



Kinetic Assistant is a SimConnect utility that covers missing simulation or gameplay elements of the **Microsoft Flight Simulator** (2020). Desktop application read sim variables and return adjusted values (like speed and rotation) back into the game to simulate some specific conditions, uplift inside of artificial thermal for example. Also it can insert objects into the game, like AI tow planes.

Currently these features are available: **Winch**, **Aerotow**, **Thermals**, **Catapult** and **Arresting gear**. All of them have limitations, so please read the description for each below.

* Kinetic Assistant also integrated into **ALBATROSS competitions app** < <https://msfs.touching.cloud/mods/albatross/>>, there is no difference in functionality between full and integrated version

* Freeware carriers pack was released by **superspud** on **flightsim.to** < <https://flightsim.to/file/4930/aircraft-carrier-uss-msfs-uk-mooring>> and not included into package

* Freeware glider add-on **DG808S** available on **msfs.touching.cloud** < <https://msfs.touching.cloud/mods/ms-dg-808s/>> and not included into package as well

* Hotspots data provided by **thermal.kk7.ch** < <https://thermal.kk7.ch/>> online service. This is freeware project, so if you like it – they have donation button in the Feedback section!

* Offline hotspots data provided by [maps.openAIP.net](http://maps.openaip.net) <
<http://maps.openaip.net/>> service.

This is an open source project – if you are a developer and wish to contribute, or just curious about how it works – find **msfsKineticAssistant** project on **GitHub** (link in the header).

1. Requirements

Microsoft Flight Simulator (2020)

.NET Framework 4.7.2 or higher

Microsoft Visual C++ 2015-2019 Redistributable

2. How to install and launch

1. Unpack archive content (do not place it inside of Community folder)
2. Launch “Kinetic Assistant.exe” file
3. Launch Microsoft Flight Simulator (2020)
4. Choose aircraft and start the flight
5. Press **CONNECT** button in the program window
6. Choose the tab you are planning to use
7. Set controls for required buttons if you are not willing to leave program on the screen
8. Follow instructions for selected tab

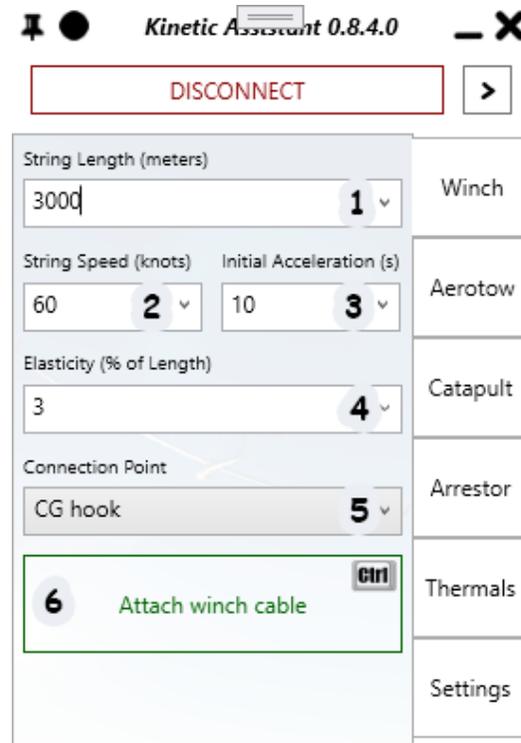
3. How to uninstall

Remove program folder. If you have used kinetic version prior to 0.7, remove file **SimConnect.cfg** from My Documents folder

4. Winch

4.1 User interface

1. **String Length** value determines how far from takeoff position virtual winch will appear. Longer string length will make the towing process longer, and final altitude higher.
2. Higher **String Speed** value will make towing faster, lower – slower. Too low value for your glider performance will make climb less effective, as the airplane will stall instead of gliding.
3. **Initial Acceleration** is the amount of time that takes winch to accelerate from zero winch speed to chosen in the String Speed field.
4. **Elasticity** makes the winch pull you harder or softer when tension appears.
5. **Connection Point** is the hook that will be used for towing. **Center of Gravity hook** allows you to gain more altitude. **Nosehook** makes controls easier as the string directs your glider to the winch position, but you can't reach much altitude with it as it will pull you down right after take off – use it for tow plane only.
6. **Attach winch cable** button can be pressed when the parking brake is engaged.



4.2 How to use

Assistant creates an imaginary winch in a selected distance from the player and then shortens the cable. Cable release can be performed manually, automatically when climb angle is high enough, or if string fails because of overload (threshold can be increased in settings).

