Pilot Manual

7- Legislation

ASSOCIATION of PARAGLIDING PILOTS and INSTRUCTORS

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Association of Paragliding Pilots and Instructors

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7.1 - Structuring of airspace

Important: Rules may vary according to countries, so it is very important before flying in a country you do not know, you learn about the rules in force in that country.

Important: Local site rules can override international or a country's rules, so for a new site that you do not know, you must check with a local paragliding school on the current rules for this site. Indeed, these may vary according to the environment, proximity to airport, or free flight activities allowed on this site.

The world's navigable airspace is divided into three-dimensional segments, each of which is assigned to a specific class. Most nations adhere to the classification specified by the **International Civil Aviation Organization (ICAO)** and described below, though they might use only some of the classes defined below, and significantly alter the exact rules and requirements. Similarly, individual nations may also designate Special Use Airspace with further rules for reasons of national security or safety (Source wikipedia).

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

The **International Civil Aviation Organization** (**ICAO**), is a specialized agency of the United Nations. It codifies the

principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth. Its headquarters are located in the Quartier International of Montreal, Quebec, Canada.

On March 12, 1990, ICAO adopted the current airspace classification scheme. The classes are fundamentally defined in terms of flight rules and interactions between aircraft and **Air Traffic Control** (**ATC**). Generally speaking, the ICAO airspaces allocate the responsibility for avoiding other aircraft, namely either to **ATC** (if separation is provided) or to the aircraft commander (if not).

Some key concepts are:

- **Separation:** Maintaining a specific minimum distance between an aircraft and another aircraft or terrain to avoid collisions, normally by requiring aircraft to fly at set levels or level bands, on set routes or in certain directions, or by controlling an aircraft's speed.
- **Clearance:** Permission given by ATC for an aircraft to proceed under certain conditions contained within the clearance.
- **Traffic Information:** Information given by ATC on the position and, if known, intentions of other aircraft likely to pose a hazard to flight.
- **Flight Rules:** Aircraft can operate under **Visual flight rules** (**VFR**) or **Instrument Flight Rules** (**IFR**). There is also an intermediate form, **Special visual flight rules (SVFR)**.
- **Visual flight rules (VFR)** are a set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. Specifically, the weather must be better than basic VFR weather minima, i.e. in visual meteorological conditions (VMC), as specified in the rules of the relevant aviation authority. The pilot must be able to operate the aircraft with visual reference to the ground, and by visually avoiding obstructions and other aircraft.
- **Instrument flight rules (IFR**) permit an aircraft to operate in instrument meteorological conditions (IMC) in contrast to VFR. They are also an integral part of flying in class A airspace.
- The ICAO definition of **Special visual flight rules (SVFR)** is a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below visual meteorological conditions.

ICAO adopted classifications:

Note: These are the ICAO definitions. Country specific adaptations exist (such as "two-way communications" instead of "clearance" for Class C in the US).

- **Class A:** All operations must be conducted under IFR. All aircraft are subject to ATC clearance. All flights are separated from each other by ATC.
- **Class B:** Operations may be conducted under IFR, SVFR, or VFR. All aircraft are subject to ATC clearance. All flights are separated from each other by ATC.
- **Class C:** Operations may be conducted under IFR, SVFR, or VFR. All aircraft are subject to ATC clearance (country specific variations notwithstanding). Aircraft operating under IFR and SVFR are separated from each other and from flights operating under VFR, but VFR flights are not separated from each other. Flights operating under VFR are given traffic information in respect of other VFR flights.
- **Class D:** Operations may be conducted under IFR, SVFR, or VFR. All flights are subject to ATC clearance (country specific variations notwithstanding). Aircraft operating under IFR and SVFR are separated from each other, and are given traffic information in respect of VFR flights. Flights operating under VFR are given traffic information in respect of all other flights.
- **Class E:** Operations may be conducted under IFR, SVFR, or VFR. Aircraft operating under IFR and SVFR are separated from each other, and are subject to ATC clearance. Flights under VFR are not subject to ATC clearance. As far as is practical, traffic information is given to all flights in respect of VFR flights.
- **Class F:** Operations may be conducted under IFR or VFR. ATC separation will be provided, so far as practical, to aircraft operating under IFR. Traffic Information may be given as far as is practical in respect of other flights.
- **Class G:** Operations may be conducted under IFR or VFR. ATC separation is not provided. Traffic Information may be given as far as is practical in respect of other flights.

