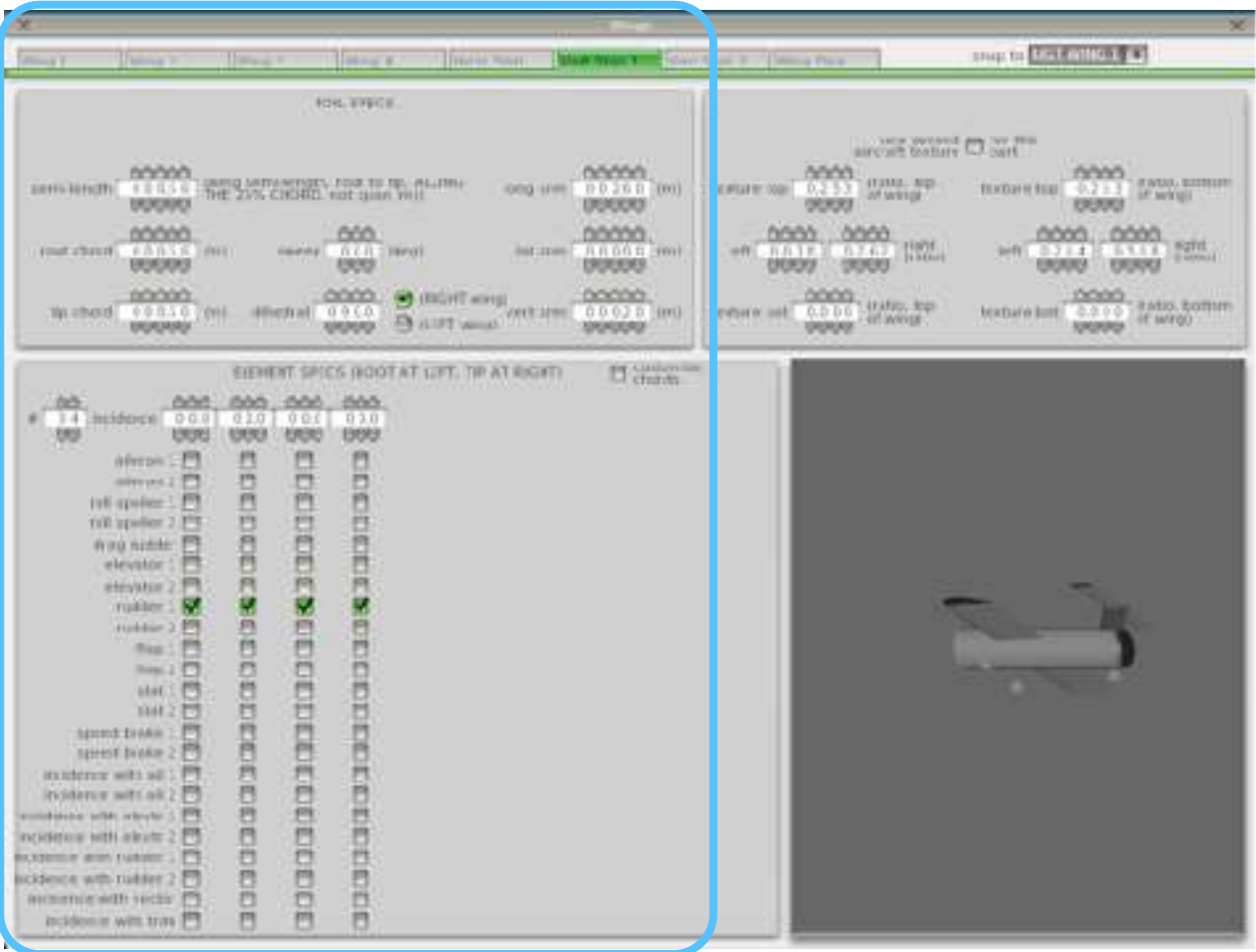
It is set to 0.5 as template. Set as you like.

[Setting of moving blades]

Use Control Geometry to set the ratio to the wing and the angle of motion.

