



PRACTICAL GUIDE

to the

Private Pilot Checkride

Gregg Brightwell

THE PRACTICAL EXAM GUIDE SERIES

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Practical Guide to the Private Pilot Checkride
Study guide for the ground portion of the FAA Practical Exam

Gregg Brightwell

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Cover photo: Shutterstock, Stacey Newman

Printed in the United States of America
2017 2016 2015 2014 9 8 7 6 5 4 3 2 1

ASA-PRACT-PVT
ISBN 978-1-61954-195-5

Library of Congress Cataloging-in-Publication Data

Brightwell, Gregg, author.

Practical guide to the private pilot checkride / Gregg Brightwell.
pages cm – (Practical exam guide series)

“Study guide for the ground portion of the FAA Practical Exam “ – Title page verso.

ISBN 978-1-61954-195-5 (trade paper) – ISBN 1-61954-195-5 (trade paper)

1. Airplanes—Piloting—Examinations—Study guides. 2. Airplanes—Piloting—
Handbooks, manuals, etc. 3. Private flying—United States—Examinations, questions,
etc. 4. United States. Federal Aviation Administration—Examinations. I. Title.

TL710.B64 2014

629.132'5217076—dc23

2014031748

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Foreword

by Nan Gaylord

I first met Gregg when he was a student in my CFI Practical and Exam Prep Course in February 2009. I immediately recognized his **spirit of excellence** and demand for the **pursuit of perfection**. I love those traits in a person—and *especially* in my flight instructors and pilots! His lesson plans were the best I had ever seen in my 41 years as a CFI and 25 years as a DPE (having administered more than 1,000 CFI Initial Practical Exams for the OKC FSDO). I have since used them as examples for the other students. When he told me he was going to put them in a book made available to CFI wannabes and people preparing for the mother of all checkrides—the CFI initial exam—I was *thrilled*.

It has been over a year now since the release of Gregg’s first book—the *Practical Guide to the CFI Checkride*. I have recommended the book to all of my students taking my CFI class, for their use in helping to prepare for their practical exam. **It has been a huge success with them and their results on the exams.**

So I am *very excited* that Gregg is now offering the same type of guidance to prepare for the Private Pilot Practical Exam! Whether you are getting your private pilot certificate for the luxury of “fun flying,” or perhaps transportation, or beginning the first step in a new career, it is vitally important that you learn things correctly the *first time*—in aviation we call this “the Law of Primacy.” I believe this book will give you the guidance to do that.

There is no mystery to passing the Private Pilot Practical Exam on the first attempt if you follow Gregg’s carefully laid out directions; the entire ground portion of the exam is here—the outcome will be determined by your preparation. I strongly endorse this book and think it will greatly assist you in preparing for the ground portion of the Private Pilot Practical Exam.

Good Luck and Tailwinds,

Nan

Nan is an ATP/SEL&MEL, Gold Seal And Master CFI/CFII/MEI, Master Ground Instructor/GIA&I. With over 10,000 hours, she has administered over 7,000 practical exams including over 1,000 CFI initial practical exams.

Acknowledgments

Throughout this book, I reference many sources and most are textual references from the FAA. Yet perhaps the most important reference source for this book is the knowledge and experience I acquired from Nanette Gaylord, CFI in the Tulsa, Oklahoma area. Her expertise has greatly benefited my CFI studies. With her help, I was very well prepared for my CFI practical exam with the FSDO in Oklahoma City, and scored high praise from the administering inspector.

About the Author

Gregg Brightwell holds a B.S. in Aviation Science, CFI(I)/MEI, AGI, ATP, and A&P certificates, and has worked for Cessna Aircraft Company as an Experimental Flight Mechanic, Production Flight Test Pilot, and Avionics Technician; currently he is a Flight Test Engineer at Bombardier Learjet. He is passionate about aviation and loves the freedom flying offers, as well as sharing this with his students.

