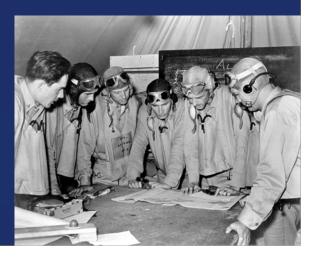
### Topic of the Month February Personal Minimums

Presented to: Salem Area Pilots

By: Thomas Gorski CFI Date: February 7, 2015



2014/10/01-063 (I)PP Original Author, FAASTeam; POC Kevin Clover, 562-888-2020.

Modified by Thomas Gorski CFI 503.551.1700 for FAASTeam Seminar presentation in Salem, Oregon USA 01-25-2015

### Welcome

- Interactive Presentation
- Restrooms
- Exits & Emergency Evacuation
- Sponsor Acknowledgment
- Seminar Recording
- Breaks





Topic of the Month Series
February 2015 – Personal Minimums



2

**Set the Tone-** being warm and welcoming the people to my hangar for an Interactive presentation. My style is getting you comfortable with asking relevant questions frequently. It is important to address your concerns and your questions. We have a holding pattern for unanswered questions. We can learn much from each other. Questions and answers are very important, so frequent Q/A interaction is encouraged.

Restrooms, exits, evacuation.

Acknowledge Sponsors.

Seminar / Webinar engineering with priority on Seminar. Webinar is running in the background.

10 Min break.

### **Outline**

- Presenter's Background
- Brief Overview of FAASTeam
- 1st Hour: Personal Minimums
- 2<sup>nd</sup> Hour: Quiz Game (Based on FAA Risk Management Handbook 2009)

Topic of the Month Series
February 2015 – Personal Minimums



3

Presenter's Background Brief Overview of FAASTeam

1st Hour: Focus
2nd Hour: Focus

### **Presenter's Background**

- 1976 US Army Avionics Technician
- 1984 2008 CFI & Charter C414A, LR-JET, CE-500
- 2008 2013 Evergreen Airlines B-747-200, LCF, 400 Director of Flight Standards
- 2013 Present Contract Pilot, CFI, FAA Volunteer

Topic of the Month Series
February 2015 – Personal Minimums



4

### Discussion of my background.

1976 - US Army Avionics Technician

1984 – 2008 CFI & Charter C414A, LR-JET, CE-500

2008 – 2013 Evergreen Airlines B-747-200, LCF, 400 Director of Flight Standards

2013 - Present Contract Pilot, CFI, FAA Volunteer



### **Safety Seminars**

### FAASTeam Website www.faasafety.gov

Topic of the Month Series
February 2015 – Personal Minimums



5

Activities of the FAASTeam are organized and indexed through the Website FAASAFETY.GOV

Faasafety.gov is a portal between the FAA and the aviation community.



### **Mission Statement**

Improve the Nation's aviation accident rate by conveying safety principles and practices through training, outreach, and education;

while establishing partnerships and encouraging the continual growth of a positive safety culture within the aviation community.

Topic of the Month Series
February 2015 – Personal Minimums



 $\epsilon$ 

### The mission of the FAASTeam is:

Improve the Nation's aviation accident rate by conveying safety principles and practices through training, outreach, and education; while establishing partnerships and encouraging the continual growth of a positive safety culture within the aviation community.



### **Relationship With Aviation** Community

Individuals who makes a conscious effort to promote aviation safety and become part of the shift in safety culture:

Pilots – participate in WINGS - Pilot Proficiency Program

Mechanics – participate in AMT Awards Program

Everyone who attends FAASTeam Seminars

### Thank You!

**Topic of the Month Series** February 2015 - Personal Minimums



Our relationship with the aviation community is made up of individuals who make an effort to promote aviation safety. Those individuals, by virtue of their conversations, their knowledge and experience serve to facilitate a shift in the safety culture.

I am talking about Pilots who participate in the WINGS Pilot Proficiency Program.

Mechanics who participate in the AMT awards program, and everyone who Attends **Safety Seminars** 

On behalf of the FAA Safety Team I want to thank each one of you who are here today. Thank you!