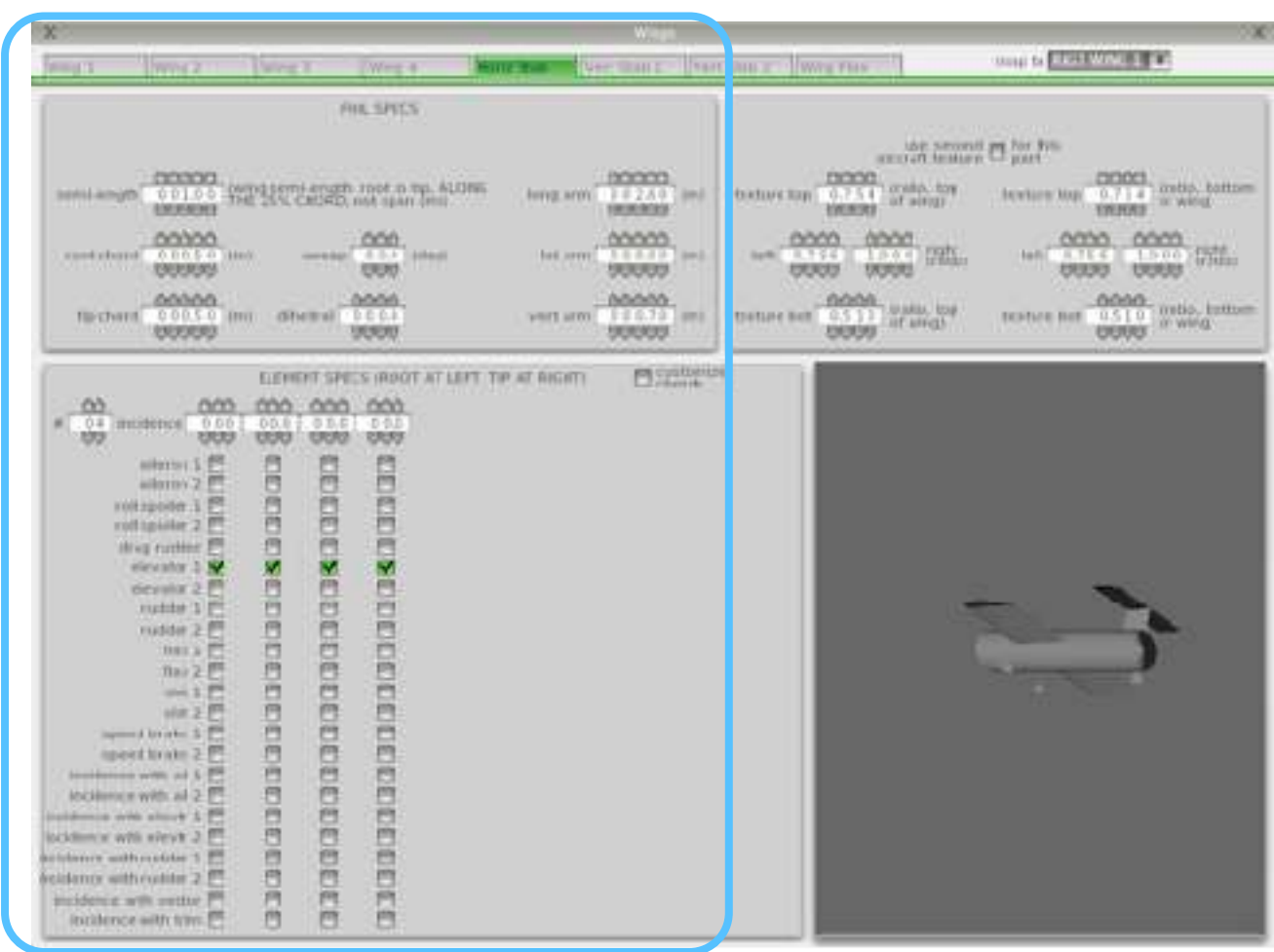


[Vertical stabilizer]

