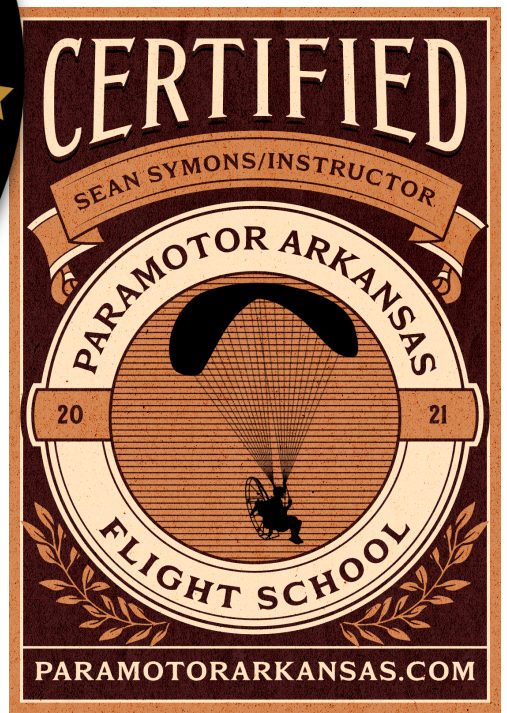


Run Into The Sky Inc

Paramotor Arkansas Flight School

Airspace For Paramotors Study Guide

Run Into The Sky Flight School 2024



Run into the Sky Inc - Airspace Class - In Class - Online (Must have laptop/ tablet to complete)

Airspace for Paramotors

Airspace can be very intimidating to a lot of paramotor pilots. Maybe that's why so many in our community seem to know so little about it. This course has been designed to break it down into simple and concise lessons. The goal is to explain airspace in a way that is specific to flying paramotors. Our hope is that this course will help all paramotor pilots to feel more comfortable and confident about airspace.

Some Basics

The FAA views paramotors as “ultralight vehicles” and ultralights operate under the regulations of FAR 103. The regulation pertaining to ultralights and airspace says this:

FAR 103.17 Operations in certain airspace. No person may operate an ultralight vehicle within Class A, Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from the ATC facility having jurisdiction over that airspace.

What does that mean for us?

It means there are some places where we need permission to fly and other places where we don't.

Permission Needed

- Class A
- Class B
- Class C
- Class D
- Class E Surface Area
- Some Special Use Airspace
-

No Permission Needed

- Class G
- Class E (non-surface area)
-

Airspace Classifications

You can see in the image below that the sky is split into several different classifications of airspace. You might be thinking “I will only fly in G and E airspace so what’s the point of learning about the others?”

The sky is our playground and if you want to feel more confident and be safer when you’re out playing in the sky, it would be wise to have an understanding of how that playground works.

Sectional Charts

Airspace is depicted on sectional charts, sometimes just called “sectionals”. These are like large maps that you can use to see all the airspace information for a specific area. You can purchase a hard copy or you can browse a digital version online. Most people in the PPG community use skyvector.com to see airspace. You can also download the digital pdf versions directly from the FAA here:

[FAA Sectional Aeronautical Charts](#)

Note: Sectional charts are updated every 56 days. They are printed with an expiration date. If you use a physical copy, be sure you have the current version.

Quiz 1

Which airspaces DO NOT require permission for paramotors to fly in? (select all that apply) *

Class A

Class B

Class C

Class D

Class E (non-surface area)

Class E Surface Area

Class G

Sectional charts are updated every 56 days. *

True

False

AGL vs MSL

Altitude has many different references and definitions in aviation. The two main ones you need to know are:

AGL – AGL stands for “**above ground level**,” and it indicates an altitude using the ground as a reference. This is also known as absolute altitude.

MSL – MSL stands for “**mean sea level**,” and it is your altitude above sea level. It’s the average height above standard sea level where the atmospheric pressure is measured in order to calibrate altitude.

On a Sectional Chart, all of the numbers you see that denote altitudes are denoted in MSL, unless they are in parentheses. If you see a number in parentheses, that denotes AGL.