Introduction

The intent of this book is to consider the vast amount of information that aspiring pilots must learn and find ways to help simplify this task by organizing and *managing* it. There are dozens of FAA Advisory Circulars (ACs), official FAA manuals, and other instructional books out there that go into great detail teaching what there is to know about all things pertaining to aviation. So Private Pilot applicants read, and read, and then read some more.

Preparing for the Private Pilot practical exam is hard. It takes a lot of dedication, very disciplined studying, and can be a significant expense. Then, after all of that, you ask yourself, “What is the examiner looking for?” Speaking of “examiner,” let’s clarify that term. On practical exams for other certificates or ratings, applicants can choose either a Designated Pilot Examiner (DPE) or an FAA Aviation Safety Inspector in operations. So from here forward, the terms *examiner* and *inspector* will be used interchangeably.

Back to what the examiner is looking for: as with other certificates and ratings, the Private Pilot applicant will be tested using the appropriate FAA Practical Test Standards (PTS). These standards cover the expectations, and tolerances that must be met to earn the Private Pilot Certificate. Therefore, as you begin to prepare for your practical test, where do you start? How do you organize and prioritize all this information? How do you correlate the Practical Test Standards to what you’ve learned in your studies? What specifically do you need to know to demonstrate mastery of a given subject? How do the “Area of Operations” and “Tasks” translate to questions you can expect examiners to ask?

These are the questions this book is designed to answer—it can serve as a plain-language study guide to help you navigate through all those thousands of pages of material. This book can help you organize that material and correlate it to the FAA’s training and testing document by clarifying wherever the PTS is vague about source materials.

A note: this book does not include discussions on the Areas of Operation IV–XII, which is the flight portion of the practical exam—these were intentionally omitted. The examiners and inspectors I queried agreed that applicants who

do well on the ground portion of the exam typically do well on the flight portion. Applicants generally spend enough time rehearsing and preparing for the flight portion, yet they underestimate the significance of the ground portion.

Areas of Operation are phases of the practical test arranged in a logical sequence within each standard. They begin with Preflight Preparation and end with Postflight Procedures. The examiner may conduct the practical test in any sequence that will result in a complete and efficient test. However, the ground portion of the test *will* be conducted before the flight portion.

So, let's get started: Use this book as a guide to help you prepare for the ground portion of the practical test. With all this preparation, you'll be better able to pull the pertinent knowledge from the original sources. There *is* a lot to learn, but you *can* do it! Are you ready to become a licensed private pilot?

Practical Test Essentials

Prerequisites for the Private Pilot Certificate

For the sake of discussion in this book, the assumption will be that you are applying for your Private Pilot certificate, in a single-engine land airplane.

What are the prerequisites to becoming a Private Pilot? The answer is in Title 14 of the Code of Federal Regulations (14 CFR) Part 61. So, let's take a look at the current FAR/AIM (Federal Aviation Regulations/Aeronautical Information Manual), at §61.103—Eligibility Requirements. To be eligible to take the Private Pilot Practical Test, an applicant must:

1. Be at least 17 years of age.
2. Be able to read, speak, write, and understand the English language. If there is a doubt, use Advisory Circular (AC) 60-28, English Language Skill Standards.
3. Have passed the appropriate private pilot knowledge test since the beginning of the 24th month before the month in which he or she takes the practical test. Or, more simply put, you have 2 years from the last day of the month in which you took the knowledge exam, to take and pass the practical test. After that date, the test will expire, and must be retaken.
4. Have satisfactorily accomplished the required training and obtained the aeronautical experience prescribed;
5. Possess at least a current third class medical certificate. Also, if you are a military pilot of the U.S. Armed Forces, you can show and present evidence of an up-to-date medical examination authorizing pilot status issued by the U.S. Armed Forces;
6. Have an endorsement from an authorized instructor certifying that the applicant has received and logged training time within two (2) calendar months preceding the date of application in preparation for the practical test, and is prepared for the practical test;

7. Receive and log ground training from an authorized instructor or complete a home-study course on the aeronautical knowledge areas of 14 CFR §61.105 paragraph (b) that apply to the aircraft category and class rating sought; and
8. Also have an endorsement certifying that the applicant has demonstrated satisfactory knowledge of the subject areas in which the applicant was deficient on the airman knowledge test (not required for power aircraft to non-power aircraft or power aircraft to power aircraft for additional category or class rating).

