



FAR Part 91

NEXT

Visual Flight Rules



Instrument Flight Rules



Knowledge of Federal Aviation Regulations that govern Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) provides the ATC Specialist with the understanding of what a pilot is expected to do in given situations.

LEARN MORE

Pilots flying under VFR operate differently than pilots flying under IFR. As a controller, you need to know these differences because you will handle them differently. Also, if you don't know the differences in the rules, you could give an incorrect or inappropriate control instruction to a pilot.



Purpose

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This lesson introduces selected provisions of flight rules pertaining to aircraft operations and pilot responsibilities. You will also become familiar with supplemental oxygen requirements.



Objectives

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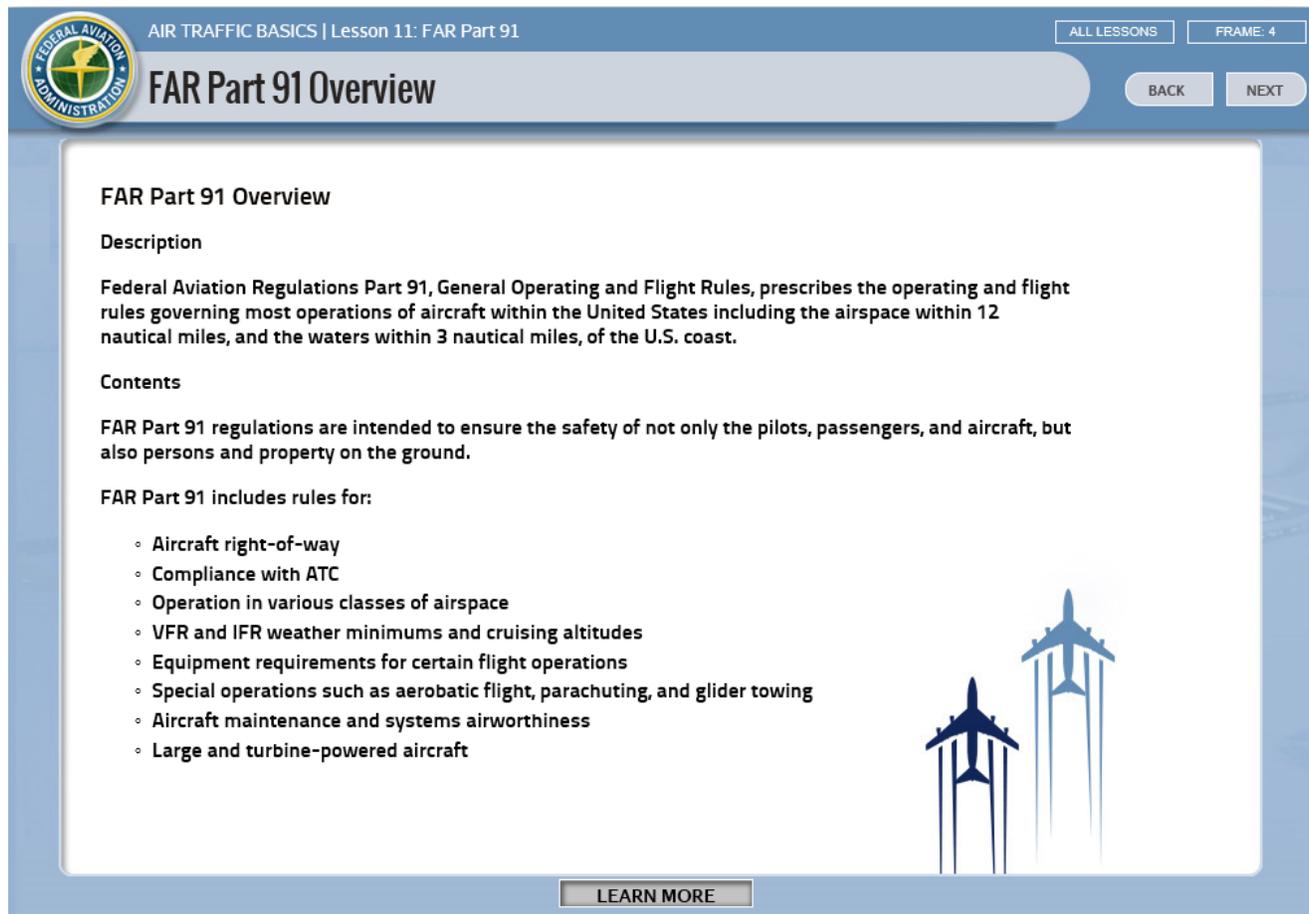
In this lesson, you will identify selected provisions of VFR and IFR flight rules concerning:

1. Flight plans
2. Aircraft operations
3. Pilot's responsibilities
4. Supplemental oxygen requirements

You will meet the objectives in accordance with the following references:

- Federal Aviation Regulations (FAR) Part 91, General Operating and Flight Rules
- Aeronautical Information Manual (AIM)
- FAA Order JO 7110.65, Air Traffic Control





The screenshot shows a web page titled "FAR Part 91 Overview" from the "Air Traffic Basics" course. The page features the Federal Aviation Administration logo in the top left corner. The main content area is titled "FAR Part 91 Overview" and includes a "Description" section stating that FAR Part 91 prescribes operating and flight rules for aircraft within 12 nautical miles of the U.S. coast. It also includes a "Contents" section with a list of topics covered by FAR Part 91, such as right-of-way, ATC compliance, and various classes of airspace. A "LEARN MORE" button is located at the bottom of the content area. The page also has navigation buttons for "ALL LESSONS", "FRAME: 4", "BACK", and "NEXT".

FAR Part 91 Overview

Description

Federal Aviation Regulations Part 91, General Operating and Flight Rules, prescribes the operating and flight rules governing most operations of aircraft within the United States including the airspace within 12 nautical miles, and the waters within 3 nautical miles, of the U.S. coast.

Contents

FAR Part 91 regulations are intended to ensure the safety of not only the pilots, passengers, and aircraft, but also persons and property on the ground.