Class A

Permission is required.

Think of A for “Above” (It’s above all the other airspace)

It’s not visible on the sectional charts. **It starts at 18,000 MSL** and goes to 60,000 MSL (FL 600).

Altitudes at 18,000 feet MSL and above, in Class A airspace, are commonly referred to in hundreds of feet as “Fight Levels,” abbreviated FL. For example, flight level two zero zero, or FL 200 = 20,000 feet MSL, FL 600 = 60,000 feet MSL, etc.

We can’t fly here anyway so we don’t need to focus too much on this airspace.

Class B

Permission is required

Think of **B** for “**Busy**” (It’s **busy** airspace and it’s a **big deal** to enter it)

It’s depicted with a **solid blue line** on the sectional chart

- It looks like an upside-down wedding cake.
- Permission is required BUT permission is unlikely. This is not suitable airspace for paramotors.
- **Can we fly under it?** Yes, that’s quite common. As long as we remain in Class G or E and we avoid flying over any congested ground areas (see FAR 103.17).
- **Can we fly over it?** In theory, yes BUT it would be **quite dangerous and careless**. If you had a motor out, you would be forced to descend through Class B airspace and that could cause a major incident that you don’t want to be involved with.
- Aside from the busy airspace, consider the fact that it’s probably also busy/congested down on the ground. Class B airspace is usually associated with big cities we shouldn’t be flying our paramotors over congested areas anyway (see FAR 103.17).

FAR 103.17 – Operations over congested areas

No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

Which statement is true regarding this extension of Class B airspace. *

It starts at 90 feet and goes up to 120 feet.

It starts at 9,000' MSL and goes up to 12,000' MSL

It starts at 9,000' AGL and goes up to 12,000' AGL

It starts at 900 feet and goes up to 1,200 feet.

Paramotors don't need permission to fly in Class B airspace. *

True

False

Can we fly under the extensions of Class B airspace without permission? *

No. We can't fly under Class B airspace.

Yes. As long as we remain in Class G or E (non-surface area) we don't need permission.

Class C

Permission is required.

Think of **C** for “**Caution**” (It’s busy enough that you need to have **caution**)

It’s depicted with a **solid magenta line** on the sectional chart

- It’s also shaped like an upside-down wedding cake but it’s a smaller cake than Class B.
- There’s an airport with a control tower.
- **Can we fly under it?** Yes, but you’ll need to stay in Class G or E and avoid flying over congested ground areas.
- **Can we fly over it?** Technically yes, BUT it’s still a very bad idea because a motor out would force you to descend through the Class C airspace.
- We **CAN’T fly here** without special permission from ATC. Permission should be obtained in advance by telephone (some controllers will accept a radio call).
- **IF** you enter (assuming you have permission), you must remain 500 ft below, 1000 ft above, and 2000 feet horizontal of clouds AND must have 3 miles of visibility.

Class D

Permission is required.

Think of **D** as in “**Directions**” (To fly here you’ll need to receive **directions** from ATC)

It’s depicted on the sectional with a **dashed blue line** – – – – .

- There is an airport with a control tower.
- Usually, Class D airspace extends from the surface to 2,500 feet above the airport field elevation. **Sometimes it goes higher.** The ceiling is depicted in hundreds inside a blue dashed box. In the example below, the ceiling extends from the surface to 2900 ft [29]. ***FYI – If the number has a “-” it means up to, but not including. [-29]***
- **Can we fly over it?** Technically yes, but it would probably not be wise. Keep in mind that a motor out would force you to enter the airspace. If you have an aircraft frequency radio AND you understand radio communication procedures, it may be wise to inform a nearby Class D tower where you are and where you plan to go.
- **IF** you enter (assuming you have permission), you must remain 500 ft below, 1000 ft above, and 2000 feet horizontal of clouds AND must have 3 miles of visibility.

