General Aviation
Joint Steering Committee
Safety Enhancement Topic

February 2015

FAA
Aviation Safety

Personal Minimums

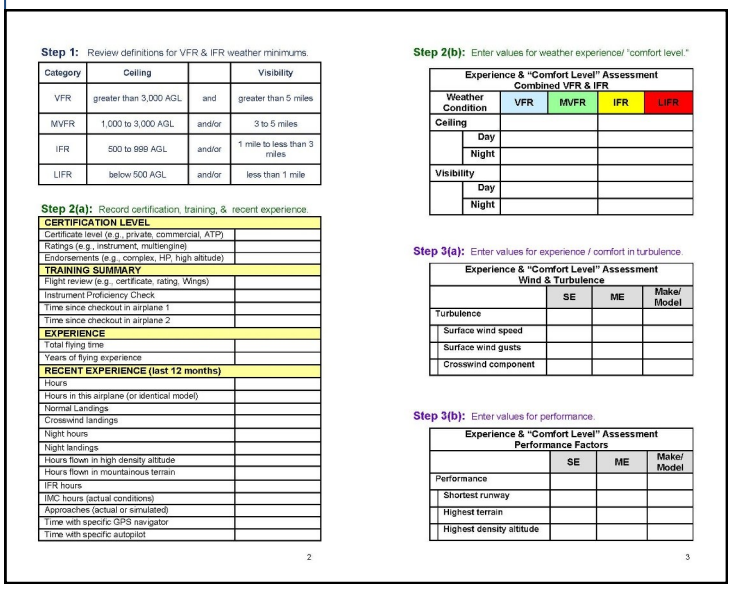
Personal minimums refer to an individual pilot's set of procedures, rules, criteria, and guidelines for deciding whether and under what conditions to operate (or continue operating) in the National Airspace System. Personal minimums should be set so as to provide a solid safety buffer between the pilot skills and aircraft capability *required* for the specific flight you want to make, and the pilot skills and aircraft capability *available* to you through training, experience, currency, proficiency and, in the case of the airplane, performance characteristics.

What Should I Consider?

Step 1 – *Review Weather Minimums*. 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 means a ceiling less than 1,000 feet AGL and/or visibility less than three miles. Low IFR (LIFR) is a sub-category of IFR. VFR means a ceiling greater than 3,000 feet AGL and visibility greater than five miles. Marginal VFR (MVFR) is a sub-category of VFR.

Step 2 – *Assess Your Experience and Comfort Level.* Think through your recent flying experiences and make a note of the lowest weather conditions that you have comfortably experienced in VFR and, if applicable, IFR flying in the last six to twelve months. This exercise helps establish your personal "comfort level" for VFR, MVFR, IFR, and LIFR weather conditions.

Step 3 – *Consider Other Conditions*. It is also a good idea to have personal minimums for wind, turbulence, and operating conditions that involve things like high density altitude, challenging terrain, or short runways. Record the most challenging conditions you have comfortably experienced in the last six to twelve months. You can note these values for category and class, for specific make and model, or both.



Step 1: Review definitions for VFR & IFR weather minimums.

Category	Ceiling		Visibility
VFR	greater than 3,000 AGL	and	greater than 5 miles
MVFR	1,000 to 3,000 AGL	and/or	3 to 5 miles
IFR	500 to 999 AGL	and/or	1 mile to less than 3 miles
LIFR	below 500 AGL	and/or	less than 1 mile

Step 2(a): Record certification, training, & recent experience.

CERTIFICATION LEVEL	
Certificate level (e.g., private, commercial, ATP)	
Ratings (e.g., instrument, multiengine)	
Endorsements (e.g., complex, HP, high altitude)	
TRAINING SUMMARY	
Flight review (e.g., certificate, rating, Wings)	
Instrument Proficiency Check	
Time since checkout in airplane 1	
Time since checkout in airplane 2	
EXPERIENCE	
Total flying time	
Years of flying experience	
RECENT EXPERIENCE (last 12 months)	
Hours	
Hours in this airplane (or identical model)	
Normal Landings	
Crosswind landings	
Night hours	
Night landings	
Hours flown in high density altitude	
Hours flown in mountainous terrain	
IFR hours	
IMC hours (actual conditions)	
Approaches (actual or simulated)	
Time with specific GPS navigator	
Time with specific autopilot	

2

Step 2(b): Enter values for weather experience/ "comfort level."