FAR Part 91 includes rules for:

- Aircraft right-of-way
- Compliance with ATC
- Operation in various classes of airspace
- VFR and IFR weather minimums and cruising altitudes
- Equipment requirements for certain flight operations
- Special operations such as aerobatic flight, parachuting, and glider towing
- Aircraft maintenance and systems airworthiness
- Large and turbine-powered aircraft

[LEARN MORE](#)

Applicability

All aircraft are subject to FAR Part 91. In addition, if an aircraft is being used for hire or commercial purposes, other parts of the FARs also apply.

- Air taxi - Parts 91 and 135
- Scheduled airlines - Parts 91 and 121

All flight operations are subject to Part 91 rules and regulations regardless of flight plan status (IFR, VFR, Defense Visual Flight Rules [DVFR], and no flight plan).



Flight Plans

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Flight Plan Definition

A flight plan is specified information related to the intended flight of an aircraft.

JO 7110.65, Pilot/Controller Glossary

| | | | | | | | |
|--|----------------------------|--|---|--------------------|--|---------------------|----------------------|
| U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION | | (FAA USE ONLY) <input type="checkbox"/> PILOT BRIEFING <input type="checkbox"/> VNR | | TIME STARTED | | SPECIALIST INITIALS | |
| FLIGHT PLAN | | | | | | | |
| 1. TYPE | 2. AIRCRAFT IDENTIFICATION | 3. AIRCRAFT TYPE/SPECIAL EQUIPMENT | 4. TRUE AIRSPEED KTS | 5. DEPARTURE POINT | 6. DEPARTURE TIME PROPOSED (Z) ACTUAL (Z) | | 7. CRUISING ALTITUDE |
| VFR | | | | | | | |
| IFR | | | | | | | |
| DVFR | | | | | | | |
| 8. ROUTE OF FLIGHT | | | | | | | |
| 9. DESTINATION (Name of airport and city) | | 10. EST. TIME ENROUTE HOURS MINUTES | 11. REMARKS | | | | |
| | | | | | | | |
| 12. FUEL ON BOARD HOURS MINUTES | | 13. ALTERNATE AIRPORT(S) | 14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME BASE | | | 15. NUMBER ABOARD | |
| | | | | | | | |
| | | | 17. DESTINATION CONTACT/TELEPHONE (OPTIONAL) | | | | |
| | | | | | | | |
| 16. COLOR OF AIRCRAFT | | CIVIL AIRCRAFT PILOTS, FAR 91 requires you to file an IFR flight plan to operate under Instrument Flight Rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans. | | | | | |
| | | | | | | | |



Flight Plans

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Purpose

Flight plans are submitted for the purpose of obtaining air traffic services.

- Flight plans allow air traffic facilities to provide better services.
- The contents of flight plans provide necessary information for search and rescue operations.

AIM, Chap. 5





Flight Plans

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Types of Flight Plans

There are three types of domestic flight plans:

- IFR
- VFR
- DVFR

All flight plans are used for search and rescue purposes.





Flight Plans

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Instrument Flight Rules (IFR)

For IFR flight plans:

- Flight is conducted in accordance with IFR.
 - IFR are rules that govern the procedures for instrument flight.
 - Under IFR, ATC is responsible for separation.
- Filing a flight plan is required if IFR weather conditions exist:
 - Prior to departure from within controlled airspace
 - Prior to entering controlled airspace

NOTE: Generally, IFR weather conditions exist when the cloud ceiling is below 1,000 feet AGL or the visibility is below 3 statute miles.

- IFR flight plans provide basic information for issuing ATC clearance.
- When a flight plan has been activated, the pilot in command, upon canceling or completing the flight, is responsible for canceling the flight plan except:
 - The flight plan is automatically cancelled when the aircraft lands at an airport with an operational control tower.

AIM, Chap. 5

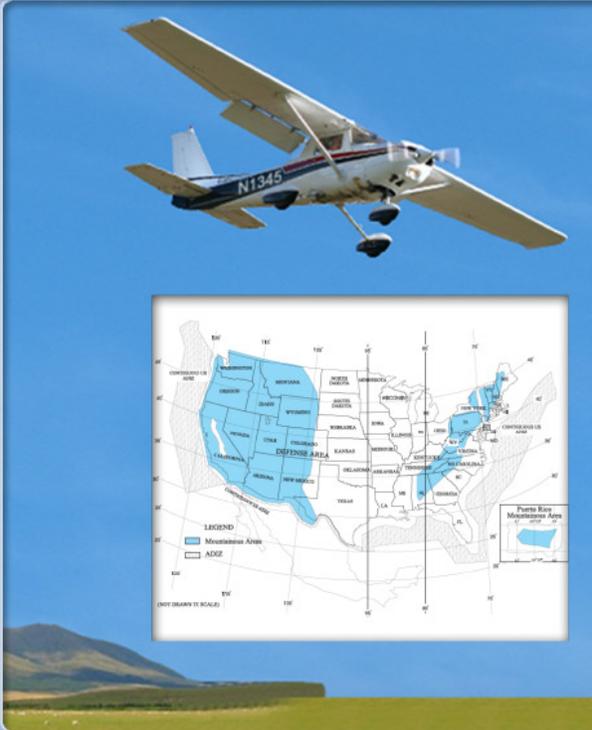




Flight Plans

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Visual Flight Rules (VFR)

For VFR flight plans:

- Flight is conducted in accordance with VFR.
 - VFR are rules that govern the procedures for conducting flight under visual conditions ("See and be seen").
 - Under VFR, pilots are responsible for separation.
 - VFR flight may be conducted only when the weather is at or above VFR minimums.

NOTE: Generally, VFR weather minimums are considered to exist when the cloud ceiling is at or above 1,000 feet AGL and the visibility is at or above 3 statute miles.

- Filing a VFR flight plan is not mandatory, except when operating in or penetrating an Air Defense Identification Zone (ADIZ) or Distant Early Warning Identification Zone (DEWIZ) but is strongly encouraged.
- The pilot is responsible for closing the flight plan.

The primary reason for filing a VFR flight plan is for search and rescue.

AIM, Chap. 5; FAR 91.153, FAR 91.155



Flight Plans

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Defense Visual Flight Rules (DVFR)

DVFR flight will be conducted in accordance with the special requirements of FAR Part 99.

