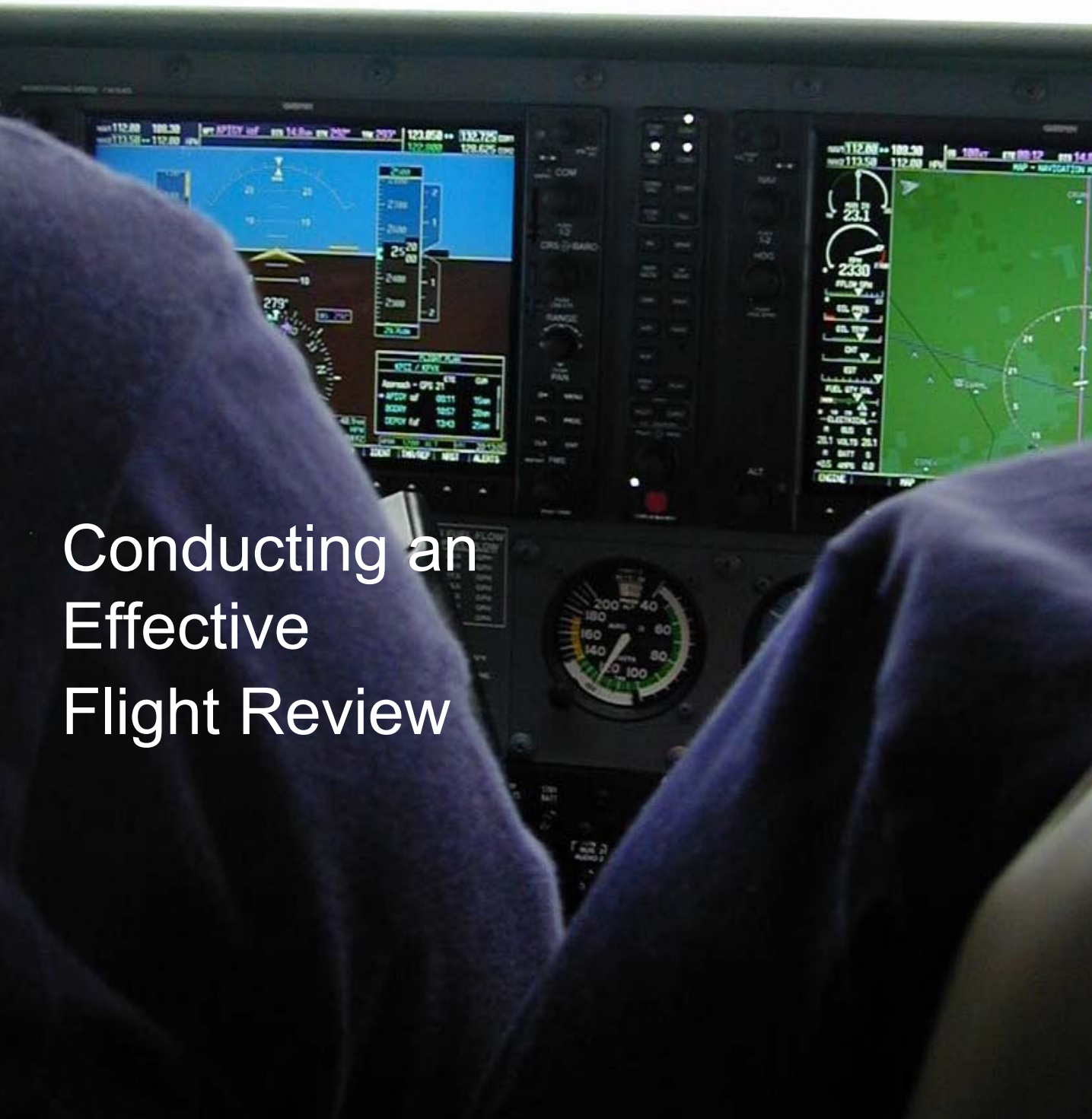
Federal Aviation Administration



Conducting an Effective Flight Review

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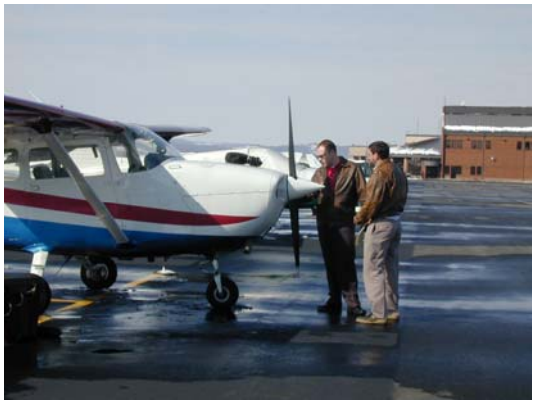
Acknowledgements

This guide has been developed with assistance, contributions, and suggestions from a number of general aviation pilots and flight instructors. Special thanks are due to Pat Cannon, Turbine Aircraft Services; Jens Hennig, General Aviation Manufacturers Association; Sandy and JoAnn Hill, National Association of Flight Instructors; Sean Lane, ASA Publishing; Jim Lauerman, Avemco; Stan Mackiewicz, National Air Transportation Association; Arlynn McMahon, Aero-Tech Incorporated; Tim McSwain, USAIG; Rusty Sachs, National Association of Flight Instructors; Roger Sharp, Cessna Pilot Centers; Jackie Spanitz; ASA; Howard Stoodley, Manassas Aviation Center; Michele Summers, Embry-Riddle Aeronautical University; and Max Trescott, SJFlight.