### **Overview**

- Personal Minimums
- Pilot performance assessment
- Adjusting minimums for specific conditions

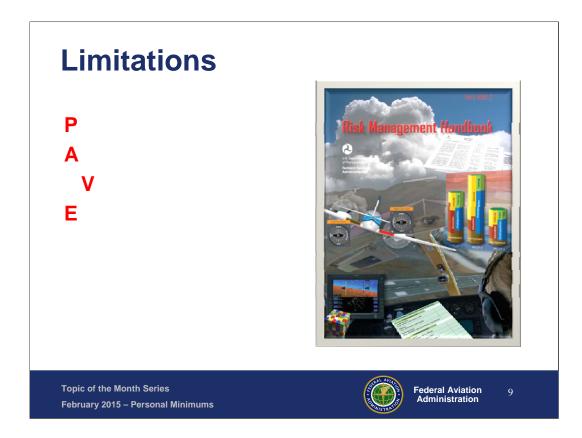
Topic of the Month Series
February 2015 – Personal Minimums



- 8

In this presentation we will discuss the concept of personal minimums. We'll talk about assessing your aircraft performance, and your own performance as a pilot. We will also talk about defining your personal minimums in various environmental conditions. And then we'll talk about adjusting those minimums in response to specific conditions.

**Presentation Note:** *If you'll be discussing additional items, add them to this list* (Next Slide)



"A man's got to know his limitations". Clint Eastwood as Dirty Harry said it 40 years ago and it's still true today. But how do we know what our limitations are? Our aircraft limitations are found on placards, on instrument markings, and in the POH. But what about our own capabilities as pilots? Pilot capabilities are not fixed in stone. Our ability to cope with wind and weather changes from year to year, day to day, and even hour to hour. That's why many successful pilots develop personal minimums for all their flying activities. (Click)

Chapter 8 in FAA's Risk Management Handbook shows us how to set Personal Minimums. Parameters to consider are associated with the acronym PAVE. (Click)

We'll discuss the meaning of the letters and the curious case of the misaligned V in the following slides,.

### **Limitations**

Pilot
Aircraft
enVironment
External Pressures



Topic of the Month Series
February 2015 – Personal Minimums



Federal Aviation Administration

10

P represents the pilot. (Click)

A stands for Aircraft (Click)

V represents the environment within which we'll be operating (Click)

And E has to do with external pressures and distractions. We'll take a more in depth look at each of these areas in following slides.

### **Pilot**

- Certification Level
- Total Experience
- Recent Experience
- Health
- Fatigue
- Stress



Topic of the Month Series February 2015 – Personal Minimums



Federal Aviation Administration 11

To assess pilot capabilities we want to look at (Click)

Certification Level (Click)

Total experience including time in make and model and (Click)

Recent Experience – overall and in make and model (Click)

Pilot health is obviously important and should be a no brainer but we include it here because a recent study revealed

that there were over the counter or prescriptions found

in post mortem toxicology screens of 80% of pilots in fatal accidents.

We're not saying that those drugs were the cause of the accidents but the surprising high percentage does make us wonder about what medical conditions those pilots were treating and how those conditions may have affected pilot performance. (Click)

Fatigue is another big issue these days. Accident investigation data show that fatigue is often a pilot performance degrading factor. (**Click**)

Finally we have stress. We'll also address this under external pressures but internal – self imposed – stress is something most pilots live with and, if it's excessive, it can contribute to reduced pilot performance.

### **Aircraft**

- Performance
- Range
- Instrumentation
- Navigation Equipment
- Wx Avoidance Equipment

Topic of the Month Series
February 2015 – Personal Minimums



12

With regard to the aircraft:

### (Click)

Naturally, we want to consider aircraft performance parameters with respect to the mission.

### (Click)

Range, instrumentation, navigation and weather avoidance equipment must also match the mission.

### **enVironment**

- Topography
- Runway & approach aids
- Wind and Weather
- Lighting Conditions

Topic of the Month Series
February 2015 – Personal Minimums



13

And of course pilots must carefully consider the environments they fly in. Topography, lighting conditions, wind, weather, runways and approach aids. All of these taken together provide environmental challenges on every flight

### **External Pressures**

- Employers & Passengers
- **Schedules & Deadlines**
- **Expenses**



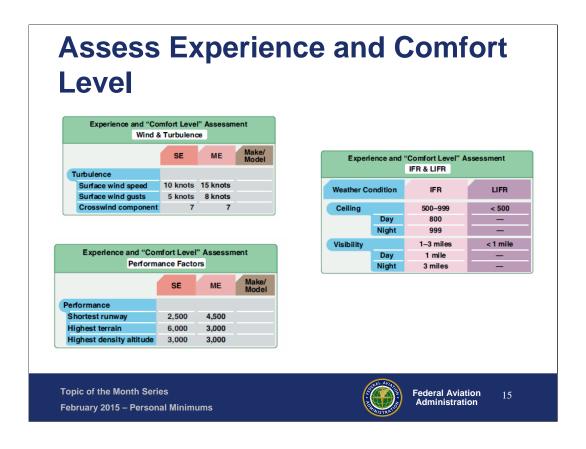
**Topic of the Month Series** February 2015 - Personal Minimums



Employers and Passengers can exert enormous pressure on pilots to complete their missions on time regardless of changing conditions

Schedules & Deadlines can place enormous pressures on pilots, as can concern over expenses.