Classes A–E are referred to as controlled airspace. Classes F and G are uncontrolled airspace.

The table below provides an overview of the above classes, and the specifications for each.

Class	Controlled	IFR	SVFR	VFR	ATC Clearance	Separation	Traffic Information
A	Controlled	Yes	No	No	Required	Provided for all flights	N/A
B	Controlled	Yes	Yes	Yes	Required	Provided for all flights	N/A
C	Controlled	Yes	Yes	Yes	Required	Provided for all IFR/SVFR	Provided for all VFR
D	Controlled	Yes	Yes	Yes	Required	Provided for IFR/SVFR to other FR/SVFR	Provided for all IFR and VFR
E	Controlled	Yes	Yes	Yes	Required for IFR and SVFR	Provided for IFR/SVFR to other IFR/SVFR	Provided for all IFR and VFR flights where possible
F	Uncontrolled	Yes	No	Yes	advisory only	Provided for IFR/SVFR to other IFR/SVFR where possible	Provided where possible if requested
G	Uncontrolled	Yes	No	Yes	Not provided	Not provided	Provided where possible, if requested

More information about the classes used in each country on wikipedia.

7.1.1 Controlled airspace

Controlled airspace is airspace of defined dimensions within which **ATC** (Air Traffic Control) services are provided. The level of control varies with different classes of airspace. Controlled airspace usually imposes higher weather minimums than are applicable in uncontrolled airspace. It is the opposite of uncontrolled airspace.

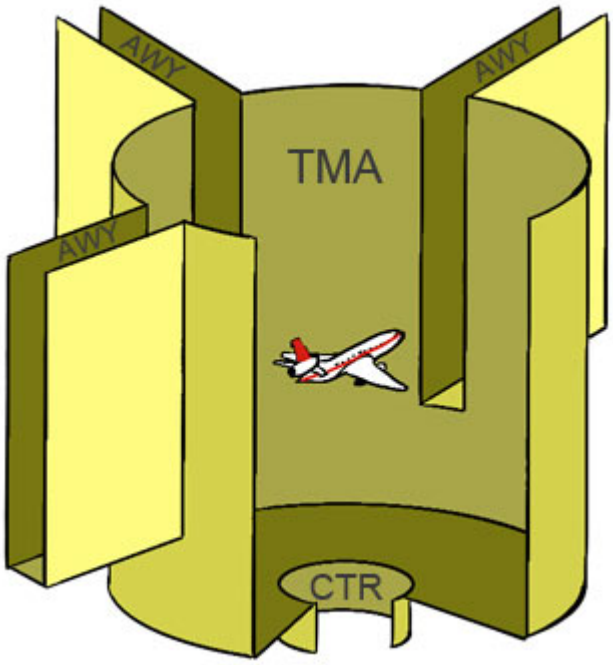
Controlled airspace is established mainly for three different reasons:

- high-volume air traffic areas, e.g. near airports
- IFR traffic under ATC guidance
- security, e.g. ADIZ

Controlled airspace usually exists in the immediate vicinity of busier airports, where aircraft used in commercial air transport flights are climbing out from or making an approach to the airport, or at higher levels where air transport flights would tend to cruise. Some countries also provide controlled airspace almost generally, however in most countries it is common to provide uncontrolled airspace in areas where significant air transport or military activity is not expected.

Controlled airspace is classes A to E, in order of decreasing ATC regulation of flights. Flight under instrument flight rules (IFR) is allowed in all controlled airspace (some countries also permit IFR in uncontrolled airspace); flight under visual flight rules (VFR) is permitted in all airspace except class A.