To activate winch:

1. shut down engines with **Ctrl+Shift+E**

2. in the program set required values: higher **String Length** value will make towing longer so you can get higher altitude, **String Speed** will set starting winch speed (it will be decreased while you are climbing), **Initial Acceleration** will adjust speed up duration, **Elastic Stretch** – how much string length will change because of tension (lower value – steel, higher – rubber)
3. while you **on the ground** and **parking brakes engaged**, press **Attach winch cable** or configured hotkey – virtual winch will be positioned in front of you at the same altitude, at selected distance minus 10m to avoid string tension
4. Set flaps at **3-5 degrees**
5. when you ready, **Disengage parking brakes**, after 5 seconds delay launch will happen
6. if you are on the runway, bank angle of the glider will be leveled
7. hold **30-45 degree** pitch angle and selected airspeed until you reach required altitude, or winch will start to drag you down
8. on start winch speed will be equal to selected value, but it decreases dynamically because of high cable tension or high elevation angle
9. to release manually, press **Release winch cable** button in application or configured hotkey
10. if angle to the winch position will be greater than **70 degrees**, cable will be released automatically

5. Aerotow

5.1 User interface

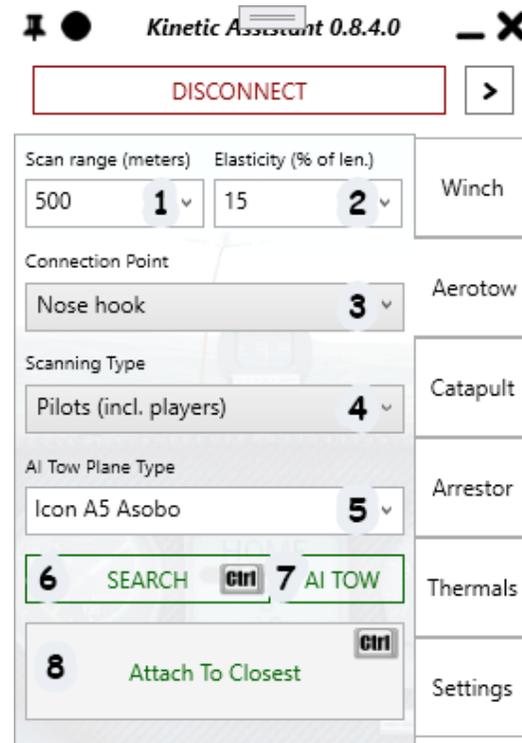
1. Higher **Scan range** will make further objects appear in the results list
2. **Elasticity** acts the same as Winch **Elasticity**
3. **Connection Point** is recommended to set as **Nose hook**, as it will make the towing process simpler. **CG hook** can be used as well, but you will experience problems with holding position behind the towplane.
4. **Scanning Type** filtering out results by type. To see online players you should select the Pilots option, as it is the only way to see other players via SimConnect at the moment.

5. **AI Tow Plane** sets a model of the plane that will be inserted into the game after **AI TOW** button press. List contains only default MSFS aircraft, but you can type the name of another installed aircraft (full name you can take from Aircraft Window in Developer Mode). List split in two parts – planes below the line do not work well in the mode, when immediate take off happens (**Realistic Tow Plane procedures** option disabled). You could use them only when taxiing applied before take off.

6. **SEARCH** button activates scanning of nearest objects. If tow rope connected, this button will disable scanning and release the rope at the same time. It is recommended to stop scanning after the towing finishes to avoid CPU consumption.

7. **AI TOW** button insert towplane into the game. It will exist until you press **DISCONNECT** button

8. **Attach To Closest** will attach rope to the first object in the list. If a connection is already made, the button will release the rope and continue to scan.



5.2 Multiplayer usage

You can attach your glider, or any other aircraft, to another sim object by invisible rope. By current limitation, the game does not return other players' aircraft on SimConnect request, so you can connect to the AI/Live traffic planes and ground service units only. However, most native MSFS planes have pilot objects inside, which can be detected by program. So if tow plane was chosen wisely by another player, you still can connect cable to it using Pilots item in Type dropdown. However, some MSFS planes have issues with pilot position calculation, so can't be used as a multiplayer tow plane. Known examples: **DR400 Asobo**, **Cessna Skyhawk G1000 Asobo**, **FlightDesignCT Asobo**.

1. set scanning radius (tow rope length is variable – 80m in the air, 40m on the ground)
2. select elastic value; as string will be really short and low elastic value can't be processed properly at such low update rate, minimum total elastic stretch can be 5m minimum. It means for 100m string, even if 1% set in settings, it will be 5% in fact.
3. select connection point; **Nose hook** recommended for the towing as make controls simpler
4. select object type (only these objects will be added into scan result list)
5. press **SEARCH** button
6. in the list find aircraft (or pilot object inside of aircraft) to which you want to be attached
7. press on the name label
8. once tow rope connected, its length will be slowly decreased/increased automatically
9. press on **aircraft label** or **STOP** button to release tow string
10. string will be released automatically if angle to the tow plane will be more than **90 degrees** in the air or **179** on the ground

5.3 Request AI Tow Plane

Aerotow tab has a button that inserts AI planes into the game, which will take the role of a tug. AI planes have a very limited level of control by SimConnect, so their effectiveness relies on many conditions, which you should know before use.