And we've seen accidents that could have been prevented if the pilot had only purchased 10 gallons more of that unexpectedly expensive fuel at the destination airport. We've also seen accidents where the pilot should have gone to the expense of remaining overnight but took off into darkness and marginal weather instead.



Developing a personal minimums document is a matter of assessing your pilot experience and comfort level with respect to various mission and environmental conditions. You'll complete several tables like the these and together they'll comprise your personal minimums.

Let's take a look at each of these tables separately, so they will be easier to see. (Next Slide)

5.5.5	Con	nbined VF	R & IFR		
Weather Condition		VFR	MVFR	IFR	LIFR
Ceiling					
	Day	2,500		800	
	Night	5,0	000	99	99
Visibility					
	Day	4 miles		1 mile	
	Night	8 miles		3 miles	

Most people think of personal minimums primarily in terms of weather conditions, so begin with a quick review of weather definitions. The regulations define weather flight conditions for visual flight rules (VFR) and instrument flight rules (IFR) in terms of specific values for ceiling and visibility.

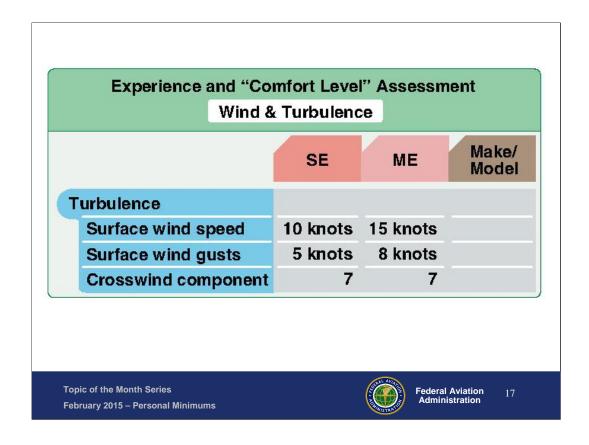
IFR is defined as a ceiling less than 1,000 feet above ground level (AGL) and/or visibility less than three miles.

Low instrument flight rules (LIFR) is a subcategory of IFR.

VFR has ceiling greater than 3,000 feet AGL and visibility greater than five miles.

Marginal visual flight rules (MVFR) is a subcategory of VFR.

One of the most important concepts that safe pilots understand is the difference between what is "legal" in terms of the regulations, and what is "smart" or "safe" in terms of pilot experience and proficiency. By establishing personal minimums, pilots can take a big step in managing risk.



In the article, "Getting the Maximum from Personal Minimums,"

(May/June 2006 FAA Aviation News), the FAA indicates six steps for establishing personal minimums.

### **Step 1—Review Weather Minimums**

**Step 2—Assess Experience and Comfort Level** 

### **Step 3—Consider Other Conditions**

Ceiling and visibility are the most obvious conditions to consider in setting personal minimums, but it is also a good idea to have personal minimums for wind and turbulence. As with ceiling and visibility, the goal in this step is to record the most challenging wind conditions you have comfortably experienced in the last 6–12 months—not necessarily the most challenging wind conditions you have managed to survive without bending an airplane.

Performance Factors					
	SE	ME	Make/ Mode		
Performance					
Shortest runway	2,500	4,500			
Highest terrain	6,000	3,000			
Highest density altitude	3,000	3,000			

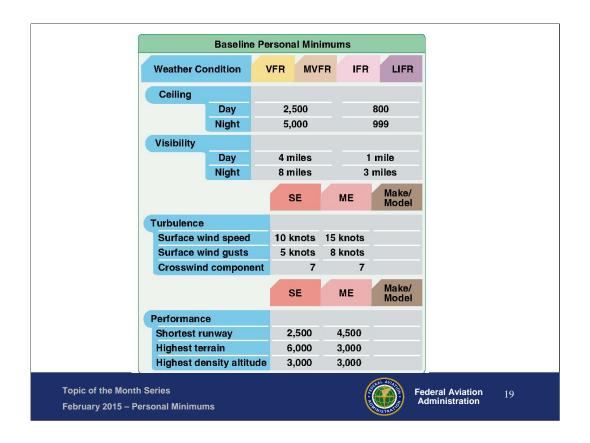
### **Step 1—Review Weather Minimums**

### **Step 2—Assess Experience and Comfort Level**

### **Step 3—Consider Other Conditions**

In the consideration of other conditions, performance factors are very important.

What are some of the triggers that make us look closely at performance? In other words, at what point do you start looking at density altitude?