Aircraft and Equipment Required for the Practical Test

The private pilot—airplane applicant is required by 14 CFR §61.45 to provide an airworthy, certificated aircraft for use during the practical test. This section further requires that the aircraft must:

1. Be of U.S., foreign, or military registry of the same category, class, and type, if applicable, for the certificate and/or rating for which the applicant is applying;
2. Have fully functioning dual controls, except as provided for in 14 CFR §61.45(c) and (e); and
3. Be capable of performing all Areas of Operation appropriate to the rating sought and have no operating limitations, which prohibit its use in any of the Areas of Operation, required for the practical test.

Special Emphasis Areas

The Private Pilot PTS lists 16 “special emphasis areas.” While not part of a particular PTS “Task,” or element of a Task, the FAA considers these special areas essential to flight safety. During your practical test, you will be evaluated on them constantly—often without you even knowing about it. For example, there isn’t a specific Task for “positive aircraft control,” but rest assured that you are being evaluated, during the *entire* practical test and for *every* Task, on positive aircraft control.

So each of the following 16 areas will be evaluated in this way, throughout the practical test:

1. Positive aircraft control.
2. Positive exchange of the flight controls procedure.
3. Stall/spin awareness.
4. Collision avoidance.
5. Wake turbulence avoidance.
6. LAHSO.

7. Runway incursion avoidance.
8. CFIT.
9. ADM and risk management.
10. Wire strike avoidance.
11. Checklist usage.
12. Temporary flight restrictions (TFRs).
13. Special use airspace (SUA).
14. Aviation security.
15. Single-Pilot Resource Management (SRM).
16. Other areas deemed appropriate to any phase of the practical test.

Single-Pilot Resource Management (SRM)

The FAA defines SRM as “the art and science of managing all the resources (both onboard the aircraft and from outside sources) available to a single pilot (prior to and during flight) to ensure that the successful outcome of the flight is never in doubt.” In more practical terms it means to use *all* available resources, from preflight to postflight, to set yourself up for success.

The following six items are areas of SRM, as listed in the PTS:

1. Aeronautical decision making (ADM)
2. Risk management
3. Task management
4. Situational awareness
5. Controlled flight into terrain (CFIT) awareness
6. Automation management

All six of these areas are covered at length in the various ground school textbooks and in the Private Pilot PTS (reminder: the PTS is included as an appendix at the end of this book). Each area is important and worth a separate discussion here; below is a brief explanation of each area of SRM.

Aeronautical Decision Making (ADM)

Sound ADM is learned over time, not overnight. However, common sense and a realistic assessment of your piloting abilities go a long way toward setting yourself up for success. Don't put yourself in a position where the airplane, environment, weather, or controller can get the best of you. Just because a 3,000-foot ceiling and 5 miles visibility constitutes VFR doesn't necessarily mean that the weather is “good enough” for the trip you are taking. Even if you set yourself up perfectly for a proper traffic pattern entry, it's wasted effort if you jammed yourself into that pattern with 10 other aircraft. Some good advice for developing good ADM is “Look Ahead, Plan Ahead.” *Anticipate* the obstacles that you may encounter in the next phase of your flight.

Risk Management

Risk is defined as the probability and possible severity of accident or loss from exposure to various hazards, including injury to people and loss of resources. So how do we manage risk? We must determine the risks, the type and level. After the level of risk has been determined, actions can be taken to mitigate that risk. For example, a non-instrument pilot with marginal weather planned for his flight can reduce the risks of MVFR by waiting for weather to improve, taking along an instrument-rated pilot, delaying or canceling the trip, or just by driving instead. The following are three tools and/or checklists commonly employed in managing risk:

The PAVE Checklist

- Pilot-in-command—Is the pilot ready for the trip? Reference the IMSAFE checklist below.
- Aircraft—Is the aircraft and its equipment familiar to the pilot and ready/suitable for the trip?
- EnVironment—Weather, terrain, airspace, airports and day/night are all factors to consider.
- External pressures—“Get-there-itis” or adhering to the schedule no matter what, a desire to impress, etc.; is this affecting the flight?

