

Course Introduction

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What Is VFR?

What is the acronym VFR? The answer is Visual Flight Rules. The FAA, or Federal Aviation Administration, under the Department of Transportation, is the federal entity that regulates all of aviation. To operate an aircraft without having to meet requirements to fly in the clouds, (IFR or Instrument Flight Rules) the aircraft must be flown under Visual Flight Rules. An aircraft has to be flown under either VFR or IFR, but never both at the same time.

The Need for Communication Skills

As aviation has developed from the early barnstorming days, the need for communications, and particularly radio communications, has increased right along with it. One of the basic purposes of communications is to help separate aircraft on the ground and in the air. Some of the greatest air disasters are attributed to just a few words of misunderstood communication.

Communication in flying has many forms. Airport and runway markings can provide vital information. Operation of a rotating beacon at an airport during the day can indicate that the weather is too bad for VFR operations. Calling a toll free telephone number, a pilot can obtain a flight briefing from an Automated Flight Service Station. The internet can be used to download all kinds of information, and to file flight plans and obtain weather briefings.

The conventional AM (amplitude modulation) Very High Frequency (VHF) transmitter/receiver radios are used to talk to Air Traffic Control (ATC) facilities, such as control towers or Air Route Traffic Control Centers (ARTCCs) handling en route IFR traffic and limited VFR traffic. A transponder is a transmitter receiver device that replies to a ground radar interrogation signal. A special code is sent to the ground radar facility (called a "squawking a transponder code") to positively identify your aircraft and its position, altitude, and speed. Global Positioning System (GPS) navigation receivers communicate with multiple satellites, and in some cases, with ground based units to provide extra accuracy in landing in foggy weather.

The Need for Standardization

The international language for aviation is English, however, without a standardized set of terminology, a common syntax or order format, and a common airspace system, safety could still not be achieved. For this reason the FAA has developed the Pilot/Controller Glossary and the Aeronautical Information Manual to supplement Part 91 General Flight Operations Regulations.

The FAA has investigated flight operations at control towered airports to develop improved safety procedures and education to reduce or eliminate runway incidents and accidents, including those with communication errors. The FAA has found that in some cases, there are serious communications problems and a great lack of understanding of proper procedures by even experienced pilots flying jet aircraft.

The Need for Accuracy

Many times, just one word can change the whole meaning of a phrase that can lead to a disaster. If your instructor said to “take off power,” does that mean to reduce power to idle, or does that mean to advance the power to full takeoff maximum power setting? The control tower tells you to taxi to a particular runway. Can you cross an intersecting runway? What if you have to cross the runway, the same runway you will be taking off on, during the taxi? What if there is an aircraft with a tail number or call sign of 1245D, and another nearby that has a call sign of 2245D. Will the wrong aircraft pull out to an active runway where another aircraft is landing?

Seeing and Avoiding

Unfortunately, most of the airspace regulations and associated communications procedures were developed only after some very significant air disasters, such as an airliner colliding with a training aircraft. Airspace is constructed and rules and procedures written to correct these safety areas.

There is a common misconception that many people have first getting into aviation, and that is that the extent of Air Traffic Control in separating traffic. Most of the flying done in the U.S. is in airspace where there is no requirement for radio communications and where there is no separation provided by radar. Therefore, the majority of your flying, and even when flying Instrument Flight Rules (IFR), requires you to see and avoid other traffic, some of which may not even be required to even have a radio onboard the aircraft.

The only time aircraft are totally separated is flying in Class A airspace above 18,000' Mean Sea Level (MSL). In this airspace you are only permitted to fly Instrument Flight Rules (IFR). So, if you do not have an instrument rating, you must stay below 18,000'. The other total control situation is when you are flying into a large Class B airport like Chicago O'Hare or Atlanta. You can fly either VFR or IFR in Class B, but you must have a clearance and are under total control with radar separation.

Let us stop here a minute and consider one important point. To have total radar separation of traffic, each aircraft must be participating or communicating, and they must each have a clearance.

At airports with a control tower, the pilots still have to see and avoid, but they are required to communicate and get permission or clearance to land or takeoff, or whatever other activity they want to do. At airports without a tower, you don't even have to have a radio, but I would recommend that you make appropriate position reports for other pilots who may be flying near you. The frequency used for this purpose is called the Common Traffic Advisory Frequency (CTAF). By now you can see that there are many acronyms in aviation!