Two different modes available (depend on selected **Realistic Tow Plane procedures** option): immediate take off or taxiing from the parking.

To create AI tow plane **anywhere**:

1. Press **Connect** button
2. Ensure that **Realistic Tow Plane procedures** option is **disabled** (**Settings** tab)
3. Open **Aerotow** tab

4. Choose suitable for take off position (at least 500m of clean area in front of you)
5. Remember that plane always turn **North** after take off
6. **Choose Elasticity, Connection Point** and **AI Tow Plane** parameters (**Scan range** and **Scanning type** will be set automatically)
7. Notice that you can choose only planes from the top part of the list (others will not move after insertion); custom planes allowed (you can find full list of your aircraft in Developer > Aircraft Selection window), but in this mode some/most of them will not move after insertion
8. Press **AI TOW** button
9. In 5 seconds tow plane will appear in front of you
10. It will take off immediately, so be ready to avoid buildings and trees as there is no altitude control for this kind of AI aircraft
11. tow plane will lift to the [launch position height] + 7000ft and then just follow to the north, so you should release rope until then
12. press **STOP** button to release tow rope and disable scanning (it consumes CPU power)

To create AI tow plane on the **airfield parking**:

1. choose the airfield with parking spots
2. set as Departure point parking or runway position
3. set Destination for the flight plan, it can be another airfield or custom location; without destination, tow plane may appear in the wrong airfield (last one used for the flight plan)!
4. start the flight
5. Press **Connect** button
6. Ensure that **Realistic Tow Plane procedures** option is **enabled** (**Settings** tab)
7. Open **Aerotow** tab
8. **Choose Elasticity, Connection Point** and **AI Tow Plane** parameters (**Scan range** and **Scanning type** will be set automatically)
9. You can choose any plane from the list
10. Press **AI TOW** button

11. In 5 seconds tow plane will appear on one of the parking
12. If it did not appear, all parking spaces are busy, or airfield scene not configured properly (example of working airfields: **EDWW** and **EDPN**), or you have not set flight plan properly
13. AI will proceed to taxiing, respecting ATC commands
14. it can stuck because some other object blocking the movement – other airplane, ground service unit, your glider; if it stay in one place rotating continuously, something wrong, so you can try to add new one
15. if AI plane started to move in opposite to runway direction (into nearby forest for example), it is not trying to hijack you, just don't know where to go because this airfield does not have taxiways
16. if it appear too far away from you, it will teleported near to you and then both of you follow to the runway
17. you will be towed by the plane on the ground as well; that does not happen in real life but only workaround as small airfields does not have push back services
18. once AI plane reached runway, it will contact ATC to request take off
19. after approval, it will take position on the runway and take off; it may happen that you are not aligned on the runway properly
20. after take off follow tow plane until it reach maximum altitude (it may be less than you desire)
21. press **STOP** button to release tow rope and disable scanning (it consume CPU power)

6. Catapult

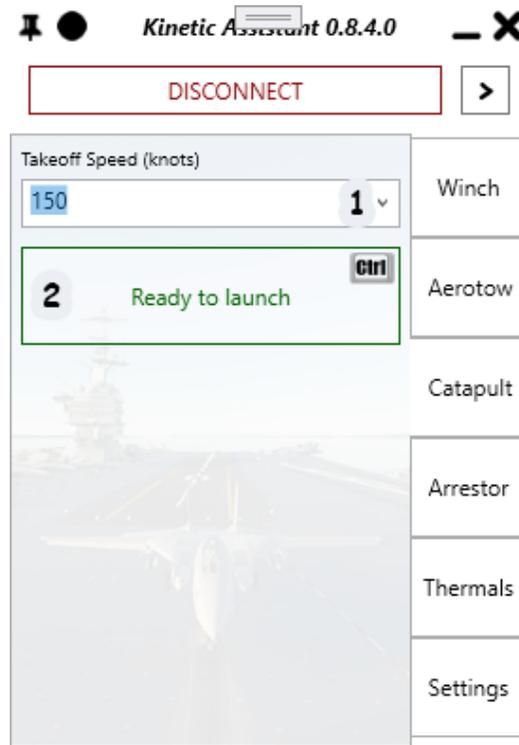
6.1 User interface

1. **Takeoff Speed** will set the maximum speed of the catapult. When this speed value is reached, engines only will be the source of acceleration.
2. **Ready to launch** can be pressed when parking brakes engaged. Press the button again to initiate acceleration.

6.2 How to use

Catapult is a simple script that accelerates aircraft to the selected airspeed. Launch aborts in case if preferred speed was reached, or aircraft takes off.