IMSAFE Checklist (These questions focus especially on you, the pilot.)

- Illness—Any symptoms?
- Medication—Have I been taking prescription or over-the-counter drugs?
- Stress—Am I worried about health, money, family, or having trouble at work?
- Alcohol—Have I been drinking in the last 8 hours? 24 hours?
- Fatigue—Am I tired, and not well-rested?
- Eating—Am I adequately nourished?

5P Model (Note: this is a *practical* application of SRM.)

- The Plan—The mission or task. Dynamic, the plan can change as situations change.
- The Plane—Are the airplane and its systems suitable for the mission?
- The Pilot—Reference the IMSAFE checklist, assess and mitigate risks to make operation safer.
- The Passengers—Accommodate, but do not sacrifice personal minimums to complete mission.
- The Programming—The pilot must be familiar with the onboard equipment in the airplane. Programming flight plans, approaches, and route changes take time and attention. Make certain that the pilot can program the equipment and at the same time, stay ahead of the airplane.

Task Management

Task management refers to the process by which pilots manage the many concurrent tasks that must be performed to safely and efficiently fly a modern aircraft. These tasks are performed by humans, not by machines. It is up to the pilot to prioritize the necessary tasks for the flight. The pilot must constantly monitor the task load and allocate resources (both human and machine) to complete these tasks. It is vitally important to remember that humans have a limited capacity. Failure to employ proper task management can lead to task saturation.

Situational Awareness

Situational awareness (SA) means knowing every element of where the aircraft is in regard to location, air traffic control, weather, regulations, aircraft status, and other factors that may affect safety before, during and after the flight. To keep SA in check, pilots must take a proactive approach, and stay ahead of the aircraft. In other words, you must know what is supposed to happen next, and how you are supposed to respond.

Controlled Flight into Terrain (CFIT) Awareness

CFIT awareness is vitally important; during your flight planning, take note of any obstacle and terrain hazards along the route, and avoid them along the route if possible. Using the proper and current charts is absolutely necessary, as well as knowing the limitations of the aircraft. Always have a Plan B, and be prepared to divert as necessary. Lastly, use all available resources; TAWS, GPWS (if equipped), and VFR sectionals (topographic) are excellent ones.

Automation Management

Automation management is the demonstrated ability to control and navigate an aircraft by means of the automated systems installed in the aircraft. Modern aircraft can be very well equipped, with high levels of automation. It is critical that you always know the status and current mode of your autopilot or FMS, and what the next anticipated mode will be. If the autopilot or FMS is not operating properly, for whatever reason, you must recognize this and either correct the issue or disengage the automation as necessary. The automation is there to reduce workload, not add to it.

Applying the PTS Objectives and Tasks

What we have discussed so far is what it takes just to be *eligible* to take the practical test. Next, we will cover what you should study in order to prepare for it. Just like in all the Practical Test Standards, the Private Pilot PTS is broken down into “Areas of Operation” (AOs), “Tasks,” and “Elements” within those Tasks. Our objective, then, is to further break down each of these elements into a *practical* application. To begin that process, the next section will begin with “Area of Operation I, Preflight Preparation

In this text you will find many, many acronyms—and detailed explanations will follow those acronyms. But don’t expect the examiner to be impressed just

because you can memorize complicated textbook answers. It is called a “practical test” for a reason: you must *demonstrate* proficiency and knowledge, which requires a much deeper understanding than mere memorization. The examiner will quiz you using mostly situational and “what if?” scenario-based questions. This is the reason for working to practically apply the PTS objectives—so you can answer the examiner’s often “real-world” or scenario-based questioning.