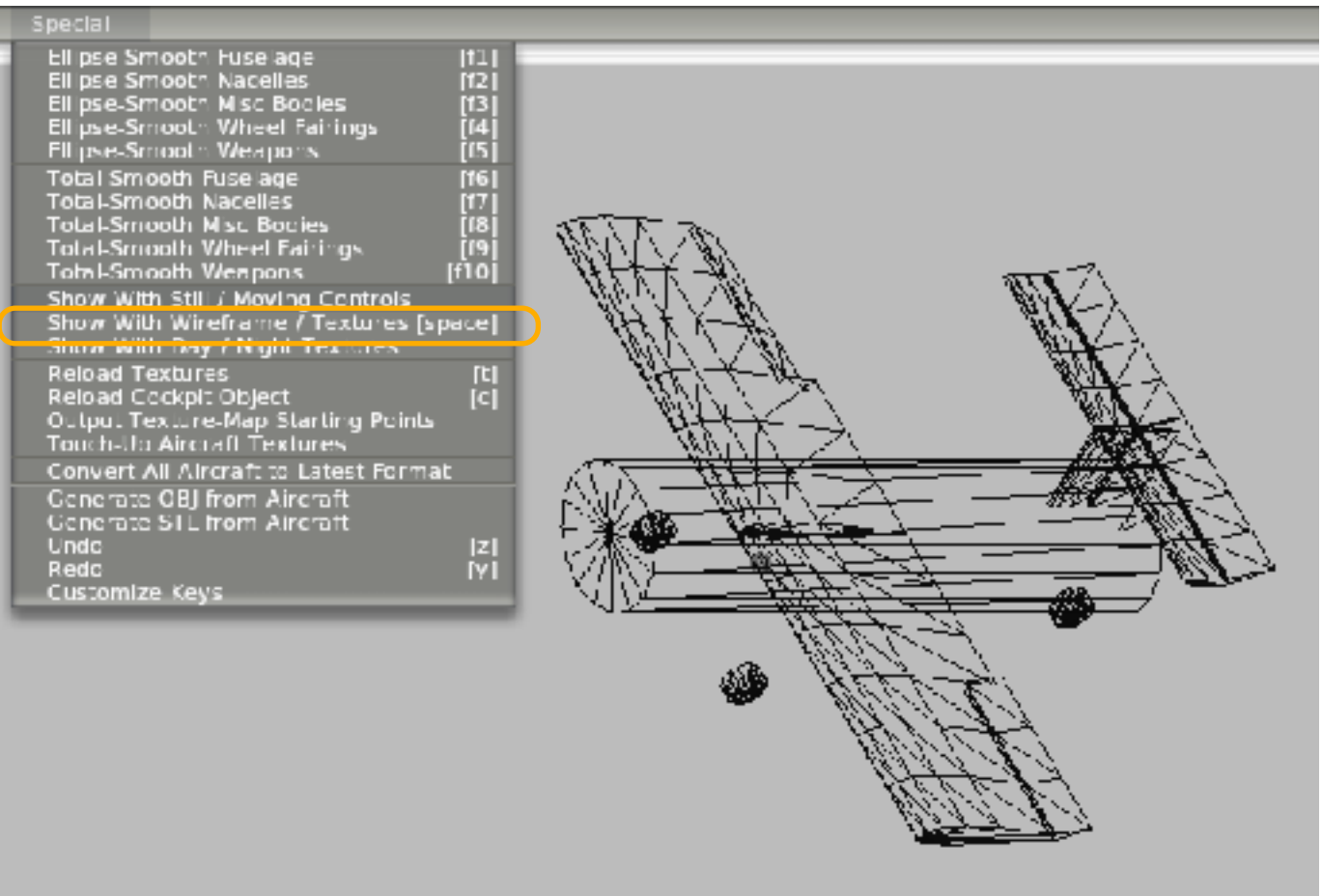


You can change it within the specified dimensions.

[Horizontal stabilizer]