1. as aircraft experience significant overload during launch, you need to disable crashes in the game settings, or enable Developer mode
2. take launching position – it can be on the carrier or on the land, just be sure you have enough space to take off
3. **Engage parking brakes**
4. set **Takeoff Speed** value – catapult will accelerate aircraft to this speed
5. press **Ready to launch** button
6. set required throttles level (normally about 80%)
7. **Disengage parking brakes** and aircraft will receive acceleration immediately



7. Arresting gear

7.1 User interface

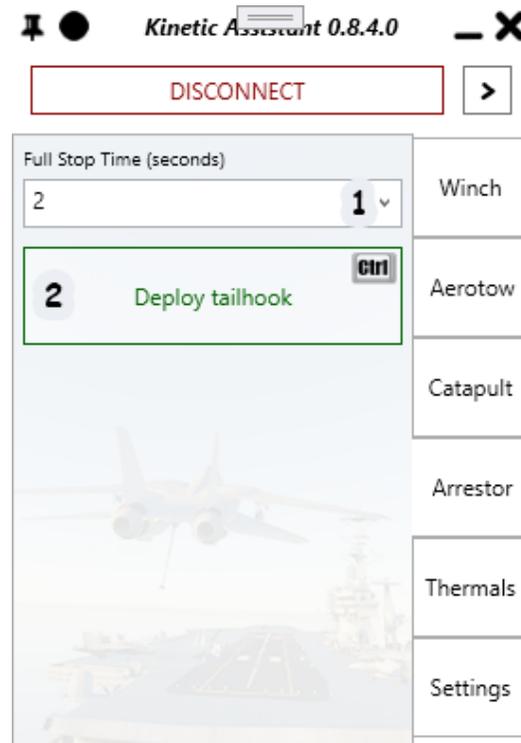
1. **Full Stop Time** will determine how long landing running takes. Lower value will cause stronger drag force – 2-3 seconds can be set for carrier jets with higher landing speed. For slow planes value can be 4-5 seconds for smooth deceleration.
2. **Deploy tailhook** should be pressed at the same time as gear extraction triggered.

7.2 How to use

Arresting gear does not have any kind of hook/string collision calculations and activated after plane touching surface by one of the wheels or appear lower than 0.3m to the surface, while tailhook extracted (regardless is it presented/animated

in the aircraft model or not) and speed more than 40 knots. After landing, aircraft experience negative drag force for the selected period of time. However, deceleration is limited to 5G and if landing speed is too high, aircraft will roll more than ~100m which will cause arresting string failure.

1. while in the air, set required **Full Stop Time** value – depends on landing speed of your aircraft, set lower value for high speed aircraft
2. press **Deploy tailhook** button, if model has animated tailhook – it will be deployed
3. land on the carrier, or runway, or field; after first touchdown aircraft will experience drag force until full stop
4. if you are not able to stop in ~100m, arresting string will fail (can be disabled in settings)
5. after full stop string will be released and tailhook will be retracted automatically

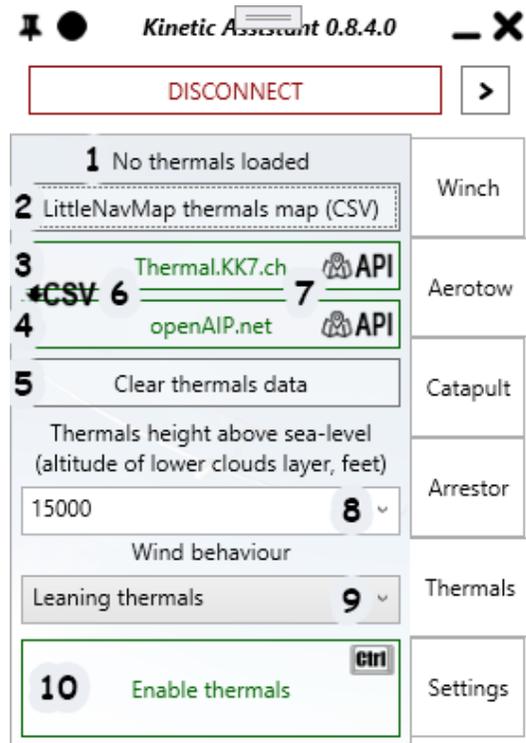


8. Thermals

8.1 User interface

1. Amount of loaded into program memory thermals, it includes both CSV and API points.
2. **LittleNavMap thermals map** button can be used to load manually made thermals map in CSV format. You can load several maps one by one.
3. **Thermal.KK7.ch** button will toggle automatic hotspots loading for current area. You can check coverage on the [service website < https://thermal.kk7.ch/>](https://thermal.kk7.ch/), you need to check **HotSpots** option in the left top corner to see the data loaded by Kinetic. This is an online method and requires an internet connection.

