

## Airspace Classification

### INTRODUCTION

IFALPA has been made aware that flight crews may sometimes not be aware of the classification of the airspace through which they are operating. This BL is being published as a refresher and reminder to be vigilant as to what separation and service is being provided at any given time.

ICAO defines Airspaces into several categories: A, B, C, D, E, F, G. Within these airspaces different requirements exist in relation to what kind of flights are allowed within the airspace (IFR, IFR +VFR, VFR), separation between IFR/IFR IFR/VFR, VFR/VFR, mandatory usage of radio and transponder, maximum speed.

Separation by ATC is only applicable to IFR flights and all other traffic (IFR, VFR) within class A, B, and C airspace. In Class D airspace, separation is provided between IFR traffic, while only a traffic information service is provided for VFR traffic; therefore, there is no separation between IFR/VFR traffic, but traffic avoidance advise is available on request. Current IFALPA Policy is to keep commercial air traffic within these airspaces at all times to ensure separation is provided.

Pilots should be aware that, according to current ICAO and national/regional regulations, commercial air traffic may be routed as IFR traffic through less protected airspaces of class E, F, and G airspace. Information about the current airspace in which a commercial aircraft is flying will often be difficult to determine to the pilots unless national/regional regulation require that ATC transmits this information.

**In Class E, F, and G airspace, ATC is not required to separate commercial air traffic from VFR traffic.** Depending on the mandatory carriage for Transponder (like Transponder Mandatory zones or national/regional requirements to switch on the transponder) and whether a Flight plan for VFR flights has to be submitted or not, ATC will often not know the VFR traffic operating in these airspaces. Therefore, **see-and-avoid** applies to all (commercial air traffic and other IFR and VFR traffic).

### AIRSPACE REQUIREMENTS

Class G airspace is uncontrolled airspace. Neither IFR nor VFR traffic will be separated, traffic information might be given but is not standard. Pilots are required to be extremely vigilant, limit airspeed as much as possible, and use see-and-avoid techniques very carefully to avoid a mid-air collision.

General limits on indicated airspeed within class G airspace is 250kts.

Class F and E airspace is controlled airspace, however, there is no separation between IFR and VFR traffic. Air traffic operating under VFR is not required to carry and use a transponder and continuous radio contact with the Air Traffic Service is not required unless national/regional regulations require it.

As VFR traffic may occur at any time within this airspace, pilots should pay extreme attention to see-and-avoid collision avoidance and limit airspeed to minimum speed possible to increase reaction time upon recognition of VFR traffic.

General limit on indicated airspeed within class E and F airspace is 250kts.

## ATS AIRSPACE CLASSES - SERVICES PROVIDED AND FLIGHT REQUIREMENTS

As per ICAO Annex 11.

Class	Type of flight	Separation provided	Service provided	Speed limitation*	Radio communication requirement	Subject to an ATC clearance
<b>A</b>	IFR only	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
<b>B</b>	IFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	All aircraft	Air traffic control service	Not applicable	Continuous two-way	Yes
<b>C</b>	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	1) Air traffic control service for separation from IFR; 2) VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
<b>D</b>	IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	Nil	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
<b>E</b>	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	Nil	Traffic information as far as practical	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No
<b>F</b>	IFR	IFR from IFR as far as practical	Air traffic advisory service; flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No
<b>G</b>	IFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No

\* When the height of the transition altitude is lower than 3 050 m (10 000 ft) AMSL, FL 100 should be used in lieu of 10 000 ft.

## A REMINDER THAT THE “RIGHT OF WAY” APPLIES IN ALL AIRSPACE

ICAO Annex 2, 3.2.2 states:

“the aircraft that has the right-of-way shall maintain its heading and speed.

3.2.2.1 An aircraft that is obliged by the following rules to keep out of the way of another shall avoid passing over, under or in front of the other, unless it passes well clear and takes into account the effect of aircraft wake turbulence.