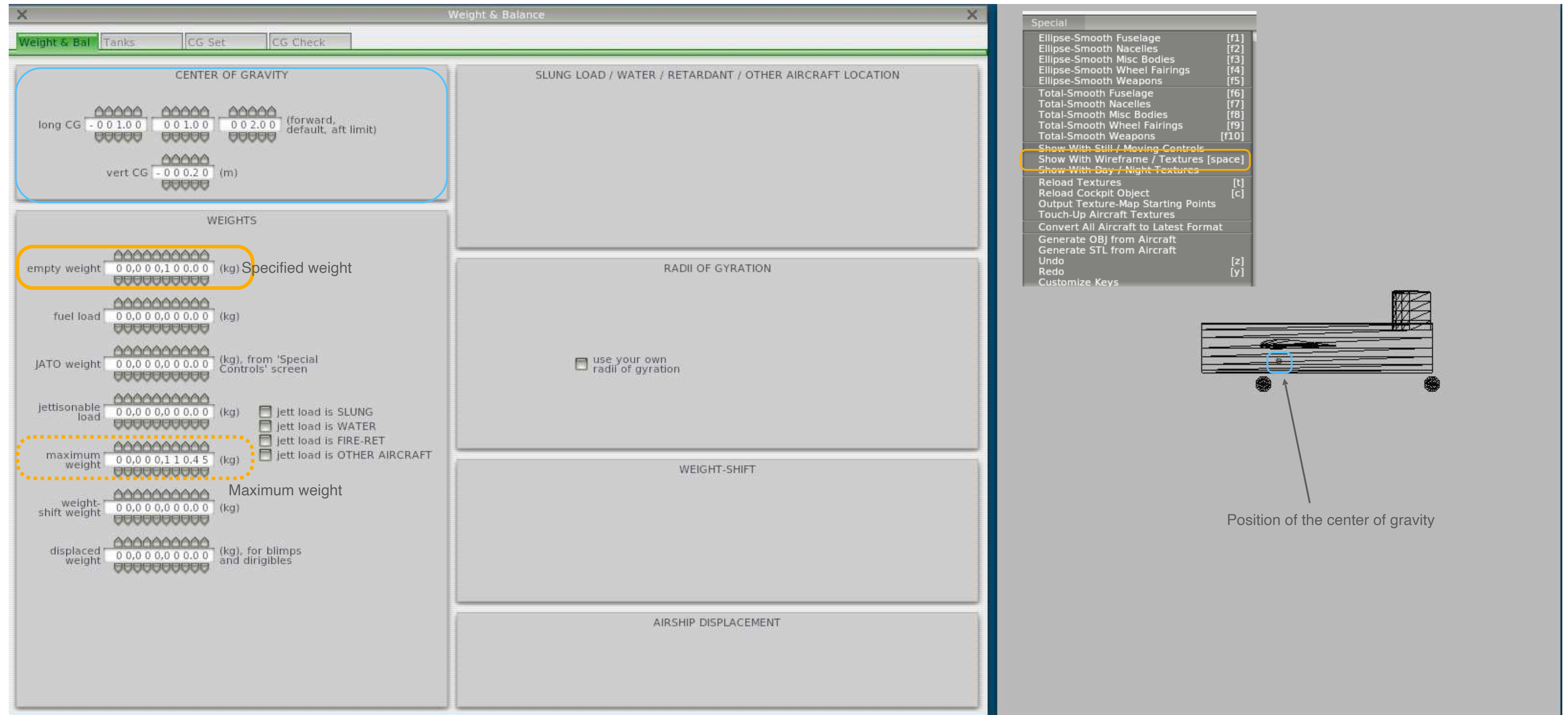
You can change it within the specified dimensions.



You can check the moving parts with animation.

Weight / balance setting

Other than the specified weight, it can be changed freely. If you use the wireframe display, you can check the center of gravity on the ball display.



Winch hook position

The winch hook position also affects the flight distance. Please make fine adjustments. A hook for towing is also set on the model machine.

Viewpoint

General Cockpit Interior Lights Exterior Lights Dock Ports Bouncers Sliders Arc Colors

has push-back attach for ground towing

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has towing hook to tow other craft

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has towing hook to be towed

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has winching hook to be winched

0 0 0.5 0

0 0 0.0 0

- 0 0 0.4 0

long, lat, vert arm (m)

has aerial refueling dispenser

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has aerial refueling receiver

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has boarding door 1

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has boarding door 2

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has fueling truck 1

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has fueling truck 2

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has food-truck 1

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has food-truck 2

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has baggage-truck 1

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has baggage-truck 2

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has baggage-truck 3

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has baggage-truck 4

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has crew-car 1

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has crew-car 2

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

has ground power cart

0 0 0.0 0

0 0 0.0 0

0 0 0.0 0

long, lat, vert arm (m)

Hook position for towing

Winch hook position

You can freely change it within the basic dimensions. If you keep the log shape, you will be worried about air resistance.

X
Section
Top/Bottom
Front/Back

number stations # number radii/side #

body radius (m)

area rule ratio (supersonic drag fraction)

body coeff of drag (based on BODY FRONTAL AREA)

Possible Cd if this is a streamlined body: 0.097, based on wetted area, fineness ratio, and estimated cruise Reynolds number.

BODY LOCATION

☒ aircraft has fuselage (might be no for flying wings)

Standard specifications. There is a torso.

The tip of the nose is the reference point.

long arm (m)

lat arm (m)

vert arm (m)

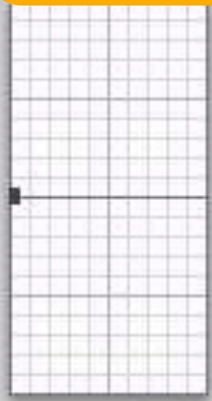
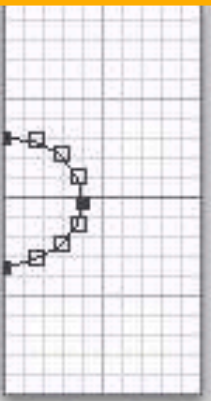
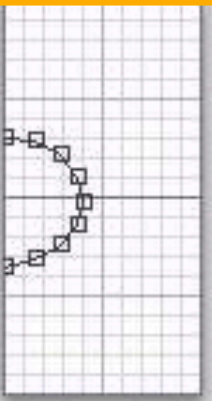

heading offset (deg)


pitch offset (deg)

roll offset (deg)

CROSS-SECTIONS

Specified dimensions
Total length 3m



Modeling of the fuselage

The modeling method of Plane Maker has a peculiar habit. Since it's...