4. openAIP.net toggle automatic hotspots loading for current area, coverage can be checked on [service website < http://maps.openaip.net/>](http://maps.openaip.net/). This is an offline method and doesn't require internet connection.
5. **Clear thermals data** button will clear thermals list, both CSV and API data.
6. After clicking on **CSV** icon, thermal data can be saved as a CSV file and then loaded in LittleNavMap as Userpoints.
7. After clicking on **API** icon, the service map will be opened in the web browser.
8. **Thermals height** dropdown affect all API thermals, and CSV thermals with elevation near to 0 (+/- 1000). You could set it manually as the lower edge of the clouds. Exception is ALBATROSS application that will set this value automatically.
9. **Thermals type** dropdown affects behavior of the thermals in different wind conditions.
10. **Enable thermals** button activate updraft calculations while you are inside of the thermal.



8.2 How thermals works

Thermals are just coordinate points placed into program memory. Assistant does not affect the weather system anyhow, even wind, as such capabilities are not implemented in SimConnect of MSFS, so lift calculations happen outside of the game.

Thermal lift power calculated from different modifiers:

- how close plane to the center of the thermal (horizontally, nonlinear)
- how close plane to the top, from 0 at the ground level to 1 at elevation level, nonlinear; also, inversion layer exist up to 500ft above elevation

- pitch/bank angle modifier
- wind (0-50m/s then thermal disappear): width increasing from 100% to 200%, strength decreasing from 100% to 0%, Static/Lean/Drift thermal behavior type on choice (drift positions will be reset after each thermals data reload)
- weather: disappear while raining, 20% – snowing
- time of the day: 100% daytime (no sun height dependency), 10% dawn, 0% dusk/night
- forward velocity modifier to prevent overspeed
- additional forward speed compensation as SimConnect script creating unwanted drag force

Smooth transition of ambient modifiers simulated by transformation delay, so it is normal that effect will not change immediately after weather change, teleportation or flight start.

8.3 Create thermals map manually

1. Open flight plan in **Little Navmap** (or just to navigate to the area where are you planning to glide)
2. create Userpoints at thermals locations with these parameters: ident – “thermal”, type – “location”, tags – thermal radius (in nautical miles, digit only) – space – thermal power in knots (optional), elevation (above ground in thermal location, in feet; if less than 1000 – thermal height will rely on selected by user **Thermals height** option, while elevation value became modifier)
3. Choose menu item **Userpoints – Export CSV**

Examples:

Elevation: **3000**

Tag: **1**

if ground level at **500 feet MSL**, thermal top will be at **3500ft (MSL, barometric altitude)**, **1nm** radius, lift power **10kn** by default

Elevation: **2500**

Tag: **1.5 10**

thermal top at **3000ft MSL**, **1.5nm** radius, best lift inside of thermal will be **~8kn** on the top, in the middle – about **5kn**

Elevation: **500**

Tag: **0.5**

thermal height will be measured by **MSL** value, selected by user in Thermals tab (version 0.8 and later), if it set **6000**, then thermal height will be **6500ft** above sea level, **0.5nm** radius, **10kn** best lift value