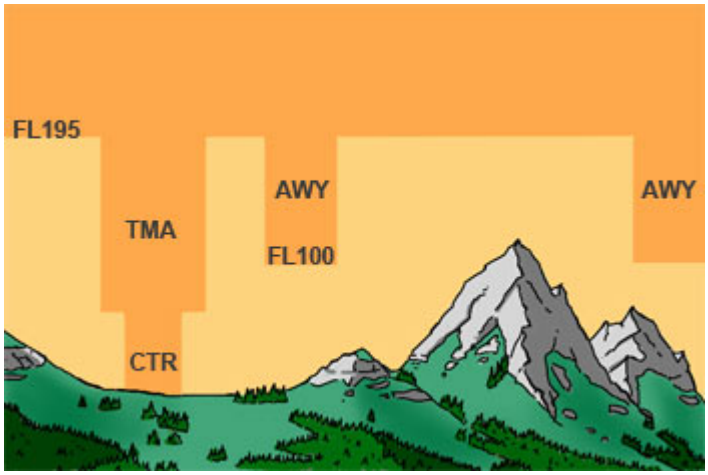
Figure 5-1: Airway (AWY), Terminal Manoeuvring Area (TMA) or Terminal Control Area (TCA) and Control Traffic Region (CTR). *The Control traffic Region CTR extend around an airport from the ground to a determined height. The surface and the height of these areas are defined on aeronautical charts. Above for airports of a certain size, there is the Terminal Manoeuvring Area whose volume is also defined on aeronautical charts. It is here that meet the airway, the upper limit is very often at flight level 195 (FL 195 = around 5950 m / sea).*



- **Class C airspace (CHARLY)**

- Flights only allowed with radio equipment and transponder (radar echo amplifier) and authorization of competent air traffic control service (ATC clearance)
- IFR and VFR traffic (Visual flight rules, which includes paragliders)

Figure 5-2: Class C airspace
This example includes:
- The entire air space above flight level FL195
- Some areas of the air space above flight level FL100
- The Terminal Control Areas and the Control Traffic Region



- **Class D airspace (DELTA)**
  - Flights only allowed with radio equipment and authorization of competent air traffic control service (ATC clearance)
  - IFR and VFR traffic (Visual flight rules, which includes paragliders)

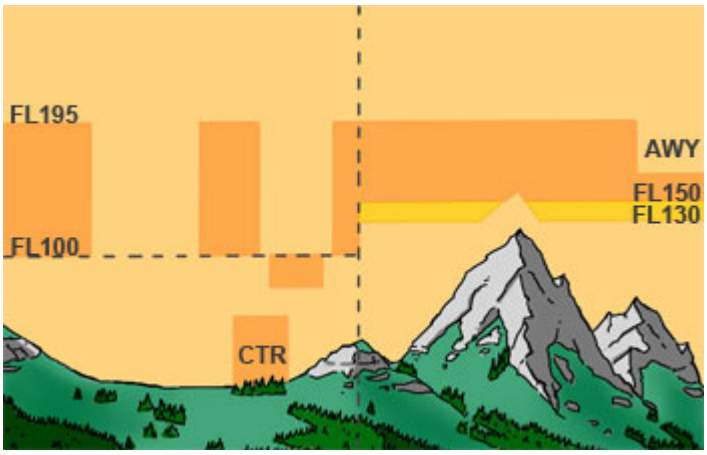
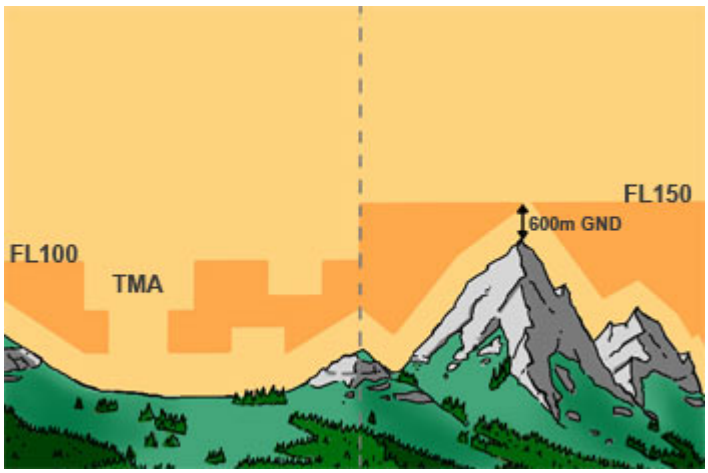


Figure 5-3: Class D airspace
This example includes:
- Inside the mountainous region, the entire air space between flight levels FL130 (or FL150) and FL195 (3950m - 5950m) except AWY and TMA which are part of the C space
- Outside the mountainous region, parts of the airspace (AWY) between flight levels FL100 and FL195 (3050m - 5950m) including CTR and TMA

- **Class E airspace (ECHO)**
  - Flights authorized considering the distance from cloud, as well as the limitation of visibility. This latter is generally 5 kilometers to flight level FL100 and 8 km between flight levels FL100 and FL115 (3050m - 3500m).