The Private Pilot practical test is largely about preparation. Adequate preparation will be rewarded with a temporary pilot certificate. Inadequate preparation will be rewarded with an invitation to come back and try again.

Note: Specific aircraft information listed within this book is for a Cessna 172, which is highly representative of the typical general aviation training fleet.

Area of Operation I:

Preflight Preparation

Task A: Certificates and Documents

Task B: Airworthiness Requirements

Task C: Weather Information

Task D: Cross-Country Flight Planning

Task E: National Airspace System

Task F: Performance and Limitations

Task G: Operation of Systems

Task H: Water and Seaplane Characteristics

Task I: Seaplane BASES, Maritime Rules, and Aids to Marine Navigation

Task J: Aeromedical Factors

Task A: Certificates and Documents

References: 14 CFR §§61.103–61.117, 61.113.

As a Private Pilot applicant, you must exhibit satisfactory knowledge of the elements related to certificates and documents by:

1. Explaining—

a. private pilot certificate privileges, limitations, and recent flight experience requirements.

Recent pilot flight experience requirements:

- To act as PIC: 14 CFR §61.56, §61.57
- Flight review within preceding 24 months (new certificate or rating takes the place of flight review).
- To carry passengers, day: 3 takeoffs/landings within preceding 90 days (can be touch-and-go's).
- To carry passengers, night: 3 takeoffs/landings within last 90 days (must be full stop).
- Night takeoffs and landings must be logged 1 hour after sunset to 1 hour before sunrise.

Private pilots—privileges and limitations, §61.113:

- *may not* fly for hire or for compensation.
- *may not* pay less than pro rata share for the flight.
- may act as PIC of a flight for a charitable event, within the guidelines of 14 CFR §91.146.

b. medical certificate class and duration.

First class medical:

- For ATP privileges, good for 12 months under age 40, 6 months over age 40.
- Thereafter, reverts to 2nd class privileges until the end of the 24th month after issuance (any age).
- Can operate with 3rd class privileges until the end of the 60th month after issuance (under 40).

Second class medical:

- For commercial operations, good for 12 months (any age).
- Thereafter, reverts to 3rd class privileges until the end of the 24th month after issuance if over 40.
- Can operate with 3rd class privileges until the end of the 60th month after issuance if under age 40.

Third class medical:

- Good for 60 months under age 40, 24 months for over age 40.

c. pilot logbook or flight records.

The only information required to be entered into a pilot's logbook is that which is required for a certificate, rating, recency, or flight review. However, pilots *should* also log date, flight time, departure and arrival location, type of flight (solo, PIC, flight/ground training given), and conditions of flight (VFR, IFR, etc.).

2. Locating and explaining—

Remember the acronym AROW.

NOTE: If *any* of the four items below are NOT onboard the aircraft, then you are not legal to fly—the aircraft is rendered unairworthy.

a. airworthiness and registration certificates.

Airworthiness certificate—Like the name implies, an airworthiness certificate is issued to an aircraft after an FAA representative has inspected the aircraft and found it to meet the requirements of 14 CFR Part 21. It must be displayed and legible for passengers and crew.

Registration—The aircraft must carry a Certificate of Registration. This certificate shows that the aircraft is registered with the FAA Aircraft Registry, and identifies the current owner and registration (“N” number) of the aircraft.

Both the Airworthiness and Registration Certificates are typically located near the pilot's leg, on the lower sidewall of the aircraft.

b. operating limitations, placards, instrument markings, and POH/AFM.

Operating limitations—The operating limitations, placards, and instrument markings are all typically found in the aircraft POH (pilot's operating handbook) or AFM (airplane flight manual). The POH is common for a particular aircraft make/model, but the AFM is specific to a particular “N” number.

c. weight and balance data and equipment list.

Weight and balance data includes items such as basic empty weight, gross weight, and center-of-gravity (CG) computations. There are charts and graphs that help you determine how much weight you can carry (i.e., fuel vs. passengers), and where to put it to make sure that your CG is in a suitable range. This data is usually placed in the aircraft POH/AFM for reference.