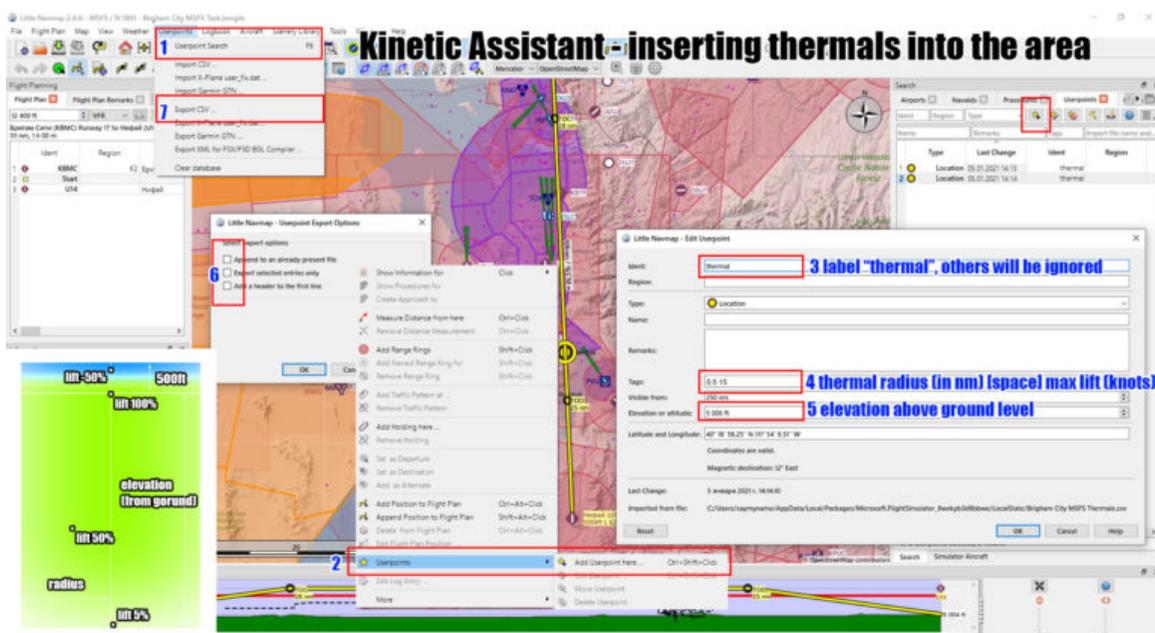
Elevation: **-500**

Tag: **2 8**

with same clouds level value, top of the thermal is **5500ft** above sea level, **2nm** radius **8kn** (v0.8+ as well)

8.4 Load CSV thermals map

1. Press **LittleNavMap thermals map** button on **Thermals** tab
2. Select **CSV** file
3. Set **Thermals height** value to fit current weather preset (altitude of lower clouds layer, 10000 if no clouds at all); only thermals with elevation value from -1000 to 1000 will be affected
4. Press **Enable Thermals** button



<https://msfs.touching.cloud/wp-content/uploads/2020/12/Inm-1.jpg>

8.5 Load API thermals

You can load high lift areas data from thermal.kk7.ch <https://thermal.kk7.ch/> and maps.openaip.net <http://maps.openaip.net/> API services:

Both online services provide hotspots data mainly around Alps and some other areas. Coverage is low globally, but some locations are fully filled.

- Follow website and find preferred soaring location
- Enable Hotspots layer (kk7 top left corner, openAIP – right sidebar)
- If you see hotspots in your area, launch the game, press **Connect** button, and then **THERMAL.KK7.CH** or **openAIP.net**
- Program will load hotspots in your grid, you can see precise amount on top of the form
- You can use custom (CSV) thermals map together with API data
- Set **Thermals height** value to fit current weather preset, otherwise thermals effectiveness will be unrealistic
- Press **Enable Thermals** button
- In the flight, when you reach bounds of loaded area, program will update thermals data automatically
- thermals strength and radius calculated from probability factor (radius vary 0.3-0.9nm, strength 2-6kn)

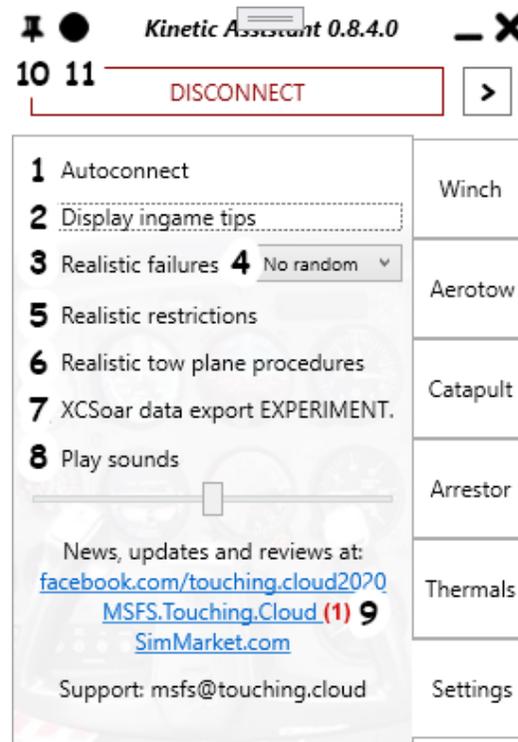


< <https://msfs.touching.cloud/wp-content/uploads/2020/12/thermals2-1.jpg> >

While you are inside of thermal cylinder, you will experience additional lift; maximum lift power in the center of the cylinder, at selected altitude, after that power will decrease smoothly. To debug value, press **Thermals debug info** button at the bottom.

9. Settings

1. **Autocconnect** not implemented yet
2. **Display ingame tips** will make pop-up Kinetic notifications appear in the game. Because of MSFS bug, they always stay on the screen for 10 seconds even after a new tooltip is inserted.
3. **Realistic Failures** affect winch, aerotow and arresting gear. It makes the failure threshold lower so you need to be more accurate.
4. **Random Failures** cause short time peaks of the winch/tow cable tension. Each step increases chances and multiplies the tension peak. **Training**