Which statement is true regarding solid blue vs dashed blue lines on the sectional? *

Solid blue depicts Class D / Dashed blue depicts Class C

Solid blue depicts Class C / Dashed blue depicts Class B

Solid blue depicts Class B / Dashed blue depicts Class D

What does the "-" in front of the [80] indicate? *

The ceiling of Class D is 8000' MSL

The ceiling of Class D goes up to, but not including 8000' MSL

The ceiling of Class B goes up to, but not including 8000' AGL

Can we fly in Class D airspace? *

Yes, we don't need permission to fly in Class D.

Not without prior authorization from the ATC facility having jurisdiction over that airspace.

Class E

Permission is not required. (With one MAJOR exception: Class E Surface Areas)

Think of **E** as in “**Everywhere**” (It’s the most common airspace & perhaps the least understood.)

Can Paramotors fly in Class E? Yes, we can fly in Class E airspace without permission. There is the exception of surface areas but we’ll go over that later. **Almost any time you are higher than 700’ AGL or 1200’ AGL you are likely to be in Class E airspace.**

In Class E, can we fly up next to the clouds? No. When you fly in Class E, you must remain 500 ft below, 1000 ft above, and 2000 feet horizontal of clouds **AND** must have 3 miles of visibility. If you are above 10,000 MSL, these minimums are increased to 1000 ft below, 1000 ft above, and 1 statute mile horizontal of clouds **AND** must have 5 miles of visibility.

Is Class E controlled airspace? Yes. Instrument aircraft flying in Class E are controlled by ATC (Air Traffic Control). Ultralights and other non-instrument aircraft flying by visual reference (VFR) are ***not required*** to be in contact with ATC. Class E is controlled airspace for IFR traffic. It’s important to understand that YES we can fly there without permission, BUT you need to know WHERE you might encounter other traffic.

Where does Class E Start?

The two most common altitudes where Class E starts are **700' AGL** or **1200' AGL**. *Sometimes Class E starts at the surface (depicted on the sectional with a dashed magenta line). We will cover Class E Surface Areas in the next lesson.*

On the sectional, you can look for the following:

- **Thick Magenta Gradient** – On the SOFT SIDE of the line, Class E starts at 700' AGL. On the HARD SIDE of the line, Class E starts at 1200' AGL.
- **Thick Blue Gradient** – On the SOFT SIDE of the line, Class E starts at 1200' AGL. On the HARD SIDE of the line, Class E starts at 14,500 MSL. *These are rare but can be found in some places out west.*
- **Dashed Magenta Line** – This indicates Class E Surface Area. We can't fly here without permission. See the next lesson for more details.

How do we know when Class E starts at 700' AGL vs 1200' AGL?

On the sectional, you'll see a thick magenta line that has a gradient (a soft side and a hard side). **Everything on the SOFT SIDE of the magenta gradient is where Class E drops down to 700' AGL. Everything on the HARD SIDE of the magenta gradient is where Class E starts at 1200' AGL.** The image below shows how it looks on a sectional chart. The white arrow is pointing to the magenta gradient line.

Class E Transition Area

The E airspace on the **SOFT SIDE** of the magenta gradient is called **Class E Transition Area**. These areas usually surround airports.

Class E Transition Areas can be big. Sometimes giant areas around multiple airports will all get clustered into a Class E Transition Area and it will look like the image below. Inside the transition area, E starts at 700' AGL, and outside (darkened to illustrate better) E starts at 1200' AGL.

Class E Enroute Airspace

The area on the **HARD SIDE** of the magenta gradient line is called Class E Enroute Airspace. Class E starts at 1200' AGL in these areas.

What about the blue gradient line? It's rare to see the blue gradient but it can be seen out West. The **SOFT SIDE** of the blue gradient indicates where Class E starts at 1200' AGL and the **HARD SIDE** indicates where Class E starts at 14,500 MSL (note this is MSL and not AGL).

Victor Airways

What are Victor Airways? Think of them as highways in the sky. They extend from 1,200' AGL up to, but not including, 18,000 ft MSL (FL180).