### Step 4—Assemble and Evaluate

Now you have some useful numbers to use in establishing baseline personal minimums. Combining these numbers, the Baseline Personal Minimums this slide shows how the whole picture might look.

Here are baseline personal minimums, including ceiling and visibility, wind and turbulence, and performance.

Notice what's not included? Locations, Flight durations,



Step 5—Adjust for Specific Conditions Any flight you make involves almost infinite combinations of pilot skill, experience, condition, and proficiency; aircraft equipment and performance; environmental conditions; and external influences. Both individually and in combination, these factors can compress the safety buffer provided by your baseline personal minimums. Consequently, you need a practical way to adjust your baseline personal minimums to accommodate specific conditions. Once you have established your personal minimums, you can adjust them for specific conditions as we can see here. One caveat and it's very important. (Click) If you're going to adjust a previously determined minimum always do so in a more conservative direction. In other words if you want less conservative minimums you must acquire pilot and aircraft capability to ensure safety. An example would be a flight operation that wants to operate to Category II approach minimums must have specially trained crew and navigation equipment as well as recent experience, to fly the Cat II approach. Keep all other variables constant. For example, if your goal is to lower your baseline personal minimums for visibility, don't try to lower the ceiling, wind, or other values at the same time. In addition, you never want to push the baseline if there are special conditions (e.g., unfamiliar aircraft, pilot fatigue) present for this flight. You might find it helpful to talk through both your newly established personal minimums and any "push-theenvelope" plans with a well-qualified flight instructor.

### **Proficiency & Peace of Mind**



### Stick to the plan



Topic of the Month Series
February 2015 – Personal Minimums



Federal Aviation Administration 21

Step 6—Stick to the Plan! Once you have done all the thinking required to establish baseline personal minimums, all you need to do next is stick to the plan. As most pilots know, that task is a lot harder than it sounds, especially when the flight is for a trip that you really want to make, or when you are staring into the faces of your disappointed passengers. Here's where personal minimums can be an especially valuable tool. Professional pilots live by the numbers, and so should you. Pre-established hard numbers can make it a lot easier to make a smart no go or divert decision than a vague sense that you can "probably" deal with the conditions that you are facing at any given time. In addition, a written set of personal minimums can also make it easier to explain tough decisions to passengers who are, after all, trusting their lives to your aeronautical skill and judgment. (Click)

Finally – once you've documented you personal minimums, validate them with your favorite flight instructor. Your CFI can coach you to your peak performance and you can win a Wings proficiency award in the process.

Search Results	nums Assessmen
risk management handbook	Search
Results 1 - 10 of about 2100 for risk ma 0.35 seconds.	anagement handbook, Search took
Handbooks & Manuals http://www.faa.gov/regulations_policies/h	andbooks_manuals/
1 of 1 FAA-H-8083-2 <b>Risk Manager</b>	nent Handbook Updated [PDF]
Page 1, 1 of 1 FAA-H-8083-2 <b>Risk Mana</b> 25, 2013 Errata as of January 25, 2013 1	1. ln   3k
www.faa.gov/regulations_policies/handbo	ooks_manuals/aviation/media
pic of the Month Series	Federal Aviation 2:

Go to faa.gov and in the search field enter "Risk Management Handbook" then click search. (Click) You can then download the .PDF file from the link.

General aviation pilots enjoy a level of responsibility and freedom unique in aviation. Unlike the air carrier, corporate, and military communities, most GA pilots are free to fly when and where they choose. They are unencumbered by the strict regulatory structure that governs many other flight operations. However, the GA pilot is not supported by a staff of dispatchers and meteorologists, or governed by rigid operational guidelines designed to reduce risk. Pilots should not be lulled into a false sense of security simply because they are in compliance with the regulations. Judgment and aeronautical decision-making serve as the bridge between regulatory compliance and safety. Deciding if or when to undertake any flight lies solely with the pilot in command (PIC). GA pilots should remember that FAA regulations designed to prevent accidents and incidents come out AFTER the accident or incident.

Now are there any comments or questions?

### **Questions?**

Portland FSDO 3180 NW 229th Avenue Hillsboro, Oregon 97124

Phone: (503) 615-3200 or

(800) 847-3806 Fax: (503) 615-3300

Office Hours: 7:30 a.m. to 4:00 p.m.,

Monday - Friday

Office visits appointments only recommended



Tom Gorski 503.551.1700





### Break 10 Minutes Remaining



### Break 9 Minutes Remaining



### Break 8 Minutes Remaining



# Break 7 Minutes Remaining



### Break 6 Minutes Remaining



# Break 5 Minutes Remaining



## Break 4 Minutes Remaining



### Break 3 Minutes Remaining



### Break 2 Minutes Remaining



## Break 1 Minute Remaining



### Break O Minute Remaining

