

Commercial Pilot

ORAL EXAN GUDE MICHAEL D. HAYES

THE COMPREHENSIVE GUIDE TO PREPARE YOU FOR THE FAA CHECKRIDE

NINTH EDITION

Commercial Oral Exam Guide Ninth Edition by Michael D. Hayes

Aviation Supplies & Academics, Inc. 7005 132nd Place SE Newcastle, Washington 98059-3153

Go to **www.asa2fly.com/reader/oegc** for further resources associated with this book. Also, visit the ASA website often at www.asa2fly.com/testupdates to find updates posted there due to FAA regulation revisions that may affect this book.

© 1992–2017 Aviation Supplies & Academics, Inc. All rights reserved. Ninth Edition published 2017.

No part of this book shall be reproduced, stored in any retrieval system, or transmitted by any means, electronic, mechanical, xerographic, audio/visual record, or otherwise, without the written permission from the publisher. While every precaution has been taken in the preparation of this book, the publisher and Michael D. Hayes assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. None of the material in this guide supersedes any documents, procedures, or regulations issued by the Federal Aviation Administration.

ASA-OEG-C9

ISBN 978-1-61954-624-0 Printed in the United States of America 2020 2019 2018 2017 9 8 7 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Hayes, Michael D.
Commercial oral exam guide / by Michael D. Hayes.
p. cm.
"ASA-OEG-C" — T.p. verso.
1. Aeronautics — Examinations, questions, etc. 2. Aeronautics, Commercial — Examinations, questions, etc. 3. United States.
Federal Aviation Administration — Examinations — Study guides.
4. Oral examinations. I. Title.
TL546.5.H35 1992
629.132'5217'076 — dc20
92-36217

This guide is dedicated to the many talented students, pilots, and flight instructors I have had the opportunity to work with over the years. Also, special thanks to Mark Hayes and many others who supplied the patience, encouragement, and understanding necessary to complete the project.

-M.D.H.

Contents

	Introduction	1X
1	Pilot Qualifications	
	A. Privileges and Limitations	1–3
	B. Currency Requirements	1–13
	C. Medical Certificates	1–16
	Additional Study Questions	1–18
2	Airworthiness Requirements	
	A. Aircraft Certificates and Documents	2-3

A. Aircraft Certificates and Documents	2–3
B. Aircraft Maintenance Requirements	2–8
Additional Study Questions	2–16

3 Weather Information

A. Weather Theory	3–3
B. Obtaining Weather Information	3–6
C. Aviation Weather Reports and Forecasts	3–10
D. Aviation Weather Charts	3–16
E. NOTAMs	3–17
F. Aviation Weather Hazards	
Additional Study Questions	3–26

4 Airplane Systems

	1.0
A. Primary Flight Controls and Trim	4–3
B. Wing Flaps, Leading Edge Devices, and Spoilers	4–3
C. Pitot / Static Flight Instruments	4-4
D. Gyroscopic Flight Instruments	4-8
E. Magnetic Compass	4-12
F. Hydraulic System	4-13
G. Landing Gear	4-14
H. Powerplant	4-16
I. Propeller	4-21
J. Fuel System	4-23

K. Oil System	
L. Electrical System	
M.Environmental System	
N. Deicing and Anti-Icing	
O. Avionics	
Additional Study Questions	

5 Emergency Procedures

A. Spin Recovery	5–3
B. Emergency Checklist	5–5
C. Partial Power Loss	5–5
D. Engine Failure	5–6
E. Emergency Landing	5–8
F. Engine Roughness or Overheat	5–11
G. Loss of Oil Pressure	5–13
H. Smoke and Fire	
I. Icing	
J. Pressurization	5–22
K. Emergency Descent	5–23
L. Pitot/Static System and Associated Flight Instruments	5–24
M.Vacuum System and Associated Flight Instruments	5–25
N. Electrical	
O. Landing Gear	
P. Wing Flaps (Asymmetrical Position)	
Q. Inoperative Elevator	
R. Inadvertent Door Opening	
S. Emergency Equipment and Survival Gear	
Additional Study Questions	