Can we see them on the sectional chart? Yes, they are visible as light blue solid lines with a number indicating the name/number of the Victor Airway. The basic width of a Victor Airway is at least 4 NM on each side of the centerline (8 NM total width).

Why do they matter to Paramotor pilots? They matter because we are slow and we are hard to see. It's like crossing a busy road/highway on a skateboard. There are so many other safe places to ride a skateboard, there is NO NEED to go ride it on the highway. Flying a paramotor above 1200 ft AGL in the vicinity of a Victor Airway or along the path of one is simply unwise and asking for trouble. Yes, we can legally do it, but why would you want to?

The black arrow in the image below is pointing to a Victor Airway (V 200).

Summary

Class E airspace is EVERYWHERE. It's like the filler airspace around all the other airspace. There are weather minimums and certain distances we need to maintain from the clouds. As paramotor pilots, one of the most important things we need to know about Class E airspace is that we can't get close to the clouds. *To get close to the clouds, you need to be in G airspace and below 1200 AGL.*

Which statement is true regarding the image above? *

The highlighted area is where Class E starts at 1200' AGL.

The darkened area is where Class E drops down to 700' AGL.

The highlighted area is where Class E drops down to 700' AGL.

Can we fly in the clouds in Class E airspace? *

Yes. We can get as close as we want to the clouds.

No. We have to maintain a certain distance from clouds when we're in Class E airspace.

The black arrow is pointing to a light blue line. What is that light blue line? *

Restricted Airspace

Class D Airspace

Victor Airway

Mountain Range

Why is it a bad idea to fly (especially high) in the vicinity of a Victor Airway? *

Victor Airways are only dangerous if you're over 10,000 feet in the air.

Aircraft could be flying along that route as low as 1200' AGL.

We don't need to worry about Victor Airways.

Which statement is true regarding Class E airspace? *

The floor of most Class E airspace is either 1200' AGL or 700' AGL.

The floor of Class E is always 1500' AGL.

The floor of Class E is always the ground.

Class E Surface Area

Permission is required.

Class E Surface Area is depicted on the sectional with a **dashed magenta line** - - - - -.

Sometimes Class E airspace goes all the way down to the surface of the ground. This is called **Class E surface area**.

In general, we don't need permission to fly in Class E airspace. However, there is one **MAJOR exception** that applies to paramotors/ultralights. It can be found in the wording of FAR 103.17 "No person may operate an ultralight vehicle within . . . **the lateral boundaries of the surface area of Class E airspace designated for an airport** unless that person has prior authorization from the ATC facility having jurisdiction over that airspace." These areas are shown on the sectional chart with a dashed magenta line.

There's more to know...

FAA documents specify 2 types of Class E Surface Area:

1. Designated for an airport (we need permission)
2. Designated as an extension (we don't need permission)

Designated for an airport – We need permission

You can identify these areas because they are inside a continuous dashed magenta line (like you see in the image above). **We need permission.** Here is an example:

Designated as an extension – We don't need permission

You can identify these areas because they are not part of the continuous dashed magenta line. They are added as a separate extension to the original airport line. **We don't need permission.** Here is an example:

[USHPA published an article](#) explaining how the FAA confirmed that paragliders can fly through Class E surface areas designated as extensions. The explanation is summarized below:

Due to a congressional order relating to drones, the FAA was forced to review their long-standing stance that Class E extensions were included in the restriction as they were “designated for an airport.” To comply with the order, the FAA issued a somewhat obscure [memorandum in January 2018](#), specifically for the drone community, that states, “Class E airspace designated for an airport” only requires prior authorization if the airport falls within the Class E airspace.

Since FAR 103 (Ultralight) has nearly identical airspace language as FAR 107 (Small Unmanned Aircraft), it seems logical that the change would apply to us. It's taken years, but we've finally received verbal confirmation from the FAA Airspace Rules and Regulations division that it does apply to operations under FAR 103 (including hang gliding and paragliding), and they'll be (hopefully) updating the preamble to clarify this point.