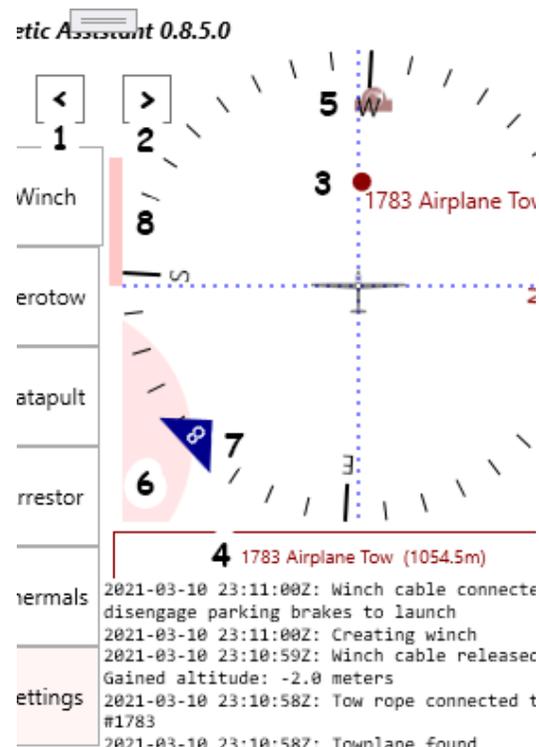
Mode is like using damaged rope that will fail during the next launch but you still have a chance to avoid it.

5. Enabled **Realistic Restrictions** forbid to use winch and tow in the air, connect tow rope with parking brakes engaged.
6. With disabled **Realistic Tow Plane procedures**, AI towplane inserted in front of you, and taking off happen immediately. AI planes in this mode always follow north and do not avoid terrain or buildings. With enabled **Realistic Tow Plane procedures** towplane will be inserted on the parking with further ATC guidance.
7. ~~XCSear data export~~ disabled due to issues
8. **Play sounds** enable sounds notifications created by Kinetic events. **Volume** can be adjusted with a slider.
9. **News and updates indicator** – left click open news page in web browser, right – reset counter.
10. **Always on top**
11. **Transparent mode**

10. Debug window

1. Debug window toggle button
2. Main window toggle button
3. Current towplane
4. Active/closest target
5. Winch position
6. Thermal area (transparency depends on current modifier)
7. Wind direction and strength (knots)
8. Vertical wind indication (+/- 20 knots)
9. Systems messages log

11. Controls configure



- to bind keyboard/joystick/mouse button to the Assistant function, press **CTRL** icon near to event button
- select desired MSFS sim variable (currently lights only)
- configure this event in MSFS controls settings
- press this button twice in short period of time (with interval between 0.25-1.0 seconds), process can be described as “blink by lights”

12. Issues

- if winch/tow does not work for some gliders in v0.8.4, update to newer version
- to fix program crash on attempt to load KK7 hotspots data, update to version 0.8.1 or later
- to fix “Flight plan not found” error after AI TOW button pressed, update program to the version 0.7.1 or later
- if you have problem with loading CSV file into assistant (thermals map), update to version 0.7 or later
- if some other mods, add-ons or SimConnect utilities does not work properly after Kinetic Assistant usage, start Assistant version 0.7 or later and connect to the game once to fix the problem; if did not helped – remove SimConnect.cfg file from My Documents manually)
- planes, controlled by other players, does not appear in nearby objects list due to SimConnect bug; as temporary workaround – pilot inside of the other player’s plane can be selected as towing target. That means planes without pilot objects inside can’t be used as a tow plane. But some stock aircraft has issue with pilots entities, they are not moving together with airplane, so can’t be used for multiplayer towing (only as AI tow plane, list in the description)
- inserted AI planes often does not act predictable – taxiing in opposite direction to the runway (no taxiways in this airfield), stuck in the taxiing process (some other game object blocking his movements), gain altitude too fast, or too slow, or crash into buildings, etc. be ready for surprises.
- no visible winch cable, arresting strings, launchpad
- old tooltip does not disappear after new one added (SimConnect bug)
- no launchpad animation (even if it exists) due to disabled related sim variable
- catapult and arresting gear can be activated anywhere, not only on carriers





Kinetic Assistant v0.8.5

- nav screen with interactive elements indication – winch, tow plane, thermals
- SimConnect data exchange frequency slider (move left in case of performance drop, vertical wind)
- tow plane scan radius field replaced with nav scale slider
- AI tow plane desired speed field added
- AI tow plane heading issue fixed (no longer heading north)
- NMEA/XCSoar data transfer (experimental)
- thermals simulation code revised
- bank leveling continuing up to 3 seconds after winch launch
- additional debug messages
- thermals CSV export issue fixed
- thermal maximum strength point lowered to the 2/3 of the thermal elevation (above ground)
- pause detection issue fixed



Kinetic Assistant v0.8.4.1

Discus 2.5 winch/tow hotfix



Kinetic Assistant v0.8.4

- landing/taxi light blinking while connected to the tow plane (to make it obvious for the tow plane pilot)

