



Ground Handling in the simulator

****A MSFS 2024 native hang gliding experience****

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The Hang Gliding Files

The hang gliding files is a project of the NextWave Mobile Apps company. We are building tools, aircraft, models, whatever is necessary to fly hang gliders in the MSFS 2024 flight simulator.

Be as realistic as we possibly can.

But we also must leverage and bend to the environment that we are trying to do that in. This simulator gives us a great simulated Earth with complete geography, photogrammetry, weather and physics engine. It lets us explore this world as an Avatar. That Avatar happens to be an aircraft and all our interactions with this environment is as if we were this avatar. That makes it a flying simulator (as opposed to say a fishing simulator).

But a hang glider (flex wing types especially) does not fly or operate like any other aircraft other than they move the air and use aerodynamic physics to “fly”

Moving on the ground.

Moving a foot launched glider within MSFS 2024 is not native to the simulator nor is it intuitive or natural to most simulator pilots or others that are not fluent in what hang gliding foot launching is.

Entering the simulator

You must get into the simulator somewhere to start. You only have 2 native choices:

At an airport

You can search using multiple ways to find an airport to start with. Really does not matter unless that is where you want to start towing from. But even if you are going to fly from some mountain, or dune, or wherever you choose, you will have to start at some airport.

In Mid-air

This is by far the simplest way to start flying! You can choose any location (**other than an airport**) by simply clicking on that location in the world map. The simulator will just plop your glider there mid-air at a pre-determined AGL of your choice (setup). You will start with zero air speed and zero acceleration, so you will dive immediately! Just fly out of the dive, and there you are: FLYING. For this type of flying, the entire rest of this document is not necessarily for you, but we encourage you to read on and see what else your glider can do.

Teleportation

Unless you have installed custom hang glider airports and then started at that airport, you will need to move your glider to a launch site after entering the simulator. This is done using the EFG application we provide (see EFB Documentation). This will simply put the glider onto any known hill, mountain, ski area, beach, even airports, ready to start flying.

But here is the trick. You need to get your glider to launchable position, facing into the wind to be able to foot-launch a glider. This is not like taking off from a runway, there is no runway. There is no motor or tow vehicle. Just you and your feet.

To do this: YOU NEED TO MOVE ON THE GROUND.

All controls will be shown mapped from standard events to controller keys.

Mapping these simulator events to your specific controller is up to you. We provide this controller mapping as part of the basic product.

Human based ground movement

You need to control the glider physically when on the ground. This means that when on the ground, you are not flying so flying controls you have set up do not control your movements like a normal airplane. To make things simpler, we use the same controller mappings, so you don't need to do anything, but you do need to know what is happening and why it is happening.

Stopping

First thing you need to know how to do is stop. There are no brakes. What stops the glider from moving is putting the glider (basebar/wheels) on the ground. That stops it from moving and makes it generally stable.

	Description	SIM EVENT
	This button will stop the glider from moving whenever it is on the ground. In this mode you can only rotate the gliders heading. The glider will not leave the ground	GEAR UP
	This button will rotate your heading left.	RUDDER LEFT
	This button will rotate your heading right	RUDDER RIGHT

Moving.

You can move the glider in the direction it is heading by lifting the glider off the ground and then walk/run in that direction. You can also rotate the heading if you are not moving at the time.

	Description	SIM EVENT
	This button will stop the glider from moving whenever it is on the ground. In this mode you can only rotate the gliders heading.	GEAR DOWN
	This button will rotate your heading left.	RUDDER LEFT
	This button will rotate your heading right	RUDDER RIGHT
	This button will accelerate you forward on your current heading. You can only accelerate so much (you are on your feet). You can go up or down hills, but it is not easy. The glider will not leave the ground	JOYSTICK FORWARD
	This button will accelerate you backwards. This is not as fast as going forward. The glider will not leave the ground.	JOYSTICK BACKWARD

NOTES:

If you are in the moving mode, the glider will move even if you do not provide the input. The glider will “roll” downhill. It will weathervane into the wind.* It will be pushed around by forces and physics of the simulation.*

You only can control if the glider is stopped, heading in the direction you want to go and if you are trying to accelerate in that one direction.

The glider will not go over rocks, trees, boulders or other obstacles. You can get the glider stuck in places it should not be. It is up to you not to do that.

Foot Launching

When you have positioned the glider onto a launchable area, you need to switch to FOOT LAUNCH MODE to be able to run off the hill. This is specifically different than the MOVING state. In this mode, you cannot rotate your direction. You can only accelerate forward and not backwards. **The glider can leave the ground in this mode.** The acceleration in this mode is faster than that in move as it is intended to get the glider going faster than you can run yet it stops the moment the glider leaves the ground. At that point, you are flying.