Jeff Goin also wrote 2 great articles on FootFlyer covering this topic:

Class E Surface Area – <https://www.footflyer.com/class-e-surface-area/>

Class E Surface Area Visual – <https://www.footflyer.com/class-e-surface-area-visual/>

Class G

Permission is not required.

Think of **G** as in “**Ground**” (It’s the airspace that covers most of the **ground** in the U.S.)

Class G airspace is uncontrolled airspace that has not been designated as Class A, B, C, D, or E.

The only requirements are to have 1 mile of visibility and to stay clear of clouds. “Clear of clouds” means **you should not fly in/through clouds**. You can get as near as you want, but flying **in** the clouds is still prohibited.

There are a few other limitations to be aware of in Class G airspace:

If you are above 1200’ AGL, but lower than 10,000’ MSL, you must remain 500 ft below, 1000 ft above, and 2000 ft horizontal of clouds AND must have 1 mile of visibility.

If you are 10,000’ MSL or higher you must remain 1000 ft below, 1000 ft above, and 1 SM horizontal of clouds AND must have 5 miles of visibility.

The key to understanding Class G airspace is to first understand Class E airspace.

In remote areas, Class G may go up to (but not including) 14,500' MSL. In most places, G Airspace starts at the surface and goes up 700' AGL or 1200' AGL where Class E starts.

When Class E airspace drops all the way down to the surface, what is it called? *

Class E Low

Class E Surface Area

Class G

Uncontrolled Airspace

Do we need to have permission to fly in Class E Surface Areas? *

No. We don't need permission to fly in Class E surface areas.

It depends. We need permission if it's designated for an airport but we don't if it's designated as an extension.

Yes. We need permission to fly in any Class E surface areas.

Which statement is true regarding the red dot in the image above? *

The dot is located inside Class E surface area (designated for an airport). We need permission to fly there.

The dot is located far away enough from the airport that we don't need permission.

The dot is located inside Class E surface area (designated as an extension). We don't need permission to fly there.

Which statement is true regarding the highlighted area in the image above? *

That's Class E surface area. We need permission to fly there.

That's Class E surface area designated as an extension. We don't need permission to fly there.

Select all that apply regarding Class G Airspace *

Class G is uncontrolled airspace.

Class G starts at the ground and usually goes up to 700' AGL or 1200' AGL.

We don't need permission to fly in Class G airspace.

Class G (under 1200' AGL) is the only airspace where we can fly up to, but not in the clouds. *

True

False

Special Use Airspace

Permission is required.

Special Use Airspace is an area designated for operations of a nature such that limitations may be imposed on aircraft not participating in those operations. **Often these operations are of a military nature.**

Special use airspace includes: **restricted airspace, prohibited airspace, military operations areas (MOA), warning areas, alert areas, temporary flight restriction (TFR), national security areas, and controlled firing areas.**

Restricted Airspace

Restricted Areas are areas where flight is ***highly restricted***. They are usually restricted due to hazardous operations, like missile launches, air combat training, and artillery firing.

They may not always be “active”. You can check the times and altitudes on a sectional chart.

Restricted Areas have a blue hatched border and they’re labeled starting with the letter “R”. In this example, “R-4808N” is the highlighted Restricted Area.

Looking at the sectional chart for R-4808 N, S you can learn the following information:

- Restricted Area Number: R-4808 N
- Altitude (in MSL): Unlimited
- Time of use (in local): Continuous
- Controlling agency: Nellis Range Control
- Communication frequency: 126.65

Unlimited altitude and continuous time of use tell us that it’s not likely we would get permission to fly in this area.

Prohibited Airspace

Prohibited Areas are places where flight is **prohibited**. These areas are created for national security reasons, as well as to protect the environment. Here's the official definition from the FAA:

Prohibited areas contain airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft is prohibited. Such areas are established for security or other reasons associated with the national welfare. These areas are published in the Federal Register and are depicted on aeronautical charts.