It is intended to be a living document that incorporates comments, suggestions, and ideas for best practices from GA instructors like you. Please direct comments and ideas for future iterations to: susan.parson@faa.gov.

Happy – and safe – flying!

Introduction

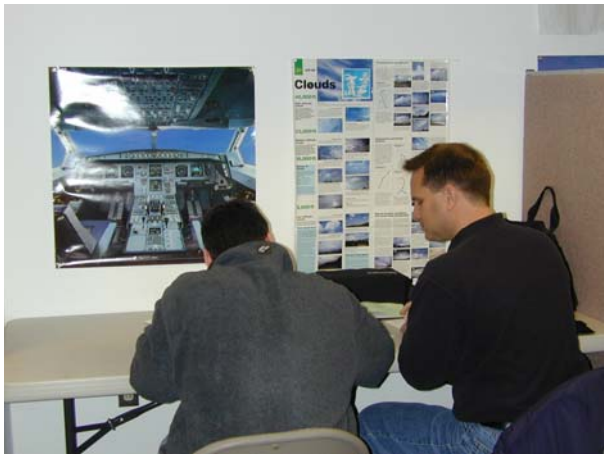


General aviation (GA) pilots enjoy a level of flexibility and freedom unrivaled by their aeronautical contemporaries. Airline, corporate, and military flight operations are all strictly regulated, and each uses a significant degree of internal oversight to ensure compliance. GA has relatively few of these regulatory encumbrances. As a result, safety depends heavily upon the development and maintenance of each individual pilot's basic skills, systems knowledge, and aeronautical decision-making skills.

The purpose of the flight review required by Title 14 of the Code of Federal Regulations (14 CFR) 61.56 is to provide for a regular evaluation of pilot skills and aeronautical knowledge. AC 61-98A states that the flight review is also intended to offer pilots the opportunity to design a personal currency and proficiency program in consultation with a certificated flight instructor (CFI). In effect, the flight review is the aeronautical equivalent of a regular medical checkup and ongoing health improvement program. Like a physical exam, a flight review may have certain "standard" features (e.g., review of specific regulations and maneuvers). However, just as the physician should tailor the exam and follow-up to the individual's characteristics and needs, the CFI should tailor both the flight review and any follow-up plan for training and proficiency to each pilot's skill, experience, aircraft, and personal flying goals.

To better accomplish these objectives, this guide, intended for use in conjunction with AC 61-98A, offers ideas for conducting an effective flight review. It also provides tools for helping that pilot develop a personalized currency, proficiency, risk management, and "aeronautical health maintenance and improvement" program. A key part of this process is the development of risk management strategies and realistic personal minimums. You can think of these minimums as individual "operations specifications" that can help guide the pilot's decisions and target areas for personal proficiency flying and future training.

Step 1: Preparation



Managing Expectations: You have probably seen it, or perhaps even experienced it yourself: pilot and CFI check the clock, spend *exactly* one hour reviewing 14 CFR Part 91 operating rules, and then head out for a quick pass through the basic maneuvers generally known as "airwork." The pilot departs with a fresh flight review endorsement and, on the basis of the minimum two hours required in 14 CFR 61.56, can legally operate for the next two years. This kind of flight review may be adequate for some pilots, but for others – especially those who do not fly on a regular basis – it is not. To serve the aviation safety purpose for which it was intended, therefore, the flight review must be far more than an exercise in watching the clock and checking the box.

AC 61-98A states that the flight review is "an instructional service designed to assess a pilot's knowledge and skills." The regulations are even more specific: 14 CFR 61.56 states that the person giving the flight review has the discretion to determine the maneuvers and procedures necessary for the pilot to demonstrate "safe exercise of the privileges of the pilot certificate." It is thus a proficiency-based exercise, and it is up to you, the instructional service provider, to determine how much time and what type of instruction is required to ensure that the pilot has the necessary knowledge and skills for safe operation.

Managing pilot expectations is key to ensuring that you don't later feel pressured to conduct a "minimum time" flight review for someone whose aeronautical skills are rusty. When a pilot schedules a flight review, use the form in Appendix 2 to find out not only about total time, but also about type of flying (e.g., local leisure flying, or cross-country flying for personal transportation) and recent flight experience. You also need to know if the pilot wants to combine the flight review with a new endorsement or aircraft checkout. Offer an initial estimate of how much time to plan for ground and flight training. How much time is "enough" will vary from pilot to pilot. Someone who flies the same airplane 200 hours every year may not need as much time as someone who has logged only 20 hours since the last flight review, or a pilot seeking a new endorsement in conjunction with the flight review. For pilots who have not flown at all for several years, a useful "rule of thumb" is to plan one hour of ground training and one hour of flight training for every year the pilot has been out of the cockpit. As appropriate, you can also suggest time in an aircraft training device (ATD), or a session of night flying for pilots whose activities include flying (especially VFR) after dark.

In preparation for the flight review session, give the pilot two assignments.

Review of Part 91: The regulations (14 CFR 61.56) state that the flight review must include a review of the current general operating and flight rules set out in Part 91. The *Aeronautical Information Manual* (AIM) also contains information that pilots need to know. Have the pilot complete the Flight Review Preparation Course now available in the Aviation Learning Center at www.faasafety.gov in advance of your session and bring a copy of the completion certificate to the flight review. The online course lets the pilot review material at his or her own pace and focus attention on areas of particular interest. Alternatively, provide a copy of the list in Appendix 3 as a self-study guide.