3.2.2.2 Approaching head-on. When two aircraft are approaching head-on or approximately so and there is danger of collision, each shall alter its heading to the right.

3.2.2.3 Converging. When two aircraft are converging at approximately the same level, the aircraft that has the other on its right shall give way, except as follows:

- a) power-driven heavier-than-air aircraft shall give way to airships, gliders and balloons;
- b) airships shall give way to gliders and balloons;
- c) gliders shall give way to balloons;
- d) power-driven aircraft shall give way to aircraft which are seen to be towing other aircraft or objects.”

## HOW DO PILOTS KNOW WHICH AIRSPACE THEY ARE FLYING IN?

Do not assume that the airspace structure you are used to in your home country will be applied worldwide. ICAO provides the definition for the different airspace only. It does not provide any guidance of which class of airspace should be used.

The national or regional regulator can then choose which airspace of the 7 they will use for their country. For example, airways may be class A airspace, or even class G airspace. CTRs and TMAs may be from class A to G. In some countries, airways may be class A airspace, the area outside of the airway might be class G airspace. Thus, accepting or requesting a direct routing that leads outside of the defined airway may put you into class G airspace.

Operating across national borders can also mean crossing airspace classed as High Seas where varying classes of airspace are applied. There is also an issue with areas where military operations are allowed but the air navigation service provider may not be aware of the specific details.

A crucial issue is that some states do not, or rarely, publish the airspace structure in their national AIP. That is not according to the ICAO standard, but it exists.

As most commercial pilots do not have access to the AIP but get their information from Database providers, they may not be able to obtain any information about the airspace structure of a certain country.

## RECOMMENDATIONS TO PILOTS

- Always be aware of the airspace in which you are flying. As mentioned above, it is hard, even for database providers that forward the information to you, to find the information about the airspace. Consult the glossary of your company’s provider where you may find the airspace information. Information may not be depicted on every chart; it might also be depicted very faintly, i.e. grey on white background. This can be true for both printed and e-charts.
- When in doubt, clarify the class of airspace in which you are flying with the Air Traffic Controller.
- Limit time within class G, E, and F airspace to the absolute minimum necessary. If possible, descend or climb at maximum angle and minimum speed through these airspaces.

- If your minimum clean speed is higher than 250kts, be aware that in many countries (all European countries), depending on the airspace class in which you are flying, the Air Traffic Controller is not allowed to grant exceptions. Use Flaps or Slats to limit speed to less than 250kts.
- Use see-and-avoid technique extremely carefully and be aware that small aircraft might appear very late to you.
- Be aware of local hotspots like towering clouds (gliders often use these clouds to gain altitude in the rising air below these clouds), or small airfields and assume traffic is there even if you do not see this traffic.
- **Do not rely on your TCAS or other surveillance capabilities of your aircraft!** Non-commercial, VFR traffic, or all smaller sorts of traffic like gliders, parachutes, etc., are often not required to carry transponders and are therefore invisible to your surveillance capabilities and your TCAS.

## CONCLUSION

Even today with all the technology on board the aircraft, it is not easy to know which airspace you are flying in.

Consider these three things:

**S**eparation provided?

**S**ervice provided?

**S**peed limitation?

Check your NAV data Service provider or your Company where you can find this information.

Flights within class G, E and F airspace significantly increase the risk of mid-air collision and significantly increase the workload of pilots. Requirements on surveillance techniques are very different within class G, E and F airspace, brief task distribution and head-up versus head-down duties thoroughly before entering airspace of these classes.

Speed limits apply, further reduction of speed and usage of landing lights to enhance visibility is highly recommended.

Even if all recommendations to mitigate risk within class G, F and E airspace are followed, the risk of mid-air collision is still significantly higher compared to class A, B, C and D airspace. Therefore, try to limit exposure to these airspaces to the absolute minimum extent necessary and obey best practises published by organisations and your airline.

Pay close attention to available charts as well as National Rules and Regulations to always know in which airspace you are operating.