Experience & "Comfort Level" Assessment Combined VFR & IFR					
Weather Condition		VFR	MVFR	IFR	LIFR
Ceiling					
	Day				
	Night				
Visibility					
	Day				
	Night				

Step 3(a): Enter values for experience / comfort in turbulence.

Experience & "Comfort Level" Assessment Wind & Turbulence			
	SE	ME	Make/ Model
Turbulence			
Surface wind speed			
Surface wind gusts			
Crosswind component			

Step 3(b): Enter values for performance.

Experience & "Comfort Level" Assessment Performance Factors			
	SE	ME	Make/ Model
Performance			
Shortest runway			
Highest terrain			
Highest density altitude			

3

Consider following a personal minimums checklist like the one shown here and on the next page.

Continued on Next Page

Step 4 – *Assemble and Evaluate*. Next, combine these numbers to develop a set of baseline personal minimums.

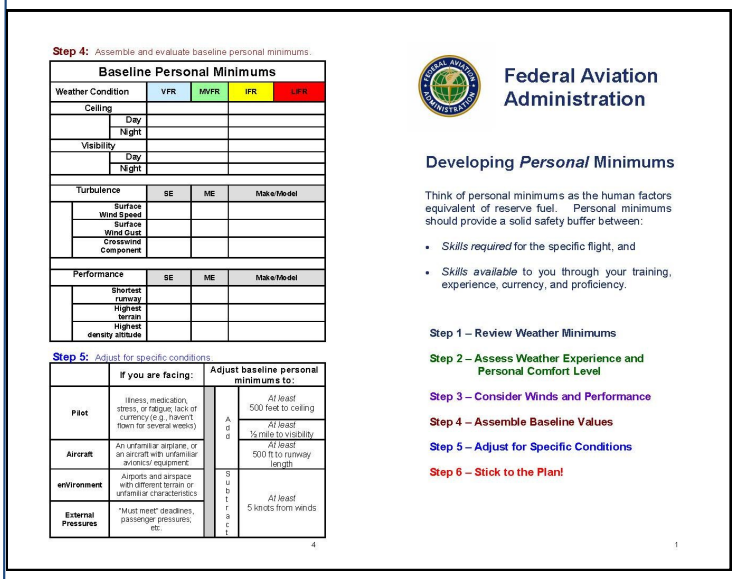
Step 5 – *Adjust for Specific Conditions*. Any flight involves almost infinite combinations of pilot skill, experience, condition, and proficiency; aircraft equipment and performance; environmental conditions; and external influences. These factors can compress the baseline safety buffer, so you need a structured way to adjust for changing conditions. Consider developing a chart of adjustment factors based on changes in the PAVE checklist factors - Pilot, Aircraft, enVironment, and External Pressures.

When you have comfortably flown to your baseline personal minimums for several months, you can consider adjusting to lower values. Two important cautions:

1. Never adjust personal minimums to a lower value for a specific flight. The time to consider changes is when you are not under any pressure to fly, and when you have the time and objectivity to think honestly about your skill, performance, and comfort level.
2. Keep all other variables constant. 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.

Step 6 – *Stick to the Plan!* Once you have established baseline personal minimums, "all" you need to do next is stick to the plan. 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 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 numbers can make it a lot easier to make a smart no-go or divert decision. In addition, a written set of personal minimums can also make it easier to explain tough decisions to passengers who are entrusting their lives to your aeronautical skill and judgment.



Resources

FAA Risk Management Handbook, Chapter 8, Risk Management Training

www.faa.gov/regulations_policies/handbooks_manuals/aviation/