Cross-Country Flight Plan Assignment: Many people learn to fly for personal transportation, but the cross-country flight planning skills learned for practical test purposes can become rusty if they are not used on a regular basis. Structuring the flight review as a short cross-country (i.e., 30-50 miles from the home airport) is an excellent way to refresh the pilot's flight planning skills. Ask the pilot to plan a VFR cross-country to another airport, ideally one that he or she has not previously visited. Be sure to specify that the flight plan should include consideration of runway lengths, weather, expected aircraft performance, alternatives, length of runways to be used, traffic delays, fuel requirements, terrain avoidance strategies, and NOTAM/TFR information. The GA Pilot's Guide to Preflight Weather Planning, Weather Self-Briefings, and Weather Decision-Making may be of help to the pilot in this part of the exercise. Proficiency in weight and balance calculations is critical as well. If the pilot regularly flies with passengers, consider asking for calculations based on maximum gross weight.

It is within your discretion to require a "manual" flight plan created with a sectional chart, plotter, and E6B. In real-world flying, however, many pilots today use online flight planning software for basic information and calculations. Appropriate use of these tools can enhance safety in several ways: they provide precise course and heading information; the convenience may encourage more consistent use of a flight plan; and automating manual calculations leaves more time to consider weather, performance, terrain, alternatives, and other aspects of the flight. Encouraging the pilot to use his or her preferred online tool will give you a more realistic picture of real-world behavior, and the computer-generated plan will give you an excellent opportunity to point out both the advantages and the potential pitfalls of this method.

Step 2: Ground Review

The regulations (14 CFR 61.56) specify only that the ground portion of the flight review must include "a review of the current general operating and flight rules of Part 91." This section offers guidance on conducting that review. It also provides guidance on additional topics that you should address. These include:

- Review and discussion of the pre-assigned cross-country (XC) flight plan, with special emphasis on weather and weather decision-making; risk management and individual personal minimums; and

- General aviation security (TFRs, aircraft security, and airport security).

Regulatory Review. Since most GA pilots do not read rules on a regular basis, this review is an important way to refresh the pilot's knowledge of information critical to aviation safety, as well as to ensure that he or she stays up to date on changes since the last flight review or formal aviation training session. If the pilot has completed the online flight review course in advance, you will want to review the results and focus primarily on those questions the pilot answered incorrectly. If the pilot has done nothing to prepare, the chart in Appendix 3 is one way to guide your discussion. You might also organize the rules as they relate to the pre-assigned cross-country flight plan that you will discuss. The important thing is to put the rules and operating procedures into a context that is relevant and meaningful to the pilot, as opposed to the sequential approach that encourages rote memorization rather than higher levels of understanding.

XC Flight Plan Review: At the most basic level, you are reviewing the pre-assigned flight plan for accuracy and completeness (i.e., are the calculations correct? Did the pilot show understanding of the 14 CFR 91.103 requirement to become familiar with "all" available information?) You may want to use the Cross-Country Checklist in Appendix 4 as a guide for checking the completeness of the pre-assigned plan.

If the pilot used automated tools to develop the flight plan, here are some questions and issues that you should teach him or her to ask about the computer-generated package:

- How do I know that the computer-generated information is correct? (*Not all online flight planning and flight information tools are the same. Some provide real-time updates; others may be as dangerous as an out-of-date chart*.)

- Does the computer-generated information pass the "common sense" test? (*Garbage-in, garbage-out is a fundamental principle in any kind of automation. If a pilot headed for Augusta, Georgia (KAGS) mistakenly asks for KAUG, the resulting flight plan will go to Augusta, Maine instead.*)

- Does this plan include all the information I am required to consider? (*Some planning tools compute only course and distance, without regard to wind, terrain, performance, and other factors in a safety-focused flight plan*).

- Does this plan keep me out of trouble? (*What if the computer-proposed course takes you through high terrain in high density altitude conditions?*)

- What will I do if I cannot complete the flight according to this plan? (*Weather can always interfere, but pilots should also understand that flight planning software does not always generate ATC-preferred routes for IFR flying*.)

Each of these questions is directed to a critical point that you should emphasize: automated flight planning tools can be enormously helpful, but the pilot must *always* review the information with a critical eye, *frequently* supplement the computer's plan with additional information, and *never* simply assume that the computer-generated package "must be" okay because the machine is smarter.

Asking these kinds of questions is key to critical thinking, which is in turn the secret to good aeronautical decision-making (ADM) and risk management. There are many models for ADM, including charts that provide quantitative assessment and generate a numerical "score" that pilots can use in evaluating the level of risk. Although these tools can be useful, you may want to present the "3-P" method developed by the FAA Aviation Safety Program. This model encourages the pilot to **P**erceive hazards, **P**rocess risk level, and **P**erform risk management by asking a series of questions about various aspects of the flight. The handout in Appendix 5 explains this method in detail.

Since statistics show that weather is still the factor most likely to result in accidents with fatalities, the XC flight plan assignment also provides an important opportunity to discuss weather and weather decision-making. The GA Pilot's Guide to Preflight Weather Planning, Weather Self-Briefings, and Weather Decision-Making, which uses the 3-P method as a framework for weather decision-making, might be helpful in this discussion. If the pilot flies VFR at night, be sure to talk about night flying considerations, especially in overcast or "no moon" conditions.

GA Security: In the post-September 11 security environment, any security incident involving general aviation pilots, aircraft, and airports can prompt calls for new restrictions. As a flight instructor, you have a special responsibility to

ensure that your clients know and follow basic security procedures. These include not only respect for temporary flight restrictions (TFRs), but also for the importance of securing your aircraft against unauthorized use. Pilots should never leave the aircraft unlocked or, worse, unattended with the keys inside.

In addition, be sure that the pilot knows about the Airport Watch Program, which was developed by the Transportation Security Administration (TSA) and the Aircraft Owners and Pilots Association (AOPA). Airport Watch relies upon the nation's pilots to observe and report suspicious activity. The Airport Watch Program is supported by a government-provided toll free hotline (1-866-GA-SECURE) and system for reporting and acting on information provided by general aviation pilots. A checklist of what to look for is in Appendix 6. For detailed information on GA security, see TSA's GA security website and AOPA's online GA security resources page.

For specific information on flying in security-restricted airspace, including the Washington DC metropolitan area Air Defense Identification Zone (ADIZ), direct pilots to the FAA's new online ADIZ-TFR training course and to the Air Safety Foundation's online airspace training courses.

Step 3: Flight Activities

To operate safely in the modern flight environment, the pilot needs solid skills in three distinct, but interrelated, areas. These include:

- "Physical Airplane" Skills (i.e., basic stick-and-rudder proficiency);

- "Mental Airplane" Skills (i.e., knowledge and proficiency in aircraft systems);

- Aeronautical Decision-Making (ADM) Skills (i.e., higher-order thinking skills).

Many flight reviews consist almost exclusively of airwork followed by multiple takeoffs and landings. These maneuvers can give you a very good snapshot of the pilot's "physical airplane" skills. They are also good for the pilot, who gets a safe opportunity to practice proficiency maneuvers that he or she may not have performed since the last flight review. Airwork alone, however, will tell you little about the pilot's "mental airplane" knowledge of avionics and other aircraft systems, and even less about the pilot's ability to make safe and appropriate decisions in real-world flying (ADM). Therefore, you need to structure the exercise to give you a clear picture of the pilot's skills with respect to each area.

Having the pilot fly the cross-country trip you assigned and discussed in the ground review is a good way to achieve this goal. One leg will involve flying from departure to destination, during which you ensure that the pilot encounters scenarios that let you evaluate the pilot's systems knowledge ("mental airplane") and decision-making skills, including risk management. The other leg (which can come first, depending on how you choose to organize the exercise) will focus more on airwork, which allows you to evaluate "physical airplane" skills.

Be sure to include a diversion. Remember the computer-generated flight plan discussed during the ground review portion? While you are en route to the planned destination, give the pilot a scenario that requires an immediate diversion (e.g., mechanical problem, unexpected weather). Ask the pilot to

choose an alternate destination and, using all available and appropriate resources (e.g, chart, basic rules of thumb, "nearest" and "direct to" functions on the GPS) to calculate the approximate course, heading, distance, and time needed to reach the new destination. Proceed to that point and, if at all feasible, do some of the "physical airplane" pattern work at the unexpected alternate.

The diversion exercise has several benefits. First, it generates "teachable moments," which are defined as those times when the learner is most aware of the need for certain information or skills, and therefore most receptive to learning what you want to teach. Diverting to an airport surrounded by high terrain, for example, provides a "teachable moment" on the importance of obstacle awareness and terrain avoidance planning. Second, the diversion exercise quickly and efficiently reveals the pilot's level of skill in each of the three areas:

- *"Physical Airplane" Skills*: Does the pilot maintain control of the aircraft when faced with a major distraction? For a satisfactory flight review, the pilot should be able to perform all maneuvers in accordance with the Practical Test Standards (PTS) for the pilot certificate that he or she holds.

- "*Mental Airplane" Skills*: Does the pilot demonstrate knowledge and proficiency in using avionics, aircraft systems, and "bring-your-own-panel" handheld devices? Since many GA pilots use handheld GPS navigators, you will want to see whether the pilot can safely and appropriately operate the devices that will be used when you are not on board to monitor and serve as the ultimate safety net. Appropriate and proficient use of the autopilot is another "mental airplane" skill to evaluate in this exercise.

- *Aeronautical Decision-Making (ADM) Skills*: Give the pilot multiple opportunities to make decisions. Asking questions about those decisions is an excellent way to get the information you need to evaluate ADM skills, including risk management. For example, ask the pilot to explain why the alternate airport selected for the diversion exercise is a safe and appropriate choice. What are the possible hazards, and what can the pilot do to mitigate them? Be alert to the pilot's information and automation management skills as well. For example, does the pilot perform regular "common sense cross-checks" of what the GPS and/or the autopilot are doing?

For more ideas on generating scenarios that teach risk management, see the four pamphlets available online at www.faa.gov/library/manuals/pilot_risk/.

Step 4: Post flight Debriefing

Most instructors have experienced the traditional "sage on the stage" model of training, in which the teacher does all the talking and hands out grades with little or no student input. There is a place for this kind of debriefing; however, a collaborative critique is one of the most effective ways to determine that the pilot has not only the physical and mental airplane skills, but also the self-awareness and judgment needed for sound aeronautical decision-making. Here is one way to structure a collaborative post flight critique:

Replay: Rather than starting the post flight briefing with a laundry list of areas for improvement, ask the pilot to verbally *replay* the flight for you. Listen for areas where your perceptions are different, and explore why they don't match. This approach gives the pilot a chance to validate his or her own perceptions, and it gives you critical insight into his or her judgment abilities.

Reconstruct: The reconstruct stage encourages the pilot to learn by identifying the "would'a could'a should'a" elements of the flight – that is, the key things that he or she *would have*, *could have*, or *should have* done differently.

Reflect: Insights come from investing perceptions and experiences with meaning, which in turn requires reflection on these events. For example:

- What was the most important thing you learned today?
- What part of the session was easiest for you? What part was hardest?
- Did anything make you uncomfortable? If so, when did it occur?
- How would you assess your performance and your decisions?
- Did you perform in accordance with the Practical Test Standards?

Redirect: The final step is to help the pilot relate lessons learned in this flight to other experiences, and consider how they might help in future flights. Questions:

- How does this experience relate to previous flights?
- What might you do to mitigate a similar risk in a future flight?
- Which aspects of this experience might apply to future flights, and how?
- What personal minimums should you establish, and what additional proficiency flying and training might be useful?

I

Step 5: "Aeronautical Health" Maintenance & Improvement

If the pilot did not perform well enough for you to endorse him or her for satisfactory completion of the flight review, use the PTS as the objective standard to discuss areas needing improvement, as well as areas where the pilot performed well. Offer a practical course of action – ground training, flight training, or both – to help him or her get back up to standards. If possible, offer to schedule the next session before the pilot leaves the airport.

If the pilot's performance on both ground and flight portions was satisfactory, you can complete the flight review simply by endorsing the pilot's logbook. However, offer the pilot an opportunity to develop a personalized aeronautical health maintenance and improvement plan. Such a plan should include consideration of the following elements:

Personal Minimums Checklist: One of the most important concepts to convey in the flight review is that safe pilots understand the difference between what is "legal" in terms of the regulations, and what is "smart" in terms of pilot experience and proficiency. For this reason, assistance in completing a Personal Minimums Checklist tailored to the pilot's individual circumstances is perhaps the single most important "takeaway" item you can offer. Use the Personal Minimums Development Worksheets in Appendix 7 to help your client work through some of the questions that should be considered in establishing "hard" personal minimums, as well as in preflight and in-flight decision-making.

Personal Proficiency Practice Plan: Flying just for fun is one of the most wonderful benefits of being a pilot, but many pilots would appreciate your help in developing a plan for maintaining and improving basic aeronautical skills. You might use the suggested flight profile in Appendix 8 as a guide for developing a regular practice plan.

Training Plan: Discuss and schedule any additional training the pilot may need to achieve individual flying goals. For example, the pilot's goal might be to develop the competence and confidence needed to fly at night, or to lower personal minimums in one or more areas. Another goal might be completion of another phase in the FAA's Pilot Proficiency ("Wings") Program, or obtaining a complex, high performance, or tailwheel endorsement. Use the form in Appendix 9 to document the pilot's aeronautical goals and develop a specific training plan to help him or her achieve them.

The flight review is vital link in the general aviation safety chain. As a person authorized to conduct this review, you play a critical role in ensuring that it is a meaningful and effective tool for maintaining and enhancing GA safety.

Appendices

References

Selected portions of 14 CFR § 61.56

(a) A flight review consists of a minimum of 1 hour of flight training and 1 hour of ground training. The review must include:

(1) A review of the current general operating and flight rules of part 91 of this chapter; and
(2) A review of those maneuvers and procedures that, at the discretion of the person giving the review, are necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot certificate.

(c) Except as provided in paragraphs (d), (e), and (g) of this section, no person may act as pilot in command of an aircraft unless, since the beginning of the 24th calendar month before the month in which that pilot acts as pilot in command, that person has—

(1) Accomplished a flight review given in an aircraft for which that pilot is rated by an authorized instructor and
(2) A logbook endorsed from an authorized instructor who gave the review certifying that the person has satisfactorily completed the review.

(d) A person who has, within the period specified in paragraph (c) of this section, passed a pilot proficiency check conducted by an examiner, an approved pilot check airman, or a U.S. Armed Force, for a pilot certificate, rating, or operating privilege need not accomplish the flight review required by this section.

(e) A person who has, within the period specified in paragraph (c) of this section, satisfactorily accomplished one or more phases of an FAA-sponsored pilot proficiency award program need not accomplish the flight review required by this section.

AC—61-65E

Completion of a flight review: § 61.56(a) and (c) I certify that (First name, MI, Last name), (pilot certificate), (certificate number), has satisfactorily completed a flight review of § 61.56(a) on (date).

S/S [date] J. J. Jones 987654321CFI Exp. 12-31-07

NOTE: No logbook entry reflecting unsatisfactory performance on a flight review is required.

For aviation safety information and online resources, visit: www.faasafety.gov

Flight Review Checklist

Step 1: Preparation

- o Pilot's Aeronautical History
- o Part 91 Review Assignment
- o Cross-Country Flight Plan Assignment

Step 2: Ground Review

- o Regulatory Review
- o Cross-Country Flight Plan Review
  - Weather & Weather Decision-Making
  - Risk Management & Personal Minimums
- o GA Security Issues

Step 3: Flight Activities

- o Physical Airplane (basic skills)
- o Mental Airplane (systems knowledge)
- o Aeronautical Decision-Making

Step 4: Postflight Discussion

- o Replay, Reflect, Reconstruct, Redirect
- o Questions

Step 5: Aeronautical Health Maintenance & Improvement Plan

- o Personal Minimums Checklist
- o Personal Proficiency Practice Plan
- o Training Plan (if desired)

Ground Review

P	**Experience**: Recent flight experience (61.57) **Responsibility**: Authority (91.3) ATC Instructions(91.123) Preflight action (91.103) Safety belts (91.107) Flight crew at station (91.105) **Cautions**: Careless or reckless operation (91.13) Dropping objects (91.15) Alcohol or drugs (91.17 Supplemental oxygen (91.211) Fitness for flight (AIM Chapter 8, Section 1)
A	**Airworthiness**: Basic (91.7) Flight manual, markings, placards (91.9) Certifications required (91.203) Instrument & equipment requirements (91.205) -ELT (91.207) -Position lights (91.209) -Transponder requirements (91.215) -Inoperative instruments and equipment (91.213) **Maintenance**: Responsibility (91.403) Maintenance required (91.405) Maintenance records (91.417) Operation after maintenance (91.407) **Inspections**: Annual, Airworthiness Directives, 100-Hour (91.409) Altimeter & Pitot Static System (91.411) VOR check (91.171) Transponder (91.413) ELT (91.207)
V	**Airports** Markings (AIM Chapter 2, Section 3) Operations (AIM 4-3; 91.126, 91.125) Traffic Patterns (91.126 **Airspace** Altimeter Settings (91.121; AIM 7-2) Minimum Safe Altitudes (91.119, 91.177) Cruising Altitudes (91.159, 91.179; AIM 3-1-5) Speed Limits (91.117) Right of Way (91.113) Formation (91.111) Types of Airspace (AIM 3) -Controlled Airspace (AIM 3-2; 91.135, 91.131, 91.130, 91.129) -Class G Airspace (AIM 3-3) -Special Use (AIM 3-4; 91.133, 91.137, 91.141. 91.143, 91.145) Emergency Air Traffic Rules (91.139; AIM 5-6) **Air Traffic Control & Procedures** Services (4-1) Radio Communications (4-2 & Pilot/Controller Glossary) Clearances (4-4) Procedures (AIM 5) **Weather** Meteorology (AIM 7-1) Wake Turbulence (AIM 7-3)
E	Personal Minimums Checklist Risk Management (3-P model) PTS Special Emphasis Items

Suggested Flight Activities

Note: Structure the flight portion as an out-and-back VFR XC, with one leg focused on XC procedures (including diversion and lost procedures and the other leg focused on airwork ("physical airplane" skills). Suggested activities include:

AREA OF OPERATION (from Private Pilot PTS)
I. PREFLIGHT PREPARATION **A.** Weather Information **B.** Cross-Country Flight Planning **F.** Performance and Limitations **G** Operation of Systems
II. PREFLIGHT PROCEDURES **A.** Preflight Inspections **B.** Cockpit Management **F.** Before Takeoff Check
III. AIRPORT OPERATIONS **A.** Radio Communications **C.** Airport, Runway, Taxiway Signs, Markings, & Lighting
IV. TAKEOFFS, LANDINGS, AND GO-AROUNDS **A.** Normal and Crosswind Takeoff/Climb **B.** Normal and Crosswind Approach/Landing **C**. Soft-Field Takeoff and Climb **D**. Soft-Field Approach and Landing **E**. Short-Field Takeoff **F**. Short-Field Approach **L**. Go-Around/Rejected Landing
V. PERFORMANCE MANEUVER **A.** Steep Turns
VII. NAVIGATION **A.** Pilotage and Dead Reckoning **B.** Navigation Systems & Radar Services **C.** Diversion **D.** Lost Procedures
VIII. SLOW FLIGHT AND STALLS **A**. Maneuvering During Slow Flight **B**. Power-Off Stalls **C**. Power-On Stalls **D**. Spin Awareness
IX. BASIC INSTRUMENT MANEUVERS **A.** Straight and Level Flight **D.** Turns to Headings **E**. Recovery from Unusual Flight Attitudes **F**. Radio Communications/Nav Systems
X. EMERGENCY OPERATIONS **A.** Emergency Approach and Landing **B**. Systems and Equipment Malfunctions
XI. POSTFLIGHT PROCEDURES **A.** After Landing, Parking, Securing

Pilot's Aeronautical History for Flight Review

Pilot's Name:_____ CFI:_____
Address:_____
Phone(s):_____ e-mail:_____

Type of Pilot Certificate(s):
Private_____ Commercial_____ ATP_____ Flight Instructor_____

Rating(s):
Instrument_____ Multiengine _____

Experience (Pilot):
Total time_____ Last 6 months_____ Avg hours/month_____

Time logged since last flight review_____ Since last IPC_____

Experience (Aircraft):
Aircraft type(s) you fly_____
_____

Aircraft used most often_____

For this aircraft:
Total time_____ Last 6 months_____ Avg hours/month_____

Experience (Flight environment):

Since your last flight review, approximately how many hours have you logged in:

Day VFR_____ Day IFR_____ IMC_____
Night VFR_____ Night IFR_____

Mountainous terrain_____ Overwater flying_____

Airport with control tower_____ Airport w/o control tower_____

Type of Flying (External factors):

What percentage of your flying is for:
Pleasure_____Business_____ Local_____ XC_____

Personal Skills Assessment:
What are your strengths as a pilot?_____
What do you most want to practice/improve?_____
What are your aviation goals?_____

Regulatory Review Guide

Pilot	**Experience**: Recent flight experience (61.57) **Responsibility**: Authority (91.3) ATC Instructions(91.123) Preflight action (91.103) Safety belts (91.107) Flight crew at station (91.105) **Cautions**: Careless or reckless operation (91.13) Dropping objects (91.15) Alcohol or drugs (91.17 Supplemental oxygen (91.211) Fitness for flight (AIM Chapter 8, Section 1)
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External pressues	Personal Minimums Checklist Risk Management (3-P model) PTS Special Emphasis Items

Pilot's Cross-Country Checklist

PILOT

- ☐ Review Personal Minimums Checklist
  - ☐ Recency (time/practice in last 30 days)
  - ☐ Currency (takeoffs & landings, IFR currency if applicable)
  - ☐ Terrain & airspace (familiarity?)
  - ☐ Health & well-being

AIRCRAFT

- ☐ Overall mechanical condition
- ☐ Avionics & systems
- ☐ Performance calculations
- ☐ Fuel requirements
- ☐ Other equipment

ENVIRONMENT

- ☐ Weather
  - ☐ Reports & forecasts
    - ☐ Departure
    - ☐ En route
    - ☐ Destination
  - ☐ Severe weather forecasts?
  - ☐ Weather stability?
  - ☐ Alternate required?
- ☐ Night
  - ☐ Flashlights available
  - ☐ Terrain avoidance plan
- ☐ Airspace
    - ☐ TFRs or other restrictions
    - ☐ COM/NAV equipment requirements
    - ☐ Cruising altitude(s)
- ☐ Terrain
    - ☐ VFR & IFR charts with MSA / MEA altitudes
    - ☐ AOPA/ASF Terrain Avoidance Planning
- ☐ Airports
    - ☐ COM/NAV requirements & frequencies
    - ☐ Runway lengths
    - ☐ Services available

EXTERNAL PRESSURES

- ☐ Family expectations?
- ☐ Passenger needs / expectations?
- ☐ Weather worries?
- ☐ Prepared for diversion (money, accommodations)?
- ☐ Time pressures (e.g., "must be at work" issues)?

3-P Risk Management Process

Good aeronautical decision-making includes risk management, a process that systematically identifies hazards, assesses the degree of risk, and determines the best course of action. There are many models for risk management, including charts that generate a numerical "score." Although these tools can be useful, numbers-based tools suggest a level of precision that may be misleading.

An alternative method is the Perceive – Process – Perform risk management and aeronautical decision-making model developed by the FAA Aviation Safety Program. There are three basic steps in this model:

PERCEIVE hazards

PROCESS to evaluate level of risk

PERFORM risk management

PERCEIVE: The goal is to identify hazards, which are events, objects, or circumstances that could contribute to an undesired event. You need to consider hazards associated with:

Pilot
Aircraft
en**V**ironment
External Pressures.

PROCESS: Ask questions to determine what can hurt you. In short, why do you have to **CARE** about these hazards?

What are the **C**onsequences?
What are the **A**lternatives available to me?
What is the **R**eality of the situation facing me?
What kind of **E**xternal pressures may affect my thinking?

PERFORM: Change the situation in your favor. Your objective is to make sure the hazard does not hurt **ME** or my loved ones, so work to either

Mitigate the risk involved, or
Eliminate the risk involved.

General Aviation Security

The Transportation Security Administration (TSA) has partnered with the Aircraft Owners and Pilots Association (AOPA) to develop a nationwide Airport Watch Program that uses the more than 650,000 pilots as eyes and ears for observing and reporting suspicious activity. This partnership helps general aviation keep our airports secure without needless and expensive security requirements. AOPA Airport Watch is supported by a centralized government provided toll free hotline (1-866-GA-SECURE) and system for reporting and acting on information provided by general aviation pilots. The Airport Watch Program includes warning signs for airports, informational literature, and training videotape to educate pilots and airport employees as to how security of their airports and aircraft can be enhanced.

Here's what to look for:

- Pilots who appear under the control of someone else.
- Anyone trying to access an aircraft through force — without keys, using a crowbar or screwdriver.
- Anyone who seems unfamiliar with aviation procedures trying to check out an airplane.
- Anyone who misuses aviation lingo — or seems too eager to use all the lingo
- People or groups who seem determined to keep to themselves.
- Any members of your airport neighborhood who work to avoid contact with you or other airport tenants.
- Anyone who appears to be just loitering, with no specific reason for being there.
- Any out-of-the-ordinary videotaping of aircraft or hangars.
- Aircraft with unusual or obviously unauthorized modifications.
- Dangerous cargo or loads — explosives, chemicals, openly displayed weapons — being loaded into an airplane.
- Anything that strikes you as wrong — listen to your gut instinct, and then follow through.
- Pay special attention to height, weight, and the individual's clothing or other identifiable traits.

Use common sense. Not all these items indicate terrorist activity.
When in doubt, check it out!
Check with airport staff or call the National Response Center
1-866-GA-SECURE!

Baseline Personal Minimums

Weather Condition		VFR	MVFR	IFR	LIFR
Ceiling					
	Day				
	Night				
Visibility					
	Day				
	Night				
Turbulence		**SE**	**ME**	**Make/Model**	
	Surface Wind Speed				
	Surface Wind Gust				
	Crosswind Component				
Performance		**SE**	**ME**	**Make/Model**	
	Shortest runway				
	Highest terrain				
	Highest density altitude				

	If you are facing:		Adjust baseline personal minimums to:
Pilot	Illness, medication, stress, or fatigue; lack of currency (e.g., haven't flown for several weeks)	Add	*At least* 500 feet to ceiling
			At least ½ mile to visibility
Aircraft	An unfamiliar airplane, or an aircraft with unfamiliar avionics/ equipment:		*At least* 500 ft to runway length
enVironment	Airports and airspace with different terrain or unfamiliar characteristics	Subtract	*At least* 5 knots from winds
External Pressures	"Must meet" deadlines, passenger pressures; etc.		

Federal Aviation Administration

Getting the Maximum from Personal Minimums

Step 1 – Review Weather Minimums

Step 2 – Assess Your Experience and Personal Comfort Level

Step 3 – Consider Other Conditions

Step 4 – Assemble and Evaluate

Step 5 – Adjust for Specific Conditions

Step 6 – Stick to the Plan!

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

Think of personal minimums as the human factors equivalent of reserve fuel. Personal minimums should be set so as to provide a solid safety buffer between the *skills required* for the specific flight you want to make, and the *skills available* to you through training, experience, currency, and proficiency.

Review and record your certification, training, and recent experience history on the chart below.

CERTIFICATION LEVEL	
Certificate level (e.g., private, commercial, ATP)	
Ratings (e.g., instrument, multiengine)	
Endorsements (e.g., complex, high performance, 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	
Time since checkout in airplane 3	
Variation in equipment (e.g., GPS navigators, autopilot)	
EXPERIENCE	
Total flying time	
Years of flying experience	
RECENT EXPERIENCE (last 12 months)	
Hours	
Hours in this airplane (or identical model)	
Landings	
Night hours	
Night landings	
Hours flown in high density altitude	
Hours flown in mountainous terrain	
Crosswind landings	
IFR hours	
IMC hours (actual conditions)	
Approaches (actual or simulated)	

Summarize values for weather experience and "comfort level" in the chart below, and enter values for turbulence & performance.

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

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

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

Personal Proficiency Practice Plan

Pilot's Name:_____ CFI:_____
Date:_____ Review Date:_____

VFR Flight Profile – Every 4-6 Weeks:

Preflight (include 3-P Risk Management Process)

Normal taxi, takeoff, departure to practice area.

CHAPS (before each maneuver):
- **C**lear the area
- **H**eading established & noted
- **A**ltitude established (at least 3,000 AGL)
- **P**osition near a suitable emergency landing area
- **S**et power and aircraft configuration

Steep turns (both directions), maintaining altitude within 100' and airspeed within 10 knots.

Power-off stalls (approach to landing) & recovery.

Power-on stalls (takeoff/departure) & recovery.

Ground reference maneuvers.

Pattern practice:
- Normal landing (full flaps)
- Short-field takeoff and landing over a 50' obstacle
- Soft-field takeoff and landing

Secure the aircraft.

Review your performance.

Schedule next proficiency flight.

Personal Aeronautical Goals

Pilot's Name:_____ CFI:_____
Date:_____ Review Date:_____

Training Goals

_____ Certificate Level (Private, Commercial, ATP)
_____ Ratings (Instrument, AMEL, ASES, AMES, etc)
_____ Endorsements (high performance, complex, tailwheel, high altitude)
_____ Phase in Pilot Proficiency (Wings) Program
_____ Instructor Qualifications (CFI, CFI-I, MEI, AGI, IGI)
Other: _____
_____

Proficiency Goals

_____ Lower personal minimums to:

_____ Ceiling
_____ Visibility
_____ Winds
_____ Precision Approach Minimums
_____ Non-Precision Approach Minimums

_____ Fly at least:

_____ Times per month
_____ Hours per month
_____ Hours per year
_____ XC flights per year
_____ Night hours per month

_____ Make a XC trip to:
_____
Other: _____
_____

Aeronautical Training Plan

_____
_____
_____
_____
_____
_____
_____

Resources

Currency and Additional Qualification Requirements for Certificated Pilots
(AC 61-98A)

GA Pilot's Guide to Preflight Weather Planning, Weather Self-Briefings, and Weather Decision-Making
www.faa.gov/pilots/safety/media/ga_weather_decision_making.pdf

Night Flying
www.aopa.org/asf/safety_topics.html#night

Online Resources for CFIs
www.faasafety.gov

Personal Minimums Checklist
http://www.faasafety.gov/ALC/libdata/live/63290627840806706 3/Developing%20Personal%20Minimums.pdf

Personal and Weather Risk Assessment Guide
http://www.faa.gov/education_research/training/fits/guidance/media/Pers%20Wx%20Risk%20Assessment%20Guide-V1.0.pdf

Risk Management and System Safety Modules
www.faa.gov/education_research/training/fits/training/flight_instructor/

Risk Management Teaching Tips
www.faa.gov/library/manuals/pilot_risk

Security for GA
http://www.tsa.gov/what_we_do/ga/editorial_1214.shtm

Security for GA (AOPA Airport Watch)
http://www.aopa.org/airportwatch/

Teaching Practical Risk Management
www.faa.gov/library/aviation_news/2005/media/MayJune2005Issue.pdf

Tools for CFIs (AOPA)
http://flighttraining.aopa.org/cfi_tools/