For DVFR flight plans:

- Filing is required:
 - For VFR flights into a coastal or domestic ADIZ/DEWIZ
 - For security reasons
 - Prior to departure (within the Alaskan ADIZ, may file immediately after takeoff if not able to file prior to departure due to lack of communications)
- The pilot is responsible for closing a DVFR flight plan.

AIM, Chap. 5





Flight Plans

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Filing Flight Plans

A flight plan may be filed:

- Verbally or in writing
- With an Automated Flight Service Station (AFSS) or an ATC facility
- Electronically via personal computer, Direct User Access Terminal System (DUATS)

JO 7110.65, Pilot/Controller Glossary, AIM, Chap. 5



VFR Flight Plans

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VFR Flight Plan Requirements

VFR flight plan required information includes:

- Type of flight plan
- Aircraft identification
- Aircraft type
- True airspeed
- Departure point
- Departure time
- Cruising altitude
- Route of flight
- Destination
- Estimated time en route
- Fuel on board (in time)
- Pilot's name, contact information
- Number on board
- Any other information the pilot feels is necessary

| 1. TYPE | | 2. AIRCRAFT IDENTIFICATION | | 3. AIRCRAFT TYPE/SPECIAL EQUIPMENT | | 4. TRUE AIRSPEED | | 5. DEPARTURE POINT | | 6. DEPARTURE TIME | | 7. CRUISING ALTITUDE | |
|--|--|--|--|------------------------------------|--|------------------|--|---|--|-----------------------|--|----------------------|--|
| VFR | | N4632C | | PA30/A | | 180 KTS | | OKC | | 0800 | | 075 | |
| 8. ROUTE OF FLIGHT OKC-TUL | | | | | | | | | | | | | |
| 9. DESTINATION (Name of airport and city) | | | | | | | | | | 10. EST. TIME ENROUTE | | 11. REMARKS | |
| TUL | | | | | | | | | | 1 HOUR 00 MINUTES | | No Oxygen | |
| 12. FUEL ON BOARD | | | | 13. ALTERNATE AIRPORT(S) | | | | 14. PILOT'S NAME, ADDRESS & TELEPHONE NUMBER, & AIRMAIL LICENSE, IF ANY | | | | 15. NUMBER ONBOARD | |
| 3 30 | | | | | | | | Dana Skelly 555-3564 | | | | 2 | |
| 16. COLOR OF AIRCRAFT | | 17. DESTINATION CONTACT TELEPHONE (OPTIONAL) | | | | | | | | | | | |
| Black | | Dana Skelly 555-3564 | | | | | | | | | | | |
| <small>CIVIL AIRCRAFT PILOTS, FAR 91 requires you to file an IFR flight plan to operate under instrument. Flight Rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1000 for each violation (Section 90.1 of the Federal Aviation Act of 1958, as amended). Filing a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning DVFR flight plans.</small> | | | | | | | | | | | | | |
| FAA FORM 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH _____ FSS ON ARRIVAL | | | | | | | | | | | | | |

FAR 91.153



VFR Flight Plans

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Flight Plan Cancellation/Closure

When a VFR flight plan has been activated, the pilot in command shall notify an AFSS or ATC facility:

- When the aircraft arrives at the destination

AIM, Chap. 5

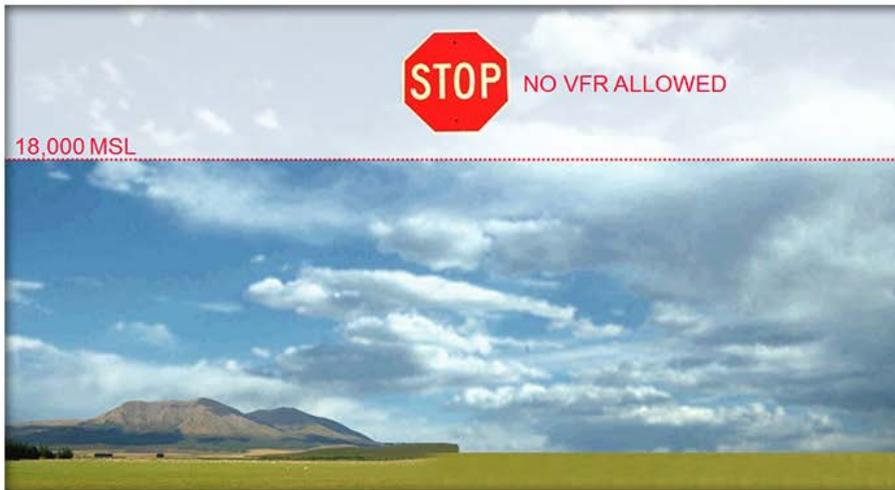




Basic VFR Weather Minima

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Class A Airspace

No person may operate an aircraft under VFR flight rules in Class A airspace.

FAR 91.155



Basic VFR Weather Minima

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Basic VFR Weather Minima

No person may operate an aircraft under VFR flight rules in classes B, C, D, and E unless the following VFR weather minima are met as outlined in the next few pages.

FAR 91.155

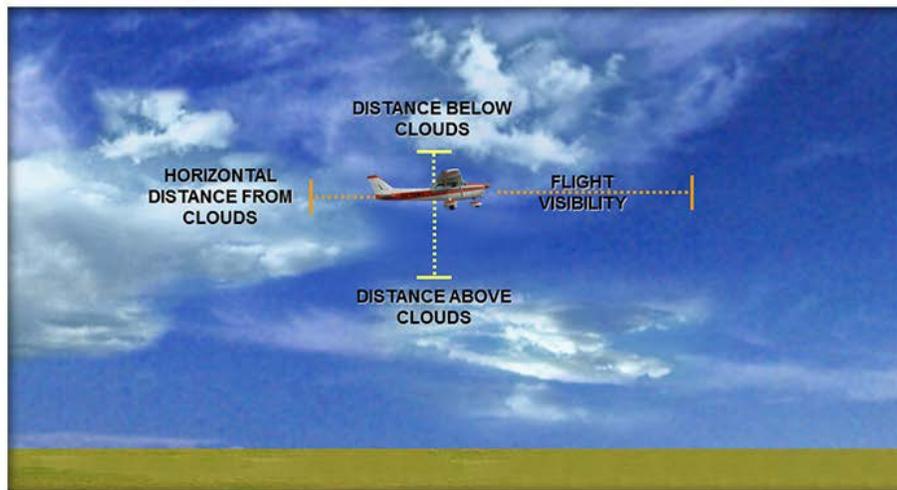




Basic VFR Weather Minima

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Minimum Cloud Clearance

Except Class A, each class of airspace has VFR cloud clearance requirements stated in distance above, below and horizontally from the aircraft and forward flight visibility.