Figure 5-4: Class E airspace
This example includes:
- Inside the mountainous region, the entire air space between 600m GND and the flight level FL115 except CTR, AWY and TMA which are part of the C or D space.
- Outside the mountainous region, the entire air space between 600m GND and the flight level FL115 except CTR, AWY and TMA which are part of the C or D space.



7.1.2 Uncontrolled airspace

Uncontrolled airspace is airspace where an Air Traffic Control (ATC) service is not deemed necessary or cannot be provided for practical reasons. According to the airspace classes set by ICAO, class G airspace is uncontrolled. It is the

opposite of controlled airspace.

However ATC may provide basic information services in uncontrolled airspace to aircraft in radio contact. Flight in uncontrolled airspace will typically be under VFR. Aircraft operating under IFR should not expect separation from other traffic: however in certain uncontrolled airspace this might be provided on an 'as far as is practical' advisory basis.

Classe G is uncontrolled area, which means that it can fly without radio guidance.

- **Class G airspace (GOLF)**
  - Flights authorized, taking consideration the distance from cloud and the limitation of visibility. This latter is usually 1.5 kilometers and continuous view of the ground.

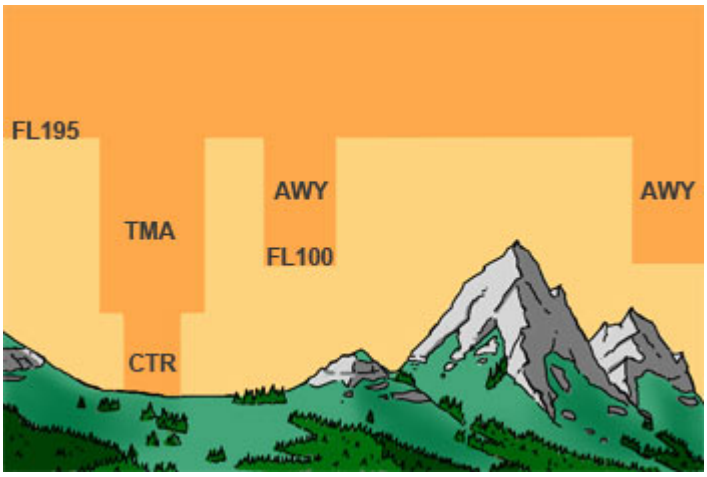


Figure 5-5: Class G airspace
This example includes:
- The entire air space between the ground and 600m GND except CTR and TMA which are part of the C or D space and a radius of 5 kilometers around aerodromes and 2.5 kilometers around heliports.

7.1.3 Limitation of airspace

Regardless of the structure of the uncontrolled airspace, there are areas where the traffic is subject to restrictions. The duration and extent of these areas can vary. There is 3 types:

- **Restricted areas**
  These are areas in which an aeronautical activity can be done according to a special regulation (eg near airports where you have to respect certain altitudes).
- **Prohibited areas**
  These are areas whose duration is limited and in which any unspecified aviation activity is prohibited (for example at meeting).
- **Hazardous areas**
  These are areas in which an aeronautical activity is dangerous by the presence of other aircraft or gliders in large numbers. May be distinguished three:
  - **Free flight areas**
    Outside the hours of military flight, the minima of vertical and horizontal distances from cloud are reduced for for all kinds of gliders.
  - **Flying area in the clouds**
    Temporarily defined area in which the pilots of glider equipped and trained for this purpose may fly in the clouds (which is normally forbidden for paragliders)
  - **Military zones**