Number of cross sections:

Radius of the fuselage (r):

Supersonic drag ratio:

Air resistance value (D):

Click the center to click (once click the point to fix it back)

Undo (Ctrl + Z) / Redo (Ctrl + Y)

Subdivide to the cross section on the above side

Copy and Paste

Move the reference point to make it elliptical

Additional function of cross section

Gear Loc
Gear Data
Gear Cons

gear type
single
single
single
none

long arm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0.8 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0.8 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 3.0 0</div>	(m)			
lat arm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0.5 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">- 0 0 0.5 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0.0 0</div>	(m)			
vert arm	<div style="border: 1px solid black; padding: 2px; display: inline-block;">- 0 0 0.5 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">- 0 0 0.5 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">- 0 0 0.5 0</div>	(m)			
lon angle extended	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	(deg)			
lat angle extended	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	(deg)			
lon angle retracted	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	(deg)			
lat angle retracted	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	(deg)			
eagle-claw, leg length	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	(deg, ft)
tire radius, semi-width	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.1 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.0 5</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.1 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.0 5</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.1 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0.0 5</div>	(m)
n-w steering, slow and fast	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	(deg)
retract axis, strut compres	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0.0</div>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 0 0</div>				

Posture adjustment at the start
You can also make retracts or sleds.

How to model the fuselage
Please refer to the beginner's manual.

Flying Distance

Leave the standard Airfoil used. (Do not use Airfoil Maker)
If you use a custom Airfoil, it will be in a different category. Please declare at the time of posting.

Under the specified conditions such as weight and dimensions, we will compete for the flight distance from start to land .

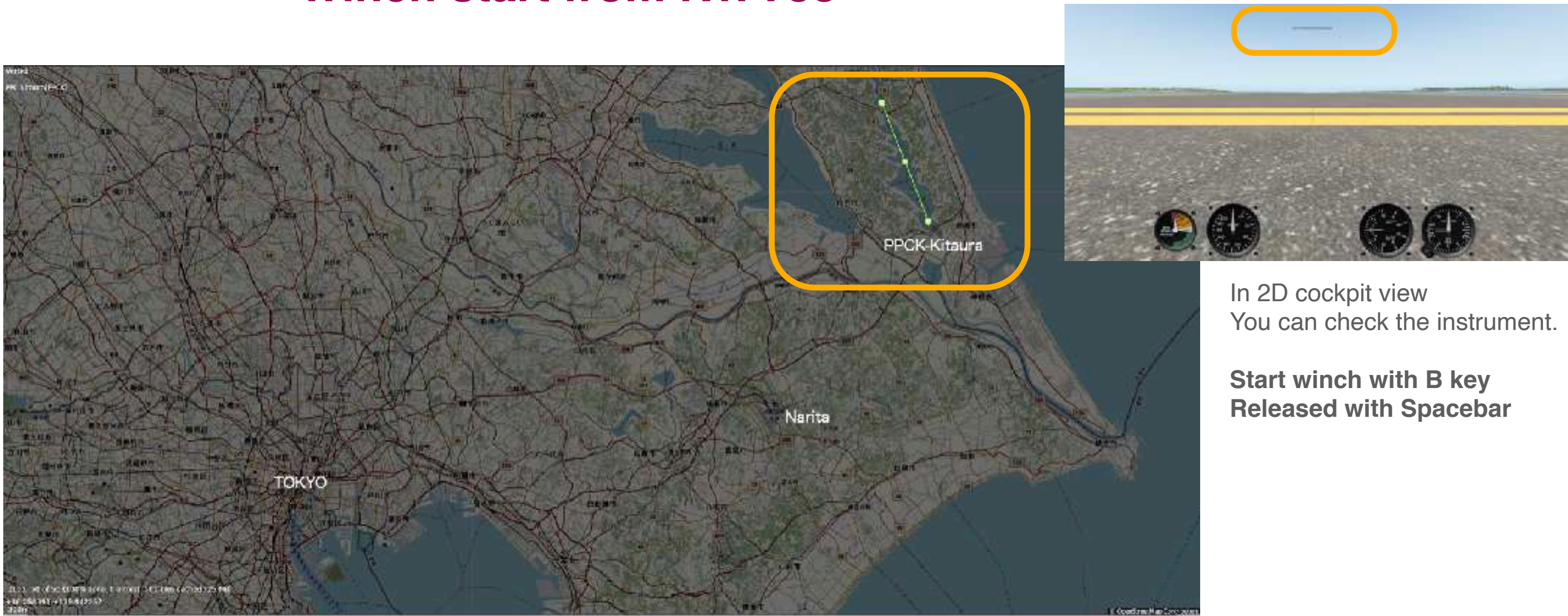
Specified dimensions: **Wingspan 5m x Overall length 3m (excluding tail wheel)**

Specified weight: **100kg**

Runway used: PPCK-Kitaura (fictitious airport for competition)

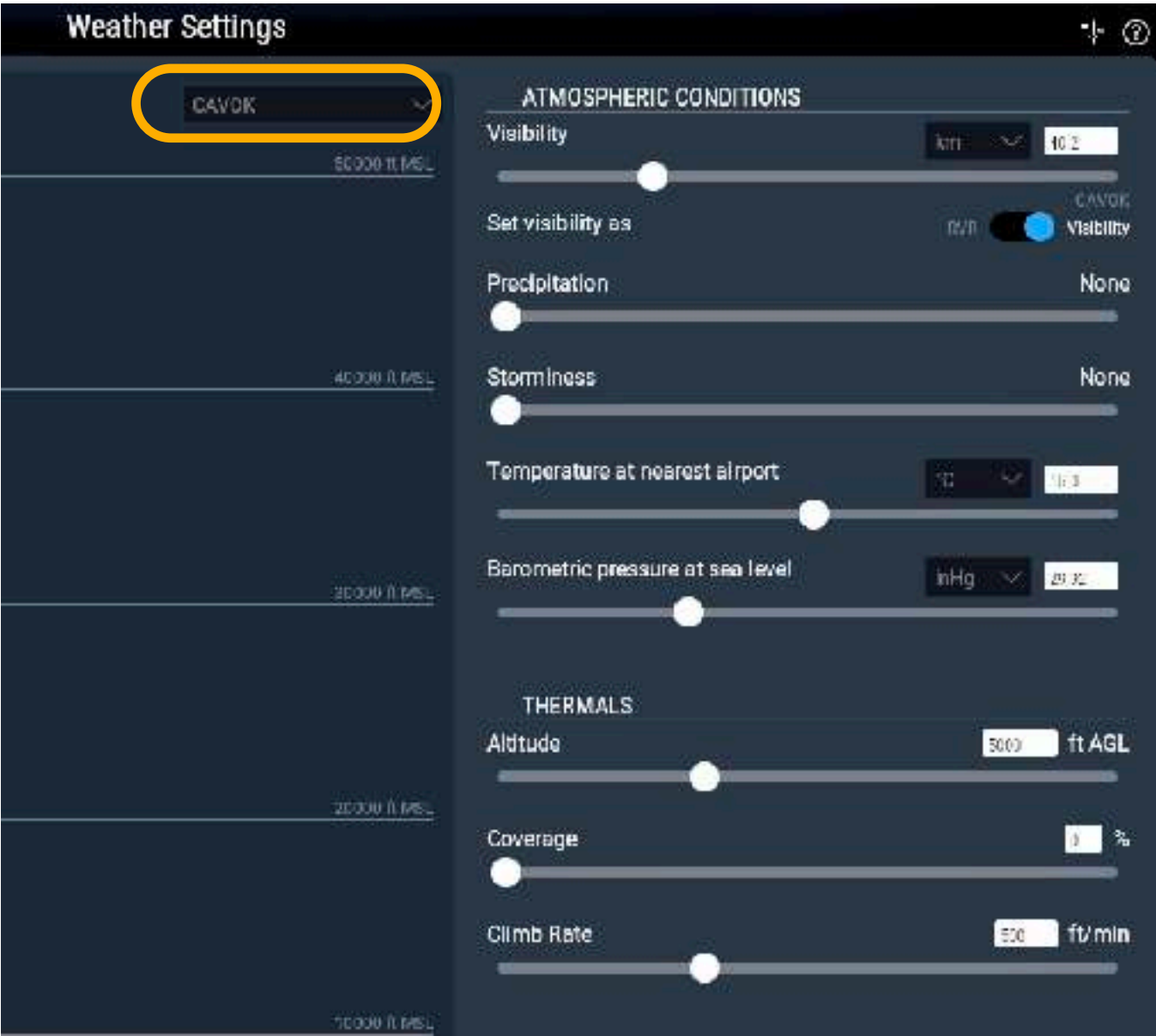
Winch start from RWY33

Weather conditions: **CAVOK (Preset)**



In 2D cockpit view
You can check the instrument.

Start winch with B key
Released with Spacebar



Flying distance measurement method: **Measure the landing point.** (Judgment by screenshot using the runway scale as a guide)

After landing and gliding to rest, play in the external view in Toggle Replay Mode and pause (P) at the timing of landing.
Choose your favorite view and take a screenshot so that you can determine the distance on the runway scale. (Recommended)



Achievement Altitude

Leave the standard Airfoil used. (Do not use Airfoil Maker)
If you use a custom Airfoil, it will be in a different category. Please declare at the time of posting.

Under the specified conditions such as weight and dimensions, we will compete for the altitude reached within the specified time.

Specified dimensions: **Wingspan 5m x Overall length 3m (excluding tail wheel)**

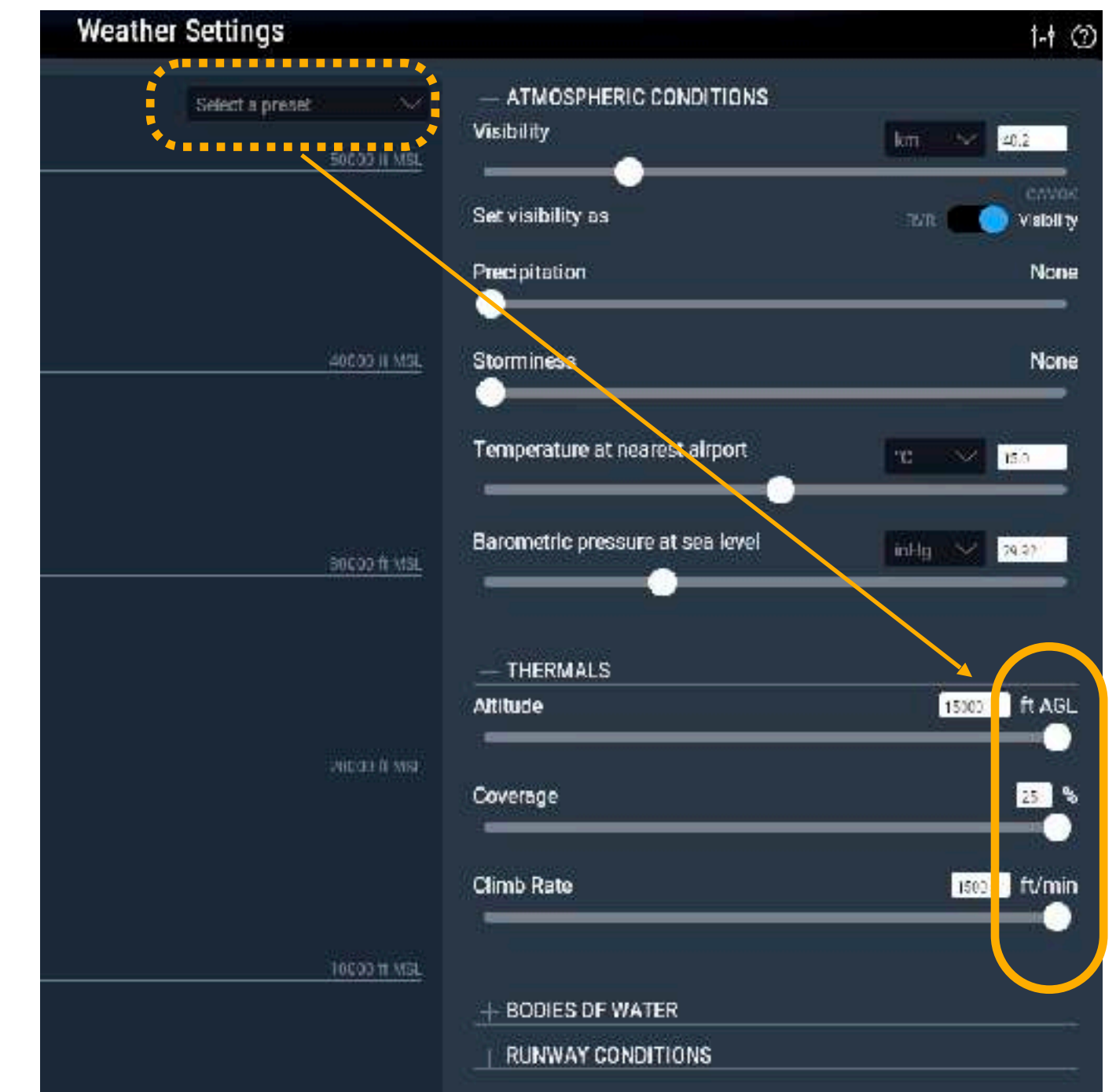
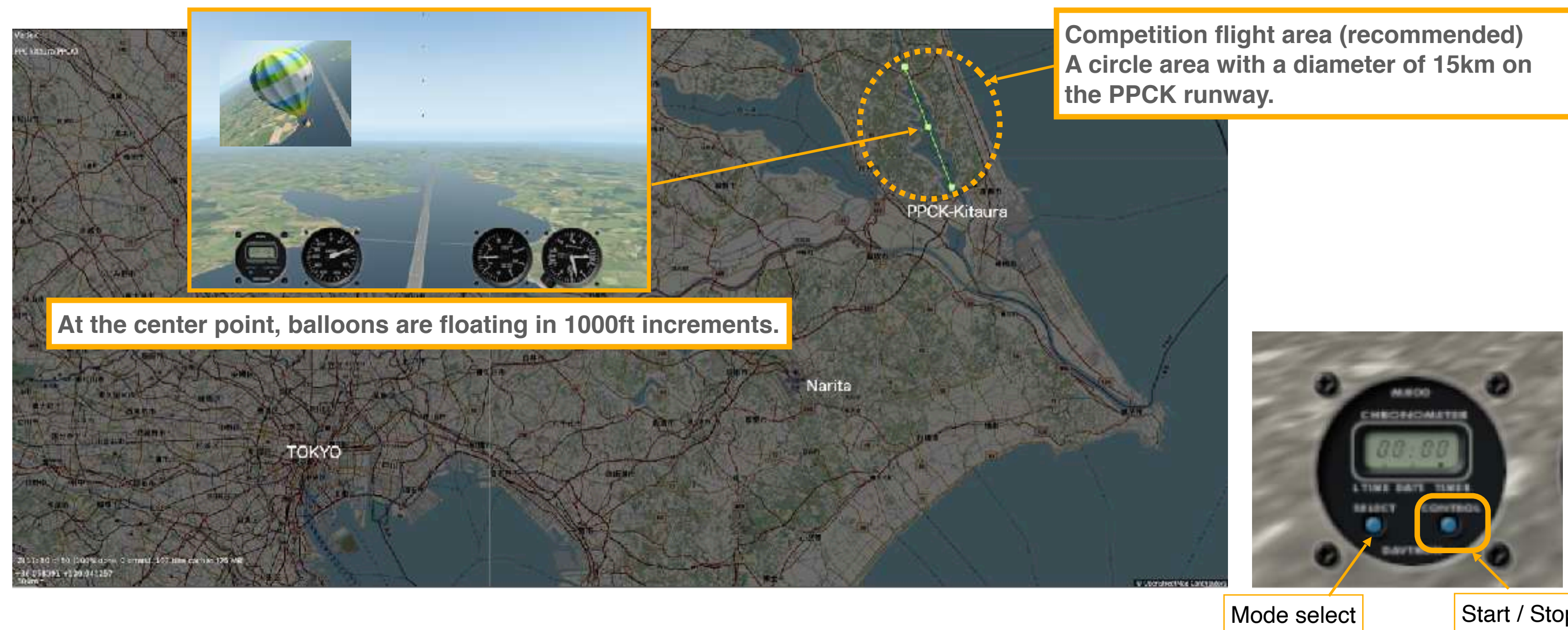
Specified weight: **100kg**

Runway used: PPCK-Kitaura (fictitious airport for competition)

Winch start (RWY selection is your choice)

Weather conditions:

First select CAVOK, then **Set thermal to MAX**



Measurement method: Measure **the altitude reached within 20 minutes.** (Judgment by screenshot of stopwatch and altimeter)

Start the stopwatch at RWY and start with the B key. Earn as much altitude as you can within 20 minutes.
At the highest point, take a screenshot of the instrument panel. Attention: Stopwatch is not move on Toggle Replay Mode.