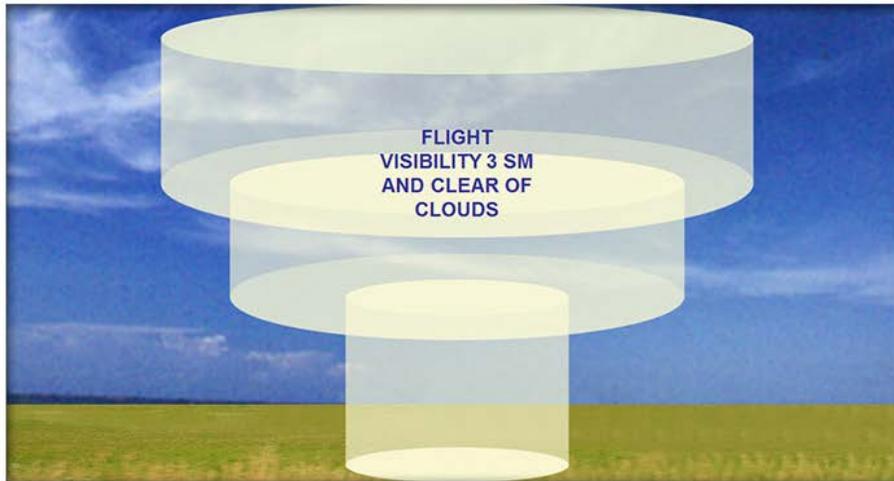
FAR 91.155



Basic VFR Weather Minima

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Class B Airspace

In Class B airspace, the pilot must only stay clear of clouds and see three statute miles.

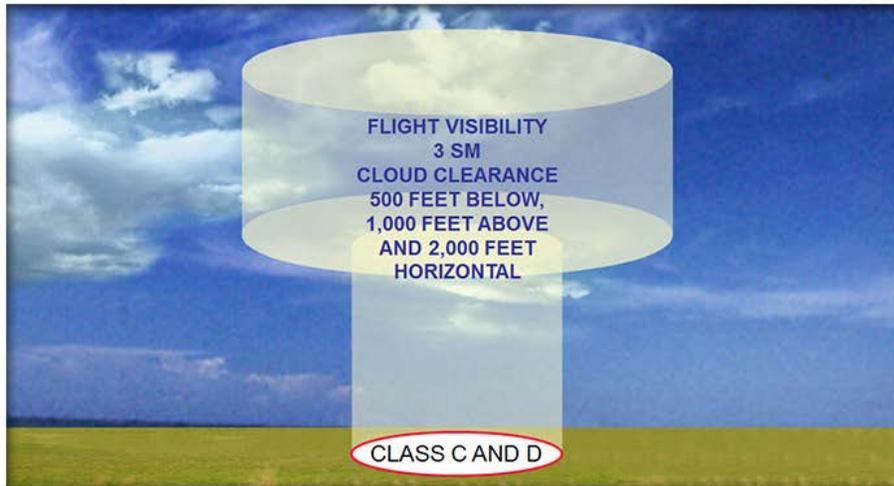
- This distance is due to the fact that in Class B airspace, ATC is required to provide separation, even from VFRs.



Basic VFR Weather Minima

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Class C and D Weather Minima

In Class C and Class D, the pilot must stay at least 2,000 feet laterally from the clouds and see three SM.

- In Class C and Class D, a VFR aircraft must communicate with ATC, but ATC is not required to provide separation between VFR aircraft.

FAR 91.155



Basic VFR Weather Minima

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Class E Weather Minima

Flight visibility and cloud clearance requirements for Class E airspace differ according to the aircraft's altitude.

- For Class E below 10,000 MSL:
 - Visibility must be at least 3SM
 - Aircraft must stay at least:
 - 500 feet below clouds
 - 1,000 feet above clouds
 - 2,000 feet horizontally from clouds
- For Class E at or above 10,000 MSL
 - Visibility must be at least 5SM
 - Aircraft must stay at least:
 - 1,000 feet below clouds
 - 1,000 feet above clouds
 - 1SM horizontally from clouds



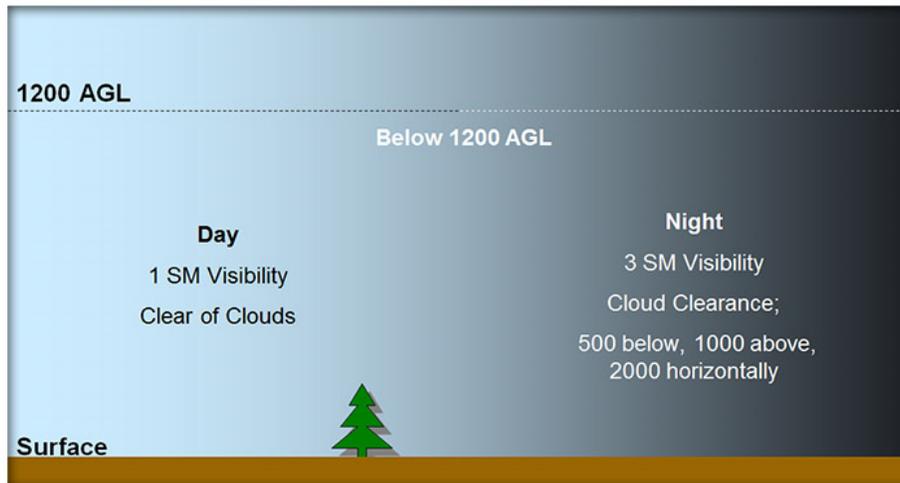
FAR 91.155



Basic VFR Weather Minima

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Class G Weather Minima

Flight visibility and cloud clearance requirements for Class G airspace differ according to altitude and day/night operation.

- Below 1,200 feet AGL, an aircraft must only remain clear of clouds and maintain 1SM visibility (500 feet below, 1,000 feet above, 2,000 feet horizontally, and 3SM at night).

FAR 91.155, FAR 71.71



Basic VFR Weather Minima

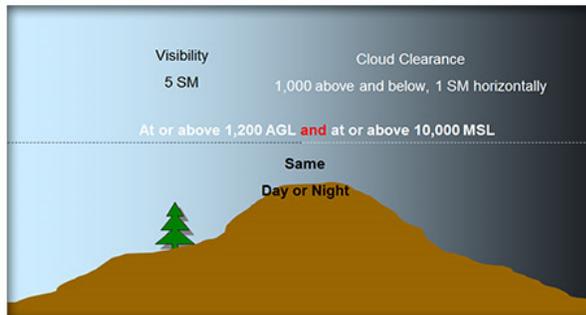
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Class G Weather Minima

- At or above 1,200 feet AGL and below 10,000 MSL, cloud clearance requirements are the same as those for Class E below 10,000 MSL, but the visibility minimum is 1SM (3SM at night).
- At or above 1,200 feet AGL and at or above 10,000 MSL, visibility and cloud clearance requirements are the same as those for Class E above 10,000 MSL.

FAR 91.155, FAR 71.71





Special VFR Flight Rules

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Special VFR Conditions Definition

Special VFR conditions are meteorological conditions that are less than those required for basic VFR flight in Class B, C, D, and E surface areas and in which some aircraft are permitted flight under visual flight rules.

JO 7110.65, Pilot/Controller Glossary





Special VFR Flight Rules

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Special VFR Operations Definition

Special VFR operations pertain to aircraft operating in accordance with clearances within Class B, C, D, and E surface areas in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

JO 7110.65, Pilot/Controller Glossary





Special VFR Flight Rules

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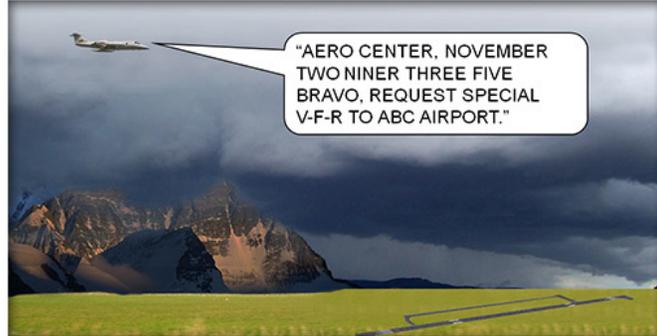
Special Visual Flight Rules (SVFR)

Special Visual Flight Rules (SVFR) operations:

- Must be requested by the pilot
- Are not filed as a written flight plan, but the controller does issue a clearance
- SVFR clearance is automatically cancelled when:
 - Aircraft lands
 - or
 - Aircraft leaves the surface area

NOTE: SVFR is designed to help pilots land and depart in marginal weather.

AIM, Chap. 4





Special VFR Flight Rules

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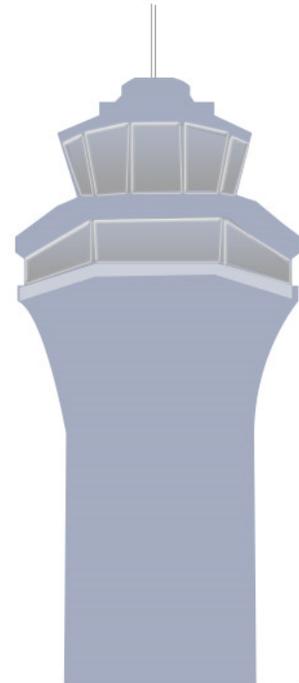
NEXT

Special VFR Operations

Special VFR operations may only be conducted:

- Below 10,000 feet MSL in Class B, C, D, and E surface areas
- With an ATC clearance
- Clear of clouds
- When flight visibility is at least 1SM (except helicopters, which is less than 1SM visibility)
- Between sunrise and sunset (except helicopters) unless:
 - Pilot is IFR rated and
 - Aircraft is equipped for instrument flight

JO 7110.65, Chap. 4 FAR 91.157





Special VFR Flight Rules

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Phraseology Example

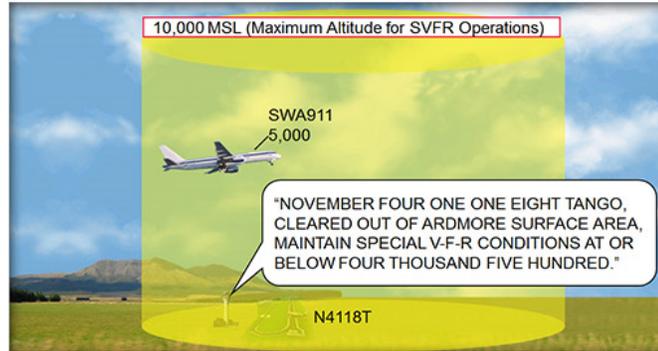
Special VFR Operations

Phraseology

No person may take off or land an aircraft (excluding helicopters) under Special VFR:

- Unless surface visibility is at least 1SM
 - If surface visibility is not reported, flight visibility is at least 1SM

JO 7110.65, Chap. 7, FAR 91.157



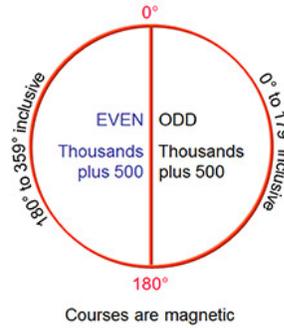


Special VFR Flight Rules

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Under Visual Flight Rules (VFR)
more than 3,000 feet above
the surface
VFR ALTITUDES
Below 18,000 feet



VFR Altitudes

VFR aircraft in level cruising flight above 3,000 feet above the surface, up to but not including 18,000 feet MSL shall maintain the following altitudes:

- On a magnetic course of 000 degrees through 179 degrees
 - Odd altitude plus 500 feet (e.g., 3,500, 9,500)
- On a magnetic course of 180 degrees through 359 degrees
 - Even altitude plus 500 feet (e.g., 4,500, 10,500)

FAR 91.159

FEDERAL AVIATION ADMINISTRATION AIR TRAFFIC BASICS | Lesson 11: FAR Part 91

ALL LESSONS FRAME: 28

VFR-on-top Flight Rules

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VFR-on-top

Pilots may request an IFR clearance to climb through the clouds to VFR conditions "on top" of the cloud layer, and once cleared to "maintain VFR-on-top," may then choose and change altitudes at will, after notifying ATC.

VFR-on-top is an IFR clearance to operate in VFR conditions at any appropriate VFR altitude (below 18,000 MSL).

- Pilot must request VFR-on-top
- Pilot must remain on the route issued by ATC, but the assigned altitude is "VFR-on-top"
- Altitude may be subject to ATC restriction
- Minimum IFR altitudes must be observed



LEARN MORE

An aircraft VFR-on-top may not fly through clouds.

- Pilot must comply with VFR visibility and cloud clearance criteria.
- Pilot is responsible for separation from other aircraft, except:
 - Class B, Class C, and Terminal Radar Service Area (TRSA) require the controller to apply separation minimums
 - Traffic advisories and safety alerts continue to be provided by ATC
- Pilot must comply with IFR rules applicable to the flight (e.g., adherence to ATC clearances).

A VFR-on-top clearance allows pilots the flexibility to choose their own altitude and still have the assurance of obtaining a descent clearance through the clouds when approaching their destination.

References:

- JO 7110.65, Chap.7, Pilot/Controller Glossary
- AIM, Chap. 5



IFR Flight Rules

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ATC Clearance and IFR Flight Plan

No person may operate an aircraft in controlled airspace under IFR unless that person has:

- Filed an IFR flight plan
- Received an appropriate ATC clearance

Phraseology

After the pilot files the flight plan, the controller issues a clearance.

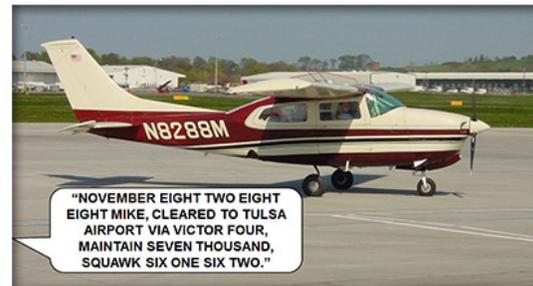
IFR aircraft landing at civil airports use standard instrument approach procedures prescribed for that airport.

- Military aircraft may have minimums different than civil aircraft.

FAR 91.173, 91.175

| | | | | | | |
|---|---|---|--------------------------------|----------------------------------|---|------------------------------------|
| U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION | | (FAA USE ONLY) <input type="checkbox"/> PILOT BRIEFING <input type="checkbox"/> VNR | | TIME STARTED | SPECIALIST INITIALS | |
| FLIGHT PLAN | | | | | | |
| 1. TYPE <input checked="" type="checkbox"/> IFR <input type="checkbox"/> VFR | 2. AIRCRAFT IDENTIFICATION N6017Q | 3. AIRCRAFT TYPE/SPECIAL EQUIPMENT P28A/A | 4. TRUE AIRSPEED 110 | 5. DEPARTURE POINT OKC | 6. DEPARTURE TIME PROPOSED (Z) / ACTUAL (Z) 2140 | 7. CRUISING ALTITUDE 070 |
| 8. ROUTE OF FLIGHT OKC V4 TUL | | | | | | |
| 9. DESTINATION (Name of airport and city) TUL | | 10. EST. TIME ENROUTE (HOURS) / (MINUTES) 1 / 18 | 11. REMARKS | | | |
| 12. LEVEL (FLIGHTS) / (FOOTAGE) 3 / 30 | 13. ALTERNATE AIRPORT(S) MLC | 14. PILOT(S) NAME, ADDRESS & TELEPHONE NUMBER & AIRCRAFT HOME PORT Jones, H W Main, OKC 405-681-5555, OKC | | 15. NUMBER ABOARD 2 | | |
| 16. COLOR OF AIRCRAFT WHITE | | 17. DESTINATION CONTACT TELEPHONE (OPTIONAL) | | | | |
| 18. CIVIL AIRCRAFT PILOTS: FAR 91 requires you to file an IFR flight plan to operate under instrument flight rules in controlled airspace. Failure to file could result in a civil penalty not to exceed \$1000 for each violation (Section 901 of the Federal Aviation Act of 1958, as amended). Filing of a VFR flight plan is recommended as a good operating practice. See also Part 99 for requirements concerning IFR flight plans. | | | | | | |
| FAA FORM 7233-1 (8-82) CLOSE VFR FLIGHT PLAN WITH _____ | | | | FSS ON ARRIVAL _____ | | |

Phraseology Example





IFR Flight Rules

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Landing Minimums

There may be no IFR landings if visibility is less than minimum visibility prescribed for the approach.

FAR 91.175



IFR Flight Rules

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Takeoff Minimums

Takeoff minimums at civil airports apply to revenue flights only, such as air taxi, air carrier, etc.

- Non-revenue flights may depart in "zero-zero" (i.e., ceiling zero, visibility zero) conditions, if they wish.

Standard takeoff minimums for revenue flights are:

- For aircraft having two engines or less:
 - 1 SM visibility is required
- For aircraft having more than two engines:
 - 1/2 SM visibility is required

More or less restrictive minimums have been established for some airports.

- The non-standard minima can be found in the Flight Information Publications (FLIPs).

FAR 91.175





IFR Flight Rules

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Minimum En Route IFR Altitude (MEA) Definition

Minimum En Route IFR Altitudes (MEA) is the lowest published altitude between radio fixes which assures acceptable navigational signal coverage and meets obstacle clearance requirements between these fixes.

JO 7110.65, Pilot/Controller Glossary



IFR Flight Rules

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Minimum Obstruction Clearance Altitude (MOCA) Definition

Minimum Obstruction Clearance Altitude (MOCA) is the lowest published altitude in effect between radio fixes on VOR airways, off airway routes or route segments which meet obstacle clearance requirements for the entire route segment and assures acceptable navigational signal coverage only within 25 SM (22 nautical miles) of a VOR.

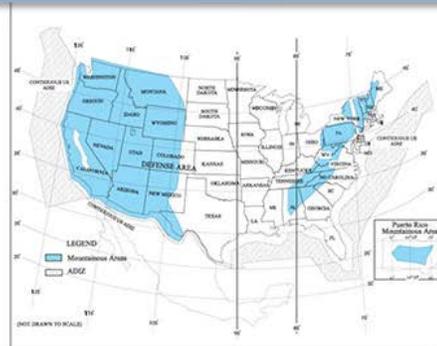
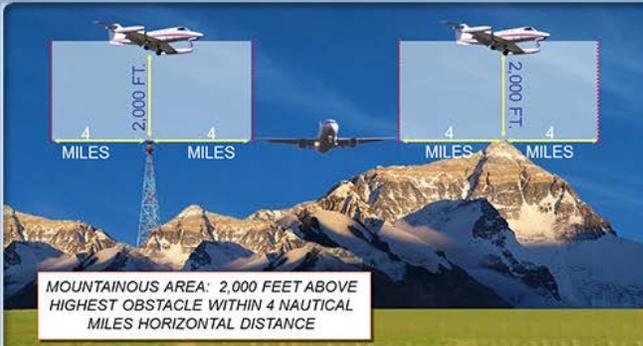
JO 7110.65, Pilot/Controller Glossary



IFR Flight Rules

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Minimum Altitudes for IFR Operations

No person may operate an aircraft on IFR below applicable minimum altitudes:

- Unless taking off or landing

Operations in areas where no MEA or MOCA is prescribed:

- Areas designated as mountainous:
 - Altitude 2,000 feet above highest obstacle within horizontal distance of 4NM

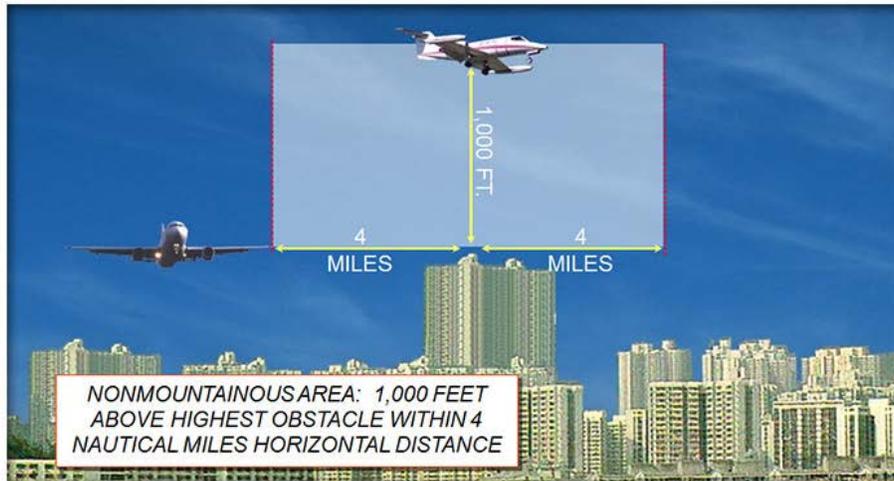
FAR 91.177



IFR Flight Rules

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Minimum Altitudes for IFR Operations

- Areas designated as non-mountainous:
 - Altitude 1,000 feet above highest obstacle within horizontal distance of 4NM

FAR 91.177



IFR Flight Rules

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IFR Cruising Altitude or Flight Level

Each person operating an aircraft IFR in controlled airspace shall:

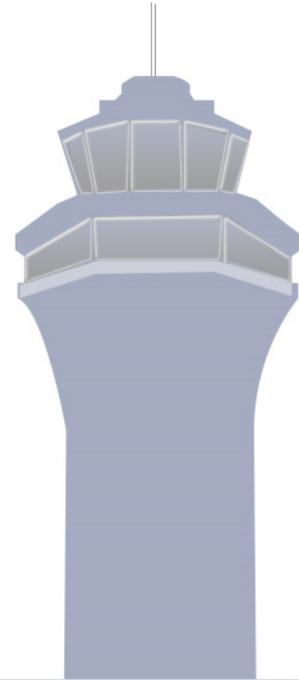
- Maintain altitude or flight level assigned by ATC

IFR aircraft are assigned cardinal altitudes below 18,000 MSL (in thousands of feet above sea level) or in flight levels at or above FL180.

Below 18,000 feet MSL:

- On a magnetic course of 000 through 179 degrees
 - Any odd thousand-foot MSL altitude (e.g., 3,000, 5,000, or 7,000)
- On a magnetic course of 180 through 359 degrees
 - Any even thousand-foot MSL altitude (e.g., 2,000, 4,000, or 6,000)

FAR 91.179





IFR Flight Rules

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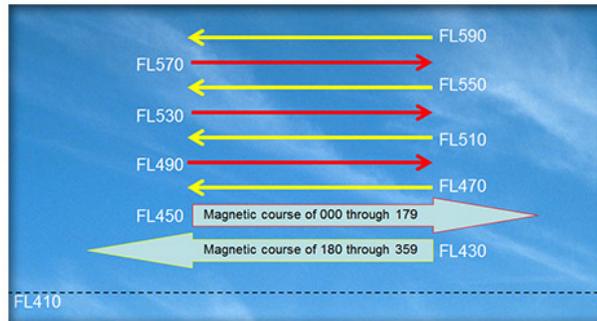
IFR Cruising Altitude or Flight Level

FL180 up to and including FL410:

- On a magnetic course of 000 through 179 degrees
 - Any odd flight level (e.g., 190, 270, or 390)
- On a magnetic course of 180 through 359 degrees
 - Any even flight level (e.g., 200, 320, or 400)

Above FL410:

- On a magnetic course of 000 through 179 degrees
 - Any flight level, at 4,000-foot intervals, beginning at FL450 (e.g., 490, 530, or 570)
- On a magnetic course of 180 through 359 degrees
 - Any flight level, at 4,000-foot intervals, beginning at FL430 (e.g., 470, 510, or 550)



FAR 91.179



IFR Flight Rules

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Phraseology Example



IFR Communications

Phraseology

In controlled airspace, each IFR aircraft shall:

- Maintain continuous listening watch on appropriate frequency
- Report passing each designated reporting point
 - When under radar control, pilots do not report any fix unless requested by ATC.

FAR 91.183



IFR Flight Rules

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IFR Communications

Phraseology

Pilots shall also report the following information:

- Weather conditions encountered that were not forecasted
- Any information related to safety of flight

FAR 91.183

Phraseology Example





IFR Flight Rules

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IFR Two-Way Radio Failure

Pilots of aircraft experiencing two-way radio communications failure ("NORDO") while operating under IFR are expected to follow specific procedures.

- If the radio failure occurs in VFR weather conditions, or if VFR conditions are encountered after the failure, the pilot shall remain in VFR conditions and land as soon as practicable.

FAR 91.185



IFR Flight Rules

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IFR Two-Way Radio Failure

- If the radio failure occurs in IFR weather conditions, the pilot shall follow procedures pertaining to three clearance items:
 - Route
 - Altitude
 - Clearance limit

FAR 91.185



IFR Flight Rules

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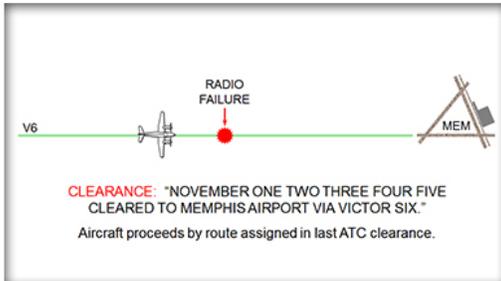
NEXT

Routes

The pilot shall comply with one of the following four applicable route requirements:

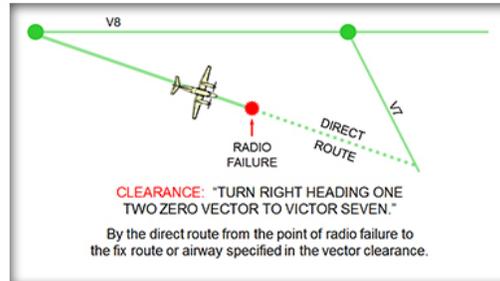
Phraseology Examples:

IFR RADIO COMMUNICATIONS FAILURE
Pilot Actions in IFR Conditions



If ATC has assigned a route, the pilot shall proceed by the route assigned in the last ATC clearance received.

IFR RADIO COMMUNICATIONS FAILURE
Pilot Actions in IFR Conditions



If the aircraft is being radar vectored, the pilot shall proceed by the direct route from the point of radio failure to the fix, route, or airway specified in the vector clearance.

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IFR Flight Rules

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**IFR RADIO COMMUNICATIONS FAILURE
Pilot Actions in IFR Conditions**

CLEARANCE: "NOVEMBER FOUR FIVE ZULU CLEARED TO MALTS INTERSECTION VIA VICTOR FOUR, EXPECT FURTHER CLEARANCE VIA VICTOR EIGHT PRYOR VICTOR SIX MEMPHIS."

Aircraft proceeds via route ATC has advised may be expected in a further clearance.

Phraseology Example

- If ATC has not yet assigned a route, but has told the pilot to expect a certain route, the pilot shall proceed by the route ATC advised may be expected in a further clearance.

NOTE: Expect Further Clearance (EFC) refers to the time a pilot can expect to receive clearance beyond a clearance limit.

- If no route has been assigned and ATC has not told the pilot to expect a certain route, the pilot shall proceed via the route filed in the flight plan.



IFR Flight Rules

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Altitudes

The pilot will fly at the highest of the following three altitudes or flight levels for the route segment being flown, as shown on this and the next page:

Phraseology Examples



The altitude or flight level assigned in the last ATC clearance received

FAR 91.185



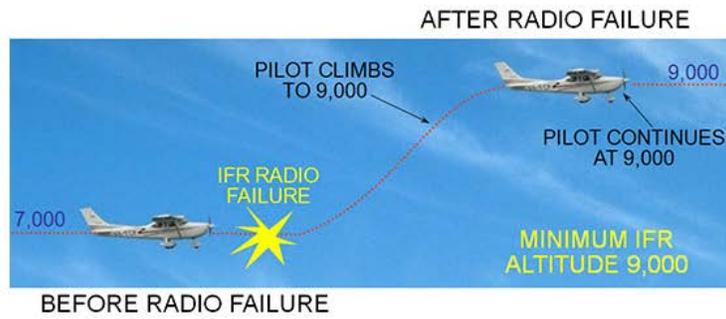
The altitude or flight level ATC advised may be expected in a further clearance



IFR Flight Rules

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Altitudes

- The minimum altitude or flight level for IFR operations along the aircraft's route segment being flown

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Clearance Limit

A clearance limit is the fix, point, or location to which an aircraft is cleared when issued an air traffic clearance.

- When the clearance limit is the fix from which the approach begins:
 - If an EFC time has been received:
 - The pilot shall leave the clearance limit to begin the approach as close as possible to the EFC
 - If an EFC has not been received:
 - The pilot shall leave the clearance limit to begin the approach as close as possible to the Estimated Time of Arrival (ETA)
- When the clearance limit is not the fix from which the approach begins:
 - If an EFC has been received:
 - The pilot shall leave the clearance limit as close as possible to the EFC
 - If an EFC has not been received:
 - The pilot shall leave the clearance limit so as to arrive over the approach fix for the destination airport in order to commence the approach as close as possible to the ETA

JO 7110.65, Pilot/Controller Glossary





Supplemental Oxygen Requirements

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General

No person may operate an unpressurized civil aircraft of U.S. registry unless:

- At altitudes above 12,500 MSL up to and including 14,000 MSL
 - Pilot uses supplemental oxygen after 30 minutes of the flight
- At altitudes above 14,000 MSL
 - Pilot uses supplemental oxygen the entire flight
- At altitudes above 15,000 MSL
 - All occupants of the airplane are provided with supplemental oxygen

FAR 91.211





Conclusion

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Lesson Summary



This lesson covered:

- FAR Part 91 Overview
- Flight Plans
- VFR Flight Plans
- Basic VFR Weather Minima
- Special VFR Flight Rules
- VFR-on-top Flight Rules
- IFR Flight Rules
- Supplemental Oxygen Requirements