6 Performance and Limitations

A. Atmospheric Conditions	
B. Aircraft Performance	6–6
C. Aircraft Performance Charts	6–18
D. Weight and Balance	
Weight and Balance Review	
Additional Study Questions	

7 Cross-Country Flight Planning and Procedures

A. Flight Plan	
B. Navigation	7–4

C. Airport and Traffic Pattern Operations	7–9
D. Runway Incursion Avoidance	7–17
E. 14 CFR Part 91	
F. AIM (Aeronautical Information Manual)	7–27
G. Night Flight Operations	7–39
H. High-Altitude Operations	7–42
I. National Transportation Safety Board	7–44
J. Aviation Security	7–46
Additional Study Questions	7–49

8 Human Factors

A. Fitness for Flight	8–3
B. Flight Physiology	
C. Single-Pilot Resource Management	
D. Aeronautical Decision Making	
E. Risk Management	
F. Task Management	
G. Situational Awareness	8–18
H. CFIT Awareness	
I. Automation Management	
Additional Study Questions	

9 Commercial Flight Maneuvers

A. Steep Turns	9–3
B. Chandelles	9–4
C. Lazy Eights	9–5
D. Eights-On-Pylons	9–7
E. Power-Off 180° Accuracy Approach and Landing	9–9
F. Steep Spirals	
G. Accelerated Stalls	
Additional Study Questions	

10 Scenario-Based Training

Introduction	10–3
Scenario-Based Questions	10–4

Appendix 1	FAA Advisory C	ircular 120-12
------------	----------------	----------------

```
Appendix 2 Applicant's Practical Test Checklist
```

Introduction

The *Commercial Oral Exam Guide* is a comprehensive guide designed for pilots who are involved in training for the Commercial Pilot Certificate. It was originally designed for use in a Part 141 flight school but quickly became popular with those training under 14 CFR Part 61 who are not affiliated with an approved school. The guide will also prove beneficial to pilots who wish to refresh their knowledge or who are preparing for a flight review.

The Commercial Pilot Airplane Airman Certification Standards (FAA-S-ACS-7) specifies the areas in which knowledge must be demonstrated by the applicant before issuance of a pilot certificate or rating. The *Commercial Pilot Oral Exam Guide* is designed to evaluate a pilot's knowledge of those areas.

Commercial pilots are professionals engaged in various flight activities for compensation or hire. Because of their professional status, they should exhibit a significantly higher level of knowledge than a private pilot. This guide assumes that the pilot has the prerequisite knowledge necessary for Private Pilot Certification and attempts to cover only those advanced areas of knowledge necessary for Commercial Pilot Certification.

In this guide, questions and answers are organized into nine chapters which represent those areas of knowledge required for the practical test. At any time during the practical test, an examiner may ask questions pertaining to any of the subject areas within these divisions. Through intensive post-commercial-checkride debriefings, we have provided you with the most consistent questions asked, along with the information necessary for a knowledgeable response.

The guide may be supplemented with other comprehensive study materials as noted in parentheses after each question. For example: (FAA-H-8083-25). The abbreviations for these materials and their titles are listed on the next page. Be sure that you use the latest revision of these references when reviewing for the test. Also, check the ASA website at www.asa2fly.com to see if any updates are posted within our Product Support pages; all the latest changes in FAA procedures and regulations that affect these questions will be listed there. In addition to the regular question-and-answer sessions in each chapter, questions for further review have been included at the end of sections. These additional questions are designed to be good study aids for the references below, upon which they are based.

14 CFR Part 23	Airworthiness Standards: Normal Category Airplanes
14 CFR Part 43	Maintenance, Preventive Maintenance, Rebuilding, and Alteration
14 CFR Part 47	Aircraft Registration
14 CFR Part 61	Certification: Pilots, Flight Instructors, and Ground Instructors
14 CFR Part 91	General Operating and Flight Rules
14 CFR Part 93	Special Air Traffic Rules
14 CFR Part 95	IFR Altitudes
NTSB Part 830	Notification and Reporting of Aircraft Accidents and Incidents
49 CFR Part 1544	Aircraft Operator Security: Air Carriers and Commercial Operators
FAA-H-8083-1	Aircraft Weight and Balance Handbook
FAA-H-8083-2	Risk Management Handbook
FAA-H-8083-3	Airplane Flying Handbook
FAA-H-8083-6	Advanced Avionics Handbook
FAA-H-8083-9	Aviation Instructor's Handbook
FAA-H-8083-15	Instrument Flying Handbook
FAA-H-8083-25	Pilot's Handbook of Aeronautical Knowledge
FAA-H-8083-30	Aviation Maintenance Technician Handbook— General
FAA-H-8083-31	Aviation Maintenance Technician Handbook— Airframe
FAA-H-8083-32	Aviation Maintenance Technician Handbook— Powerplant
FAA-H-8083-16	Instrument Procedures Handbook
FAA-P-8740-2	Density Altitude
FAA-P-8740-13	Engine Operation for Pilots
FAA-P-8740-35	All About Fuel

FAA-P-8740-36	Proficiency and the Private Pilot	
FAA-P-8740-41	Medical Facts for Pilots	
FAA-S-ACS-7	Commercial Pilot—Airplane Airman Certification Standards	
AC 00-6	Aviation Weather	
AC 00-24	Thunderstorms	
AC 00-45	Aviation Weather Services	
AC 00-54	Pilot Windshear Guide	
AC 20-32	Carbon Monoxide (CO) Contamination in Aircraft	
AC 23-8	Flight Test Guide for Certification of Part 23 Airplanes	
AC 43-12	Preventive Maintenance	
AC 60-6	Airplane Flight Manuals (AFM), Approved Manual Materials, Markings, and Placards – Airplanes	
AC 60-22	Aeronautical Decision Making	
AC 61-65	Certification: Pilots and Flight Instructors	
AC 61-67	Stall and Spin Awareness Training	
AC 61-134	General Aviation Controlled Flight into Terrain	
AC 91-13	Cold Weather Operation of Aircraft	
AC 91-33	Use of Alternate Grades of Aviation Gasoline	
AC 91-51	Effect of Icing on Aircraft Control and Airplane Deice and Anti-Ice Systems	
AC 91-63	Temporary Flight Restrictions	
AC 91-67	Minimum Equipment Requirements for General Aviation Operations under 14 CFR Part 91	
AC 91-73	Part 91 & Part 135 Single-Pilot Procedures during Taxi Operations	
AC 91-74	Pilot Guide: Flight in Icing Condition	
AC 120-12	Private Carriage vs. Common Carriage of Persons or Property	
AC 120-27	Aircraft Weight and Balance Control	
AC 120-80	In-Flight Fires	
FSAT 00-09	Increased Surveillance and Testing of Surface Movement Operations	
Order 7930.2	Notices to Airmen Handbook	
Order 8900.1	Flight Standards Information Management System	

(continued)

AFM	Airplane Flight Manuals	
AIM	Aeronautical Information Manual	
AWC	Aviation Weather Center	
CSUS	Chart Supplement U.S.	
FSSAT	Flight School Security Awareness Training	
NOTAMs	Notices to Airmen	
P/CG	Pilot/Controller Glossary (from AIM)	
POH	Pertinent Pilot Operating Handbooks	
SAFO	FAA Safety Alert for Operators	
TSA	Transportation Security Administration	
USRGD	FAA Aeronautical Chart User's Guide	

Note: Be sure that you use the latest revision of these references when reviewing for the checkride.

A review of the information presented within this guide along with a general review of the *Private Oral Exam Guide* (ASA-OEG-P) should provide the necessary preparation for the oral section of an FAA Commercial Pilot checkride or recertification check.

A. Privileges and Limitations

- 1. What are the eligibility requirements for a commercial pilot (airplane) certificate? (14 CFR 61.123)
 - a. Be at least 18 years of age.
 - b. Be able to read, speak, write, and understand the English language.
 - c. Hold at least a private pilot certificate.
 - d. Hold at least a current Third Class medical certificate.
 - e. Received the required ground and flight training endorsements.
 - f. Pass the required knowledge and practical tests.
 - g. Meet the aeronautical experience requirements.

Exam Tip: The evaluator may ask you to demonstrate that you're current and eligible to take the practical test. When preparing for your practical test, verify that you have the required hours and that you're current, and don't forget to double-check all of your endorsements. Make sure that you have totaled all of the logbook columns and that the entries make sense.

2. What privileges apply to a commercial pilot? (14 CFR 61.133)

A person who holds a commercial pilot certificate may act as pilotin-command of an aircraft:

- a. Carrying persons or property for compensation or hire.
- b. For compensation or hire.

Note: 14 CFR §61.133 also states that a commercial pilot must be qualified and comply with the applicable parts of the regulations that apply to the particular operation being conducted (for example, Part 91 or 135).

3. Discuss what qualifies as a commercial pilot operation.

A commercial pilot intending to conduct operations as a pilotin-command of an aircraft carrying persons or property for compensation or hire should look cautiously at any proposal for revenue operating flights.

Continued

The following facts should be considered:

- a. Part 61 states that you may be paid for acting as PIC of an aircraft engaged in carrying persons or property for compensation or hire. However, Part 61 does not mention that if you are acting completely by yourself, you could be considered a commercial operator, and as such, be subject to an entirely different set of regulations.
- b. A commercial pilot certificate by itself does not allow you to act as a commercial operator. It only allows you to work for a commercial operator and be paid for your service, with certain exceptions.
- c. As a commercial pilot, certain commercial operations are allowed without being in possession of an "Operating Certificate." Examples of such operations include student instruction, certain nonstop sightseeing flights, ferry or training flights, aerial work operations including crop dusting, banner towing, aerial photography, powerline or pipeline patrol, etc. These operations are listed in 14 CFR §119.1.

Exam Tip: During the practical test, your knowledge of commercial pilot privileges and limitations will be evaluated. Know the pertinent regulations well, with emphasis on 14 CFR §§61.133, 91.147, 119.1, 135.1 and Part 136. Also recommended is a review of FAA Advisory Circular (AC) 120-12, *Private Carriage versus Common Carriage of Persons or Property*, located in Appendix 1 of this guide.

4. What does the term "commercial operator" refer to? (14 CFR Part 1)

Commercial operator means a person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other than as an air carrier or foreign air carrier or under the authority of 14 CFR Part 375. Where it is doubtful that an operation is for "compensation or hire," the test applied is whether the carriage by air is merely incidental to the person's other business or is, in itself, a major enterprise for profit.

Commercial Pilot ORAL EXAM GUIDE

NOW INCLUDES A CHAPTER ON SCENARIO-BASED TRAINING BY ARLYNN MCMAHON

The OEG Series is an excellent study tool for students and instructors alike, arranged in a question-and-answer format. Use when you're gearing up for the Practical Exam, as well as for a general refresher! Other Oral Exam Guides available from ASA...

- Private Pilot
- Instrument Pilot
- Multi-Engine Pilot
- Flight Instructor
- Airline Transport Pilot
- Helicopter Pilot
- Aircraft Dispatcher
- Flight Review
- Aviation Maintenance Technician

Aviation Supplies & Academics, Inc. 7005 132nd Place SE Newcastle, Washington 98059-3153 425-235-1500 www.asa2fly.com