The sectional chart will contain details of the Prohibited Area, including:

- prohibited area number
- altitude (MSL)
- time of use (in local)
- controlling agency
- communication frequency

When it comes to Prohibited Areas, **it's probably best to stay far away!** Stay at least 10 miles away and pay close attention to ensure you don't fly into one of these areas.

MOA – Military Operations Areas

With proper planning and communication, we can fly in MOAs. Beware of military traffic in these areas. We are SLOW and they are FAST!

MOAs have a hatched border just like restricted areas but instead of blue, they are magenta. MOAs also have a specific name. In the example below, “LEMOORE A MOA” is the highlighted MOA.

Military Training Routes

MTRs are depicted as thin, light gray lines on the sectional. Each has its own identification, and the identifier has two parts. “VR” means that pilots flying the training routes will be flying under visual flight rules. “IR” means the pilots will be flying under instrument flight rules (look out for these guys – they are looking down at their instrument panels). The second part of the identifier is either a three or a four-digit number. Four digits mean the route will be flown at or below 1500 feet AGL (a dangerous route for Paramotors). A three-digit number means the route will be flown above 1500 feet AGL.

Alert Area and Special Flight Rules Area (SFRA)

A special flight rules area (SFRA) is a region in which the normal regulations of flight do not apply. You’ll need to check on the sectional to see what the special rules are for that specific SFRA.

Alert Areas

Alert areas look like Restricted or Prohibited areas but they will say ALERT AREA instead. We can enter alert areas without prior permission. They will usually explain why they are alert areas.

Temporary Flight Restrictions (TFR)

TFRs can pop up with little or no notice. **It's important for you to check for TFRs every time you fly.** In the summer, wildfire TFRs are commonly established to protect aerial firefighting crews

You can check **tfr.faa.gov** or **skyvector.com** to see if there are any TFRs in your area.

Wildlife Areas

Wildlife and Wilderness Areas – Special conservation areas protect national parks, recreational areas, monuments, and other areas that paramotors should try to avoid. They are identified by a blue line with blue dots on the inside. The name of the wilderness area is usually listed in or near the area. **We are “requested” to maintain at least 2,000’ AGL above these areas.** *Paramotor pilots have received citations for flying too low in these areas.*

If you fly near a coastline you need to be aware of marine sanctuaries. NOAA regulated marine sanctuaries are identified with a magenta line, with magenta dots on the inside. Marine sanctuaries have a box near them that identifies the minimum altitude for overflight.

Quiz 6

It's OK to fly in restricted areas without asking for permission. *

True

False

We can look up the times, altitudes, and other relevant information for restricted areas in the sectional chart. *

True

False

Prohibited areas are more strict than restricted areas. *

True

False

Temporary Flight Restrictions (TFRs) can pop up with little or no notice. It's our responsibility to check before each flight. *

True

False

Since wilderness areas are only "requesting" us to stay above 2000' AGL, we would never get in trouble for flying low over these areas. *

True

False

Additional Resources

Hopefully, you feel a bit more confident about airspace for paramotoring. If you want to keep it simple...stick with G and E airspace and try to learn as much as you can about E. It's likely you'll never venture into those other airspaces. You are welcome to revisit this course at any time to get a refresher. Here are some additional resources for you:

Download/view the sectional charts

Directly from the FAA in PDF and other formats (Sectional charts are updated every 56 days)

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/vfr/

View the sectional charts in a style similar to Google Maps using [Skyvector.com](https://www.skyvector.com)

Purchase a physical copy of the sectionals here: <https://www.sportys.com/vfr-sectional-chart.html>

Download the FAA Aeronautical Chart Users Guide: https://aeronav.faa.gov/user_guide/20220714/cug-visual-edition.pdf

Learn more about airspace

Links to online articles:

[FAA – Pilot's Handbook of Aeronautical Knowledge \(Chapter 15\) Overview of airspace for ultralights – Lookout Mountain Flight Park](#)

[The 6 ABCs Of United States Airspace](#)

[Don't Fly Into These 12 Areas Without Permission](#)

[5 Unusual Airspace Areas You Should Know](#)