	Description	SIM EVENT
	<p>Clicking the left joystick will toggle this mode. When you leave this mode, it will return to the last ground mode state. You can enter launch mode from any ground mode state.</p>	<p>TOGGLE VARIOMETER SWITC</p>
	<p>This button will accelerate you forward on your current heading. You can only accelerate so much (you are on your feet). You can go up or down hills, but it is not easy. The glider will not leave the ground</p>	<p>JOYSTICK FORWARD</p>

NOTES:

It is up to you to put the glider on a slope that can be launched from.

It is up to you to launch as directly into the wind as possible.

The glider will likely not be able to launch in no-wind or downwind conditions or on slopes that are not steep enough to gain enough speed to launch.

If you go into launch mode and are not generally pointed at the wind, you will receive a warning message from the variometer. You can still launch, but I would not try it.

Unsafe Wind Direction Warning



On launch and pointed into the wind. Ready to go into launch mode.



On launch pointed away from the wind direction.



Unsafe launch message. It will go away on its own or click using the mouse to make it go away.

After you have landed

Once you have landed, the above ground control becomes active again and works the same way as it did previously.

Towing considerations

If you are going to do tow launches, you do not need to use the foot launch mode. But there are other procedures and button you need to know to make it work.

When you enter the simulator, you are in the towing mode by default. You will be placed on a runway, behind some tow vehicle or winch (up to you to choose). You are basically ready to go.

To make the tow start; You need to “wiggle” your rudder. Go full left then full right until you hear “All Out” being called. This will start the tow



This button is used to signal to the tow plane to start

RUDDER LEFT



This button is used to signal to the tow plane to start

RUDDER RIGHT

****Calling for a tow**** But if you have teleported to a new runway or landed and want to just try again, you need to call for a tow. This sends a message to the simulator to start up and tow sequence starting from the location you are to begin a new tow.



{width="0.909722222222222in"} This button will send a message to the ****SET TAIL HOOK**

height="0.909722222222222in"} simulator to get a new tow HANDLE******

NOTES: Before making a request for tow, you must meet the following:

You must be on a runway.

The glider must be settled on to the ground. No movement at all.

****Releasing from tow**** But if you have teleported to a new runway or landed and want to just try again, you need to call for a tow. This sends a message to the simulator to start up and tow sequence starting from the location you are to begin a new tow.



{width="0.479166666666667in"} This combination of buttons will ****TOW PLANE**

height="0.479166666666667in"}


{width="0.5in"} release you from the tow rope WINCH RELEASE******

height="0.5in"}

Slew Launching

We even let you just use the slew function to get into the air. Not realistic, but handy.



This button will toggle you in and out of slew mode

TOGGLE SLEW



Use these buttons to go up or down in altitude



The left joystick moves you in any direction.



The right joystick (left/right) will change your heading.

Scoring Considerations

As you can see, we give you many ways to get into the air and enjoy flying a simulated hang glider. We don't want to tell you how to float your boat. However, we will take all launch information into consideration when we score missions or tasks.

- If you foot-launch your glider, you will get extra points.
- If you tow launch your glider, you will get extra points.
- If you slew launch your glider or use slew during the flight, you will get point deductions.

A PILOT GUIDE

Ground handling in this aircraft is designed to feel natural, intuitive, and true to real foot-launch hang gliding. You'll use a combination of joystick input and a single controller toggle to move the glider, rotate it into the wind, walk it to launch, and begin your takeoff run.

LEARN HOW TO CONTROL THE GLIDER

You will get much more out of this simulation if you learn how to foot launch and land. It is an important part of this simulation. This has a learning curve. It takes practice to be able to pull off successful launches and landings. It takes practice just to get to a launchable site.

It is not hard. But it is a skill to master.

LEARN HOW TO FIND LAUNCHES

The point of this type of flying is to fly conditions as they are. Practice flying in all kinds of conditions and at all kinds of different sites and situations. This is why most of our custom flying sites have multiple launches. You may have to try many things to find launchable conditions, let alone soarable conditions. This is also a skill to be learned.

CAMERA BEHAVIOR ON THE GROUND

The camera automatically adjusts to match your ground state: It will give you clues as to what state you have put the glider on the ground.

- **Set down:** ground-level, stable view
- **Pickup:** upright, walking view
- **Launch Mode:** same upright view, but locked for launch
- **Flight:** transitions to prone or upright depending on glider type

SOUNDS & FEEDBACK

Ground handling includes audio cues for:

- Lifting and setting down the glider
- Footsteps while walking or running
- Wing rustle and frame creaks
- Rotation sounds
- A “TAKING OFF!” call when entering launch mode
- A “ALL OUT” call when ready to start towing.

Future

The future? The future isn't here yet! Well, it is. We can't wait to see what is next.

How to help

Join our Patreon and help us continue this journey. Patreon is where you will find all of our 2025 products and services. For MSFS 2020 type products you can find them on flightsim.to

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