

ACE PILOT ACADEMY

MULTI-ENGINE CHECKRIDE PREP

Taught by an active FAA Designated Pilot Examiner

FREE PREVIEW

Checkride Oral Exam Study Guide

A free sample from the Multi-Engine Training Series

See exactly how a DPE teaches the topics that decide your checkride

Jeff Gerencser

Owner, Ace Pilot Academy | Active DPE | 30+ Years Aviation Experience

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READ THIS FIRST

Pass the Oral by Teaching, Not Reciting

Every year, multi-engine applicants walk into a checkride knowing the material — and still walk out with a pink slip. Usually it is not for lack of studying. It is because they memorized answers instead of understanding them, and the first follow-up question exposes it.

I am Jeff Gerencser, owner of Ace Pilot Academy and an active FAA Designated Pilot Examiