

55054001 EN ROUTE RADAR ASSOCIATE CONTROLLER TRAINING PART A: BASIC CONCEPTS

Lesson 13: Special VFR Operations

Version: 1.0 2022.08

INSTRUCTOR LESSON PLAN



LESSON PLAN DATA SHEET

Course Name	En Route Radar Associate Controller Training Part A: Basic Concepts		
Course Number	55054001		
Lesson Title	Special VFR Operations		
Duration	1 hour (includes lesson, and ELT)		
Version	1.0 2022.08		
Reference(s)	JO 7110.65, Air Traffic Control; AIM, Aeronautical Information Manual; 14 CFR Part 91, General Operating and Flight Rules; 14 CFR 121.649, Takeoff and landing weather minimums: VFR: Domestic operations		
Prerequisites	NONE		
Handout(s)	NONE		
Exercise / Activity	NONE		
Scenarios	NONE		
Assessments	● YES - Written (Refer to ELT01_L13, print prior to class)		
Materials and Equipment	Pencil and/or pen		
Other Pertinent Information	Ensure lesson materials are downloaded to the classroom computer		
	Appendix: Airports Where SVFR Is Prohibited		
	 Course eLMS 60004948, Special VFR Flight Rules or current course, is available as supplemental training for this lesson 		
	⊙ This lesson is based on ERAM EAE410		
	 The lesson has been reviewed and reflects current orders and manuals as of April 2022. 		

As you prep for this lesson, recall and be prepared to talk about examples and personal experiences that illustrate or explain the teaching points in the lesson.

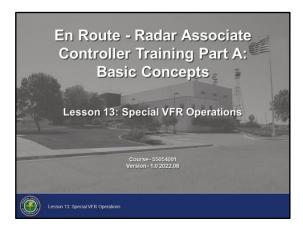
LESSON ICON LEGEND

Description				
Y	The Activity icon indicates an exercise, lab, or hands-on activity.			
	The Discussion Question icon signals a discussion question to be asked to the students.			
	The Handout icon indicates a handout is to be distributed to the students.			
	The Instructor Note icon is in hidden text and indicates text that is for the instructor only.			
	The Multimedia icon indicates a video or audio clip is in the presentation.			
†	The Phraseology icon indicates that phraseology is in the content.			
	The WBT icon indicates a component of web-based training.			
淡 ※	The Click icon indicates a PPT slide with click-based functionality to present additional information.			
	The Definition icon indicates a published definition.			



LESSON INTRODUCTION

Overview

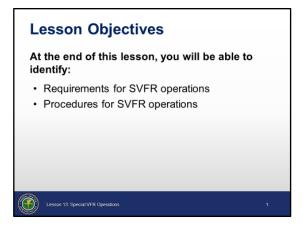


Lesson Overview

This lesson covers procedures for authorizing Special VFR (SVFR) operations. It also covers specific items such as priority, visibility minima, and where SVFR operations can be approved. Special VFR (SVFR) allows VFR aircraft to enter and operate within surface areas below VFR minima.

LESSON INTRODUCTION

Lesson **Objectives**



Lesson Objectives



Review the lesson objectives.

- At the end of this lesson, you will be able to identify:
 - Requirements for SVFR operations
 - Procedures for SVFR operations

NOTE: There will be a graded end-of-lesson test upon completion of the lesson. The passing score is 70%. If you do not achieve a score of 70%, you will be provided study time and one retake of an alternate end-of-lesson test.

SPECIAL VFR REQUIREMENTS

Definitions

JO 7110.65, Pilot/Controller Glossary (PCG)

Definitions · SPECIAL VFR CONDITIONS - Meteorological conditions less than those for basic VFR flight in surface areas. SPECIAL VFR OPERATIONS - Clearances within surface areas less than the basic VFR weather minima. · SURFACE AREA - Class B, C, D, or E airspace designated for an airport that begins at the surface and extends upward.

Lesson 13: Special VFR Operations

Definitions



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



SPECIAL VFR OPERATIONS - 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.



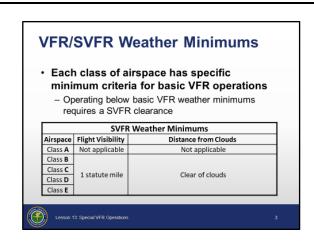
SURFACE AREA - The airspace contained by the lateral boundary of the Class B, C, D, or E airspace designated for an airport that begins at the surface and extends upward.

VFR/SVFR Weather Minimums

JO 7110.65, PCG

14 CFR Part 91

AIM, TBL 3-1-1



VFR/SVFR Weather Minimums

- Each class of airspace has specific minimum criteria for basic VFR operations
 - Operating below basic VFR weather minimums requires a SVFR clearance

Basic VFR Weather Minimums					
Airspace	Flight Visibility	Distance from Clouds			
Class A	Not applicable	Not applicable			
Class B	3 statute miles	Clear of clouds			
Class C		1 000'		0.000	
Class D	3 statute miles	1,000' above	500' below	2,000' horizontal	
Class E		above		Horizontal	
Class E AOA 10,000'	5 statute miles	1,000' above	1,000' below	1 statute mile horizontal	

Continued on next page

VFR/SVFR Weather Minimums (Cont'd)

14 CFR Part 91

SVFR Weather Minimums					
Airspace	Visibility	Distance from Clouds			
Class A	Not applicable	Not applicable			
Class B					
Class C	1 statute mile	Clear of clouds			
Class D					
Class E					

- Use the official reported ground visibility, where provided, for VFR and SVFR operations
- Use flight visibility where there is no official reported ground visibility
 - Flight visibility includes the visibility from the flight deck of an aircraft in takeoff position
- SVFR helicopter flights are allowed when the visibility is less than 1 mile

Authorization for SVFR

JO 7110.65, par. 7-5-1

AIM, par. 4-4-6

14 CFR Part 91



Authorization for SVFR

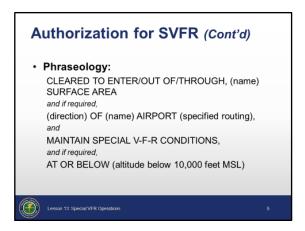
- SVFR operations in weather conditions below basic VFR minima are authorized:
 - At any location not prohibited by 14 CFR Part 91, Appendix D, Airports/Locations: Special Operating Restrictions
 - Unless an exemption has been granted and an associated LOA established
 - SVFR helicopter operations are not prohibited

NOTE: See appendix at the end of the lesson for a detailed list of airports where non-helicopter SVFR operations are prohibited. These airports are primarily located in major metropolitan areas.

- Only within the lateral boundaries of Class B, Class C, Class D, or Class E surface areas, below 10,000' MSL
 - Some Class D surface areas revert to Class G when the associated VFR tower closes for the night as indicated in the Airport Facilities Directory
- Only when requested by the pilot
- On the basis of weather conditions reported at the airport of intended landing/departure
 - When weather conditions are not reported at the airport of intended landing/departure and the pilot advises that VFR cannot be maintained and requests SVFR
- Special VFR operations by fixed-wing aircraft are prohibited between sunset and sunrise unless the pilot is instrument rated and the aircraft is equipped for IFR flight
 - Sunset to sunrise prohibition does not apply to helicopters

Authorization for SVFR (Cont'd)

JO 7110.65, par. 7-5-1



CLEARED TO ENTER/OUT OF/THROUGH (name) SURFACE AREA and if required,



(direction) OF (name) AIRPORT (specified routing)

and



MAINTAIN SPECIAL V-F-R CONDITIONS

and if required,



AT OR BELOW (altitude below 10,000' MSL)

or as applicable under an exemption from 14 CFR Part 91,

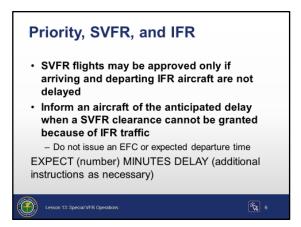
CLEARED FOR (coded arrival or departure procedure) ARRIVAL/DEPARTURE, (additional instructions as required)

Examples: "CLEARED OUT OF LAS VEGAS SURFACE AREA MAINTAIN SPECIAL V-F-R CONDITIONS AT OR BELOW EIGHT THOUSAND FIVE HUNDRED"

> "CLEARED THROUGH LEBANON SURFACE AREA NORTH OF LEBANON AIRPORT MAINTAIN SPECIAL V-F-R CONDITIONS AT OR BELOW THREE THOUSAND"

Priority, SVFR, and **IFR**

JO 7110.65, par. 7-5-2





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Priority, SVFR, and IFR

 SVFR flights may be approved only if arriving and departing IFR aircraft are not delayed



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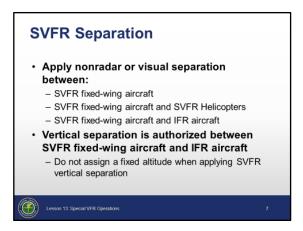
- Inform an aircraft of the anticipated delay when a SVFR clearance cannot be granted because of IFR traffic
 - Do not issue an EFC or expected departure time



- The priority afforded IFR aircraft over SVFR aircraft is not intended to be so rigidly applied that inefficient use of airspace results
 - Controllers have the prerogative of permitting completion of a SVFR operation already in progress when an IFR aircraft becomes a factor if better overall efficiency will result

SVFR Separation

JO 7110.65, pars. 7-5-3, 7-5-4

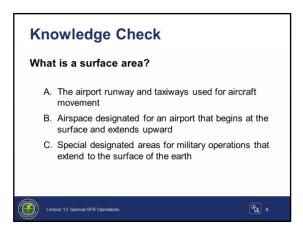


SVFR Separation

- O Apply nonradar or visual separation between:
 - SVFR fixed-wing aircraft
 - SVFR fixed-wing aircraft and SVFR helicopters
 - SVFR fixed-wing aircraft and IFR aircraft
- Apply nonradar, visual, or IFR radar separation between:
 - SVFR helicopters
 - SVFR helicopters and IFR aircraft
- Vertical separation is authorized between SVFR fixed-wing aircraft and IFR aircraft
 - Do not assign a fixed altitude to SVFR aircraft when applying vertical separation
 - Clear the SVFR aircraft at or below an altitude which is at least 500' below any conflicting IFR traffic but not below the Minimum Safe Altitude (MSA)
 - Over congested areas, assign at least 1,000' above the highest obstacle
 - Over other than congested areas, assign at least 500' above the surface

NOTE: Helicopters may be operated at less than the minimum altitudes.

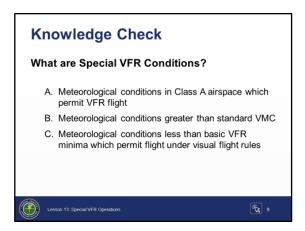
Knowledge Check



Question: What is a surface area?

Answer: B. Airspace designated for an airport that begins at the surface and extends upward

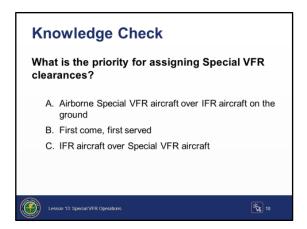
Knowledge Check



Question: What are Special VFR Conditions?

Answer: C. Meteorological conditions less than basic VFR minima which permit flight under visual flight rules

Knowledge Check

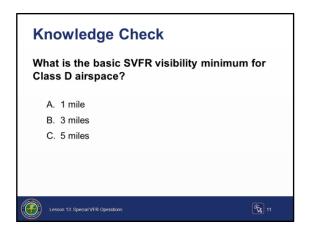


Question: What is the priority for assigning Special VFR clearances?

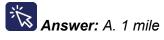


Answer: C. IFR aircraft over Special VFR aircraft

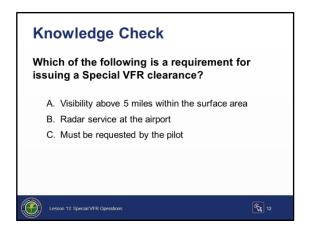
Knowledge Check



Question: What is the SVFR visibility minimum for Class D airspace?



Knowledge Check

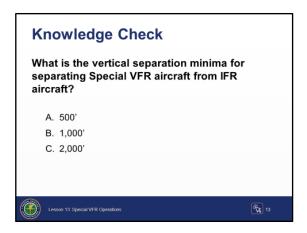


Question: Which of the following is a requirement for issuing a Special VFR clearance?



Answer: C. Must be requested by the pilot

Knowledge Check



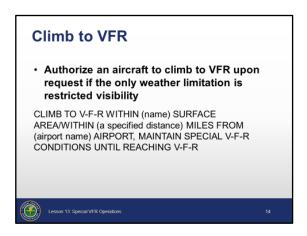
Question: What is the vertical separation minima for separating Special VFR aircraft from IFR aircraft?



SPECIAL VFR PROCEDURES

Climb to VFR

JO 7110.65, par. 7-5-6



Climb to VFR

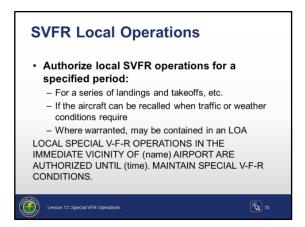
 Authorize an aircraft to climb to VFR upon request if the only weather limitation is restricted visibility

CLIMB TO V-F-R WITHIN (name) SURFACE AREA/WITHIN (a specified distance) MILES FROM (airport name) AIRPORT, MAINTAIN SPECIAL V-F-R CONDITIONS UNTIL REACHING V-F-R

Example: "N68C CLIMB TO VFR WITHIN THE RED BLUFF SURFACE AREA, MAINTAIN SPECIAL V-F-R CONDITIONS UNTIL REACHING V-F-R"

SVFR Local Operations

JO 7110.65, par. 7-5-5





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SVFR Local Operations

- O Authorize local SVFR operations for a specified period:
 - For a series of landings and takeoffs, etc.
 - If the aircraft can be recalled when traffic or weather conditions require
 - Where warranted, may be contained in an LOA



Click to reveal phraseology.

LOCAL SPECIAL V-F-R OPERATIONS IN THE IMMEDIATE VICINITY OF (name) AIRPORT ARE AUTHORIZED UNTIL (time). MAINTAIN SPECIAL V-F-R CONDITIONS

Example: "LOCAL SPECIAL V-F-R OPERATIONS IN THE IMMEDIATE VICINITY OF CHICO AIRPORT ARE AUTHORIZED UNTIL ONE EIGHT ONE SIX ZULU, MAINTAIN SPECIAL V-F-R CONDITIONS"

- ATC may also authorize an FSS to transmit SVFR clearances so that only 1 aircraft at a time operates in the Class B, Class C, Class D, or Class E surface areas
 - Unless pilots agree that they will maintain visual separation with other aircraft
 - Authorization concerning visual separation by pilots must be contained in an LOA between the control facility and the FSS

Ground Visibility Below 1 Mile

JO 7110.65, par. 7-5-7

14 CFR 91.157





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Ground visibility below 1 mile

- Treat requests for SVFR fixed-wing operations as follows when the ground visibility is officially reported at an airport as less than 1 mile:
 - Inform departing aircraft that ground visibility is less than 1 mile and that a clearance cannot be issued



Click to reveal additional text.

- Inform arriving aircraft, operating outside of a Class B, Class C, Class D, or Class E surface area, that ground visibility is less than 1 mile and that, unless an emergency exists, a clearance cannot be issued
- Inform arriving aircraft, operating VFR/SVFR within a Class B, Class C, Class D, or Class E surface area, that ground visibility is less than 1 mile and request the pilot to advise intentions



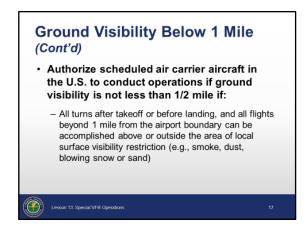
• Clear an aircraft to fly through the surface area if the aircraft reports flight visibility is at least 1 statute mile

NOTE: SVFR helicopters flights are allowed when the visibility is less than 1 mile.

Ground **Visibility Below 1 Mile** (Cont'd)

JO 7110.65, par. 7-5-7

14 CFR 121.649



- Authorize scheduled air carrier aircraft in the U.S. to conduct SVFR operations if ground visibility is not less than 1/2 mile if:
 - All turns after takeoff or before landing, and all flights beyond 1 mile from the airport boundary can be accomplished above or outside the area of local surface visibility restriction (e.g., smoke, dust, blowing snow or sand)



Airport Boundary - Various tracts of land owned or under the control of the local airport authority or operator.

Flight Visibility **Below 1 Mile**

JO 7110.65, par. 7-5-8

14 CFR 91.157





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Flight visibility below 1 mile

- When weather conditions are not reported at an airport and the pilot advises the flight visibility is less than 1 mile
 - Inform departing aircraft a clearance cannot be issued
 - Inform arriving aircraft operating outside the surface area a clearance cannot be issued unless an emergency exists



Click to reveal additional text.

 Request the intentions of an arriving aircraft operating within the surface area

Flight Visibility Below 1 Mile (Cont'd)

JO 7110.65, par. 7-5-8

14 CFR 91.3. 91.157





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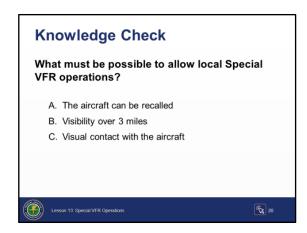
- Clear an aircraft to land at an airport with an operating control tower, traffic permitting, if the pilot reports the airport in sight
 - The pilot is responsible to continue to the airport or exit the surface area



Click to reveal additional text.

- VFR aircraft (other than helicopters) are prohibited from landing at any airport within a surface area when flight visibility is less than 1 mile
 - Pilots could inadvertently encounter conditions that are below SVFR minimums after entering a surface area due to rapidly changing weather
 - The pilot is best suited to determine the action to be taken since pilots operating under SVFR between sunrise and sunset are not required to be instrument rated, and the possibility exists that flight visibility may not be the same as ground visibility
 - A pilot encountering an inflight emergency requiring immediate action may deviate from any rule to the extent required to meet that emergency
 - Flight into adverse weather conditions may require the pilot to continue inbound to land

Knowledge Check

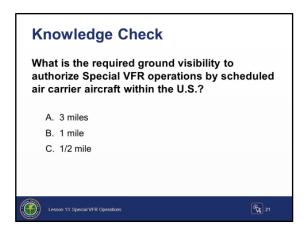


Question: What must be possible to allow local Special VFR operations?



Answer: A. The aircraft can be recalled

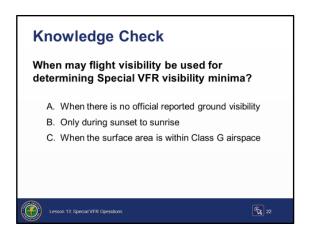
Knowledge Check



Question: What is the required ground visibility to authorize Special VFR operations by scheduled air carrier aircraft within the U.S.?



Knowledge Check

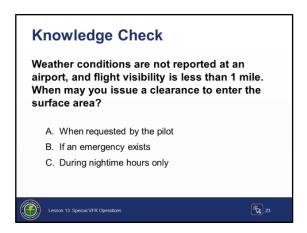


Question: When may flight visibility be used for determining Special VFR visibility minima?



Answer: A. When there is no official reported ground visibility

Knowledge Check

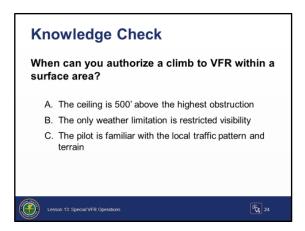


Question: Weather conditions are not reported at an airport, and flight visibility is less than 1 mile. When may you issue a clearance to enter the surface area?



Answer: B. If an emergency exists

Knowledge Check

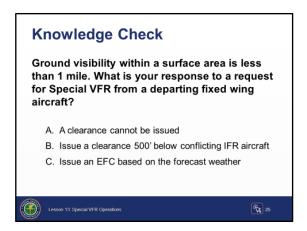


Question: When can you authorize a climb to VFR within a surface area?



Answer: B. The only weather limitation is restricted visibility

Knowledge Check



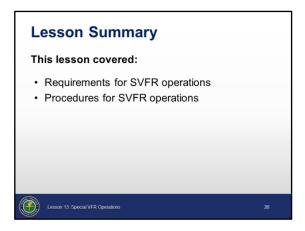
Question: Ground visibility within a surface area is less than 1 mile. What is your response to a request for Special VFR from a departing fixed-wing aircraft?



Answer: A. A clearance cannot be issued

CONCLUSION

Lesson Summary



Review and elaborate briefly on the following topics. Ask students if they have questions about any of the concepts covered in the lesson.

Summary

- Requirements for Special VFR
 - Definitions
 - Special VFR conditions
 - Special VFR operations
 - Surface area
 - Authorization for SVFR
 - Priority, SVFR, and IFR
 - SVFR separation
- Procedures for Special VFR
 - Climb to VFR
 - SVFR local operations
 - Ground visibility below 1 Mile
 - Flight visibility below 1 Mile

Hand out and administer the End-of-Lesson Test. Provide feedback on missed items, including why particular answers are correct, as well as why some responses are incorrect.

APPENDIX: AIRPORTS WHERE SVFR IS PROHIBITED

This list, referenced in 14 CFR 91.157 Appendix D to Part 91, shows where non-helicopter SVFR operations are prohibited.

State	City	Airport		
CA	Los Angeles	Los Angeles International Airport		
CA	San Francisco	San Francisco International Airport		
CO	Denver	Denver International Airport		
DC	Washington	Ronald Reagan Washington National Airport		
FL	Miami	Miami International Airport		
FL	Tampa	Tampa International Airport		
GA	Atlanta	Hartsfield-Jackson Atlanta International Airport		
HI	Honolulu	Honolulu International Airport		
IL	Chicago	Chicago-O'Hare International Airport		
IN	Indianapolis	Indianapolis International Airport		
KY	Covington	Cincinnati/Northern Kentucky International Airport		
KY	Louisville	Louisville International Airport-Standiford Field		
LA	New Orleans	Louis Armstrong New Orleans International Airport		
MA	Boston	General Edward Lawrence Logan International Airport		
MD	Baltimore	Baltimore/Washington International Thurgood Marshall Airport		
MD	Camp Springs	Joint Base Andrews		
MI	Detroit	Detroit Metropolitan Wayne County Airport		
MN	Minneapolis	Minneapolis-St. Paul International/World-Chamberlain Airport		
MO	St. Louis	Lambert-St. Louis International Airport		
NJ	Newark	Newark Liberty International Airport		
NY	Buffalo	Greater Buffalo International Airport		
NY	New York	John F. Kennedy International Airport		
NY	New York	LaGuardia Airport		
ОН	Cleveland	Cleveland-Hopkins International Airport		
OH	Columbus	Port Columbus International Airport		
OR	Portland	Portland International Airport		
PA	Philadelphia	Philadelphia International Airport		
PA	Pittsburgh	Pittsburgh International Airport		
TN	Memphis	Memphis International Airport		
TX	Dallas	Dallas Love Field Airport		
TX	Dallas	Dallas/Fort Worth International Airport		
TX	Houston	George Bush Intercontinental/Houston Airport		
WA	Seattle	Seattle-Tacoma International Airport		