- thermals wind modifier (0-50m/s then thermal disappear): width increasing from 100% to 200%, strength decreasing from 100% to 0%, Static/Lean/Drift thermal behavior on choice (drift positions will be reset after each thermals data reload)
- thermals weather modifier: disappear while raining, 20% – snowing
- thermals time of the day modifier: 100% daytime (no sun height dependency), 10% dawn, 0% dusk/night
- catapult holds aircraft at launch position position until catapult trigger
- arrestor vertical force decreased to avoid immediate stop



Kinetic Assistant v0.8.3

- Hotspots import generated by OpenAIP.net API (offline)
- News notifier (settings page)
- Slew mode pauses any kinetic activity



Kinetic Assistant v0.8.2

- Always on top and Transparency checkboxes removed (available on the window bar)
- 20 seconds minimum KK7 data update interval (to prevent server flooding by possible code issue)
- KK7 thermals button state save (no need to toggle it after each program launch, just press Enable Thermals to update the data)
- Solved KK7 data load precision issues, program request data for single grid cell (3 on far north/south) to avoid clipping
- API thermals filtering, too keep distance between received hotspots
- API thermals maximum strength decreased



Kinetic Assistant v0.8.1

- Application crash fixed on attempt to load KK7 hotspots data
- Background load of hotspots data improved when pilot get outside of loaded area
- KK7 data export into CSV fixed (actual values will be inserted into Elevation/Tag values)



Kinetic Assistant v0.8

- transparency option
- partially working Always on top feature fixed
- Winch Initial acceleration field added
- Custom AI tow plane name support (most aircraft will not take off without taxiing; names list can be found in Developer menu -> Aircraft Selector)
- Automatic thermals data load from thermal.kk7.ch service (experimental! coverage is limited, check their website to choose supported location)
- Thermals height field, for thermal.kk7.ch data or CSV thermals with 0 elevation set; should match altitude of lower clouds layer in the game (in feet)
- Thermal Clear button added, as now several sources can be used same time – multiple CSVs made in LittleNavMap and thermal.kk7.ch server data
- Thermal debug data moved into bottom window
- Winch/Tow rope random failures option (chances still depend on tension, Training Mode is like use damaged rope that will fail during next launch)
- AI tow plane altitude limit depend on launching position altitude (fix for mounting area)



Kinetic Assistant v0.7.1

- Error “Flight plan does not exist” in Steam version of MSFS fixed



Kinetic Assistant v0.7

- compatibility issue with CJ4 mod fixed in fsConnect.dll (start Assistant and connect to the game once to fix the problem, if did not helped – remove SimConnect.cfg file from My Documents manually)
- thermal parsing script decimal delimiter related issue fixed
- AI tow plane insertion (immediate takeoff or taxiing, depends on Realistic Tow Plane procedures option)
- warning if program launched from Community folder (move program folder outside of Community directory)
- new settings options
- cable tension calculation improvements

If you have a problem with DG808S (v0.6 or earlier) when you select parking as departure point (glider appear in the air), unpack [these FLT files < https://drive.google.com/file/d/16ZhBG9NJQ0p1k7XI-aoSi9WmEi-tBnGX/view?usp=sharing>](https://drive.google.com/file/d/16ZhBG9NJQ0p1k7XI-aoSi9WmEi-tBnGX/view?usp=sharing) into community folder (overwrite on request). For later glider version, you don't need these files.

If you have downloaded this version in less than 3 hours from release moment and experience problem with settings being not saved, download this archive again and update your files



Kinetic Assistant v0.6TEST

development version



Kinetic Assistant v0.5

- * Aerotow tab – both AI and player's planes attachment supported, can be activated only on the ground
- * rope tension length limited to 5 meters
- * glider bank leveling before winch start (on runway only)
- * nose connection point (both winch and tow)
- * thermal "Tags" value can contain both radius and strength, like "0.5 12" means radius 0.5nm maximum with strength 12kn
- * multiply thermals modifiers for the smooth experience
- * thermal lift calculation results rendering
- * thermal lift disappear at airspeed greater than 180kn to avoid overspeed



Kinetic Assistant v0.3

- * sound notifications setting added
- * MSFS controls tracking (light evens can be linked with program functions)
- * winch launch button removed (parking brakes disengage will be used to trigger launch)
- * Thermals tab added (CSV userpoints list generated by Little Navmap)
- * Winch cable speed depend on tension and climb angle
- * rotation and vertical speed stabilization of the aircraft while catapult or arresting gear is active
- * arresting string can be activated only at speed 20kn or higher
- * maximum arresting string effectiveness limited to 5G
- * maximum arresting string working length set as 100m



Kinetic Assistant v0.2

- Winch code improved
- Settings page

- Catapult and Arrestor sections added



Kinetic Assistant v0.1

Initial release, Winch section

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