7.2 - Flight rules

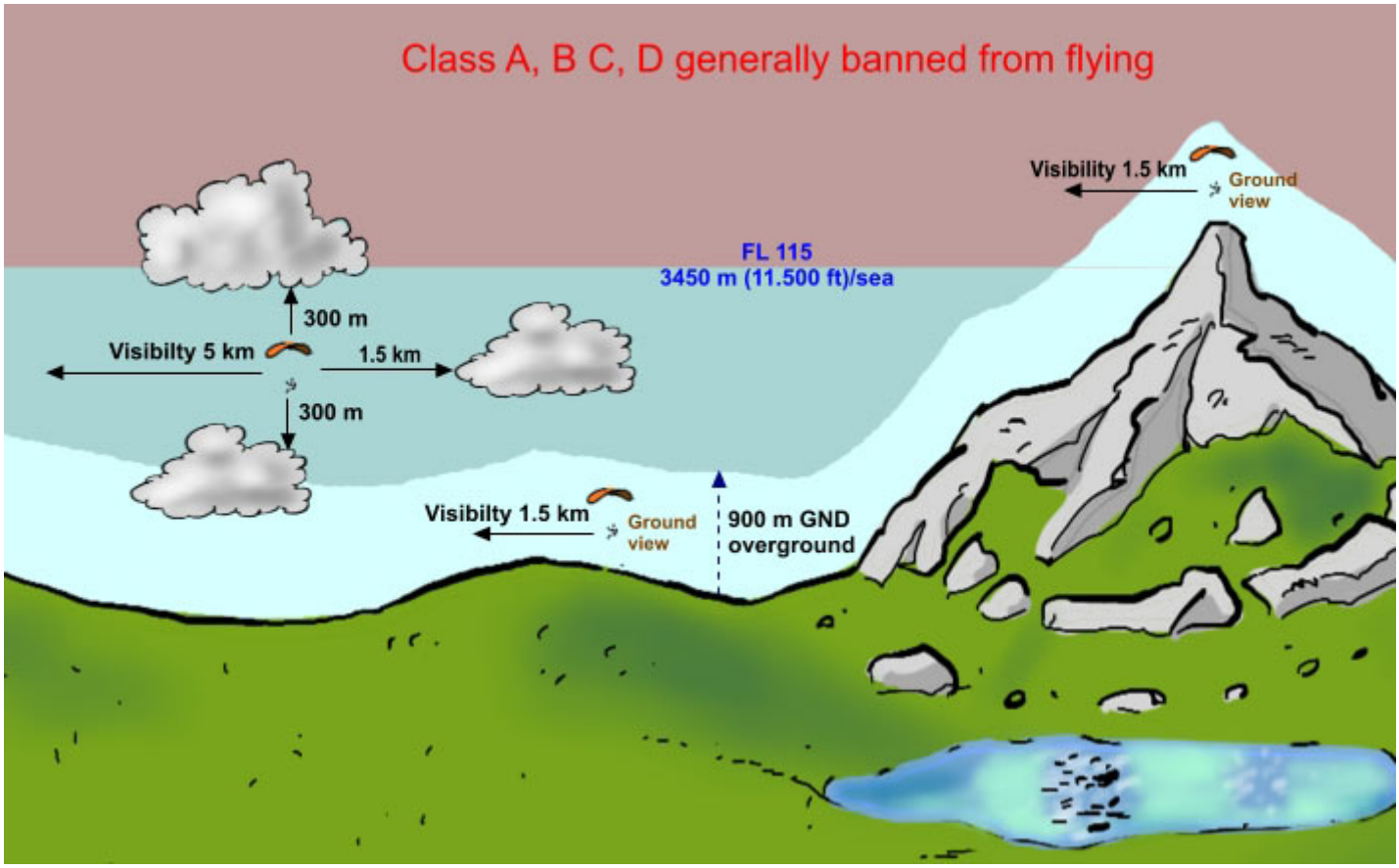
Free flight such paragliding is regulated by the rules of VFR (visual flight rules).

7.2.1 Visual flight rules VFR

Minima of horizontal visibility as well as clearances from clouds fluctuate depending on the altitude (relative to sea level) or height (from the ground) of flight and airspace which the pilot operates.
From the ground to a distance of 900 meters (FL30), the pilot must have a horizontal visibilty of 1.5 km and permanent view of the ground.
Beyond 900 meters, it must meet a lateral distance from clouds of 1.5 km and vertical distance of 300 meters. Otherwise

the lateral distance of visibility must be 5 km.
In free flight areas, the minima can be reduced to 100 meters laterally and 50 meters vertically.

Figure 5-6: minima of visibility and distance from clouds to respect into space E and G, within and outside area free flight.



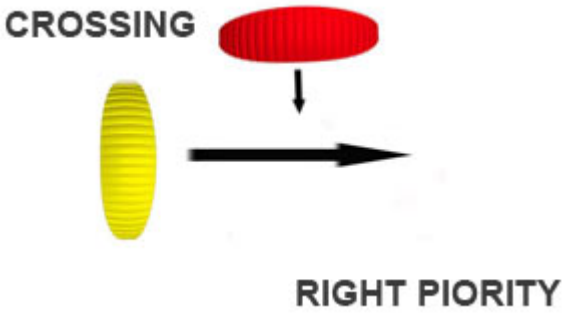
7.2.2 Rules Priorities in flight

Important: **Remember that safety is your first rule, staying aloft comes after.**

Pilots not taking their right-of-way will confuse others.

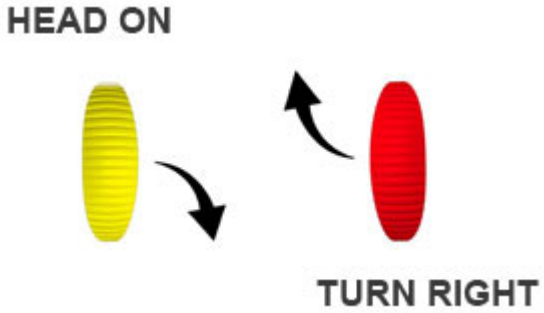
Pilots thermalling near a ridge: In most countries, ridge soaring rules typically prevails over courtesy to thermalling pilots.

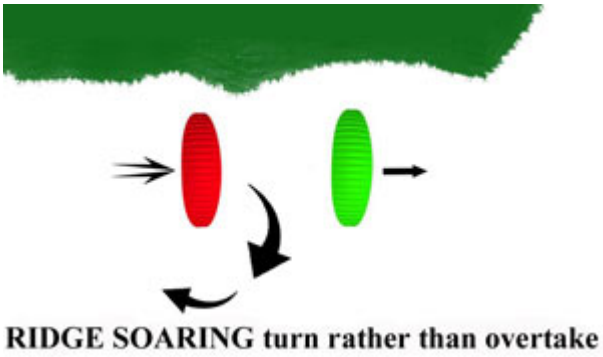
Figures 5-7: Flight rules in free space.
1st rule: AVOID COLLISION!



Crossovers: *priority to the right*

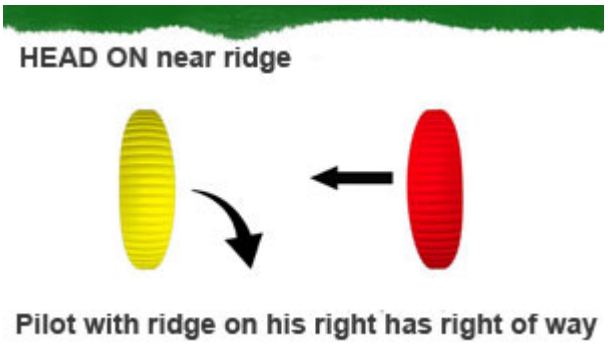
Coming face to face: *avoidance by the right, which means that whoever the slope on the left gives priority by shifting to the right until the other has passed*

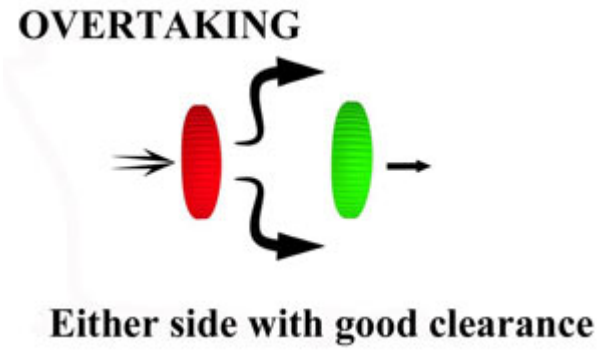




Ridge soaring: *turn rather than overtake*

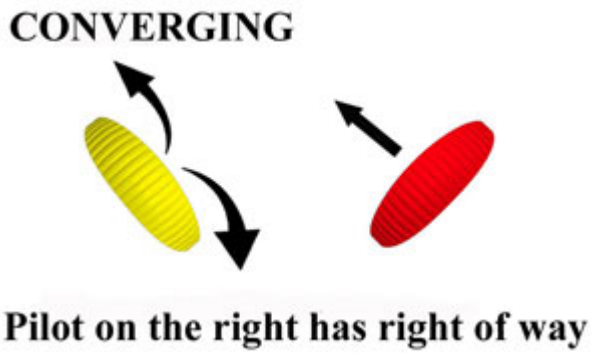
Head on near ridge: *Pilot with ridge in his right has priority*





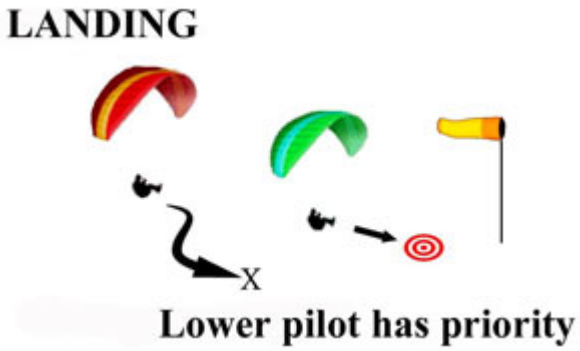
Overtaking: *either side, left or right, with good clearance*

Converging: *Pilot on the right has priority*



Thermalling: *Turn in the same direction as upper pilot.*
Upon entry into the thermal, the pilots already installed should not be disturbed.
When overtaking, the pilot mounts the faster must enlarge its circles and overtake from outside.

Landing: *Lower pilot has priority*



Priority rules

In air law, there are several categories of aircraft which is a priority based on its avoidance possibilities. The craft less maneuvering will always have priority over the more maneuvering. Hang gliders, paragliders and sailplanes are as defined in the regulations at the same level, among them, the most powerful gives priority. **In all cases you must give way to an aircraft in distress**. Non-compliance with rules of air traffic is only allowed if security reasons dictate.

Reference rules in force in some countries

Country	Link
USA	USHPA Part 100 basic safety recommendations
Europe	Aerial collision avoidance rules in Europe
Switzerland	FSVL - Air rules
France	Aviation regulations applicable to free flight
Italy	Guide for visiting pilots
Germany	Rules

7.3 - The paragliding license

In some countries, a license and/or an insurance is required to fly autonomously. In all cases, a pilot must inquire in a local school to meet legal requirements.

In some countries, APPI is recognized as the official education system, and therefore allows you to fly with your APPI license (if a license is required).

APPI certification awarded to a pilot is internal to the APPI system, and shows no particular right in the country where the activity is done, unless APPI is recognized by the legal authority managing free flight in that country. Check with the local federation if such an agreement exists.

In all cases, your paragliding activity (solo, tandem, instruction) must comply with the laws of the country in which it is performed.

7.3.1 APPI theoretical examination

The APPI theoretical examination should be performed under the supervision of an APPI instructor.

Any member affiliated APPI has access to theoretical exams online, and must train to the examination on the APPI website.

More than 800 questions are online, and are subdivided into 6 categories: Aerodynamic, Meteorology, Legislation, Equipment, Flight practice and Tandem flight.

Any affiliated APPI instructor can print exam questions for students.

7.3.2 APPI practical examination

The APPI practical examination should be performed under the supervision of an APPI instructor.
It should be done once the theory test successfully completed.

7.3.3 APPI license by equivalence

I you are already a confirmed pilot or instructor, in some conditions you can get your APPI license by equivalence.

Check which federations allow you APPI equivalence.

Should your issuing federation not qualify for equivalence, you will need to be validated by an APPI Instructor.

7.3.4 Insurance

APPI strongly recommends its members to be insured to paraglide, and in case of an accident, APPI does not accept any liability.
All EU Schools and EU tandem pilots must hold Third Party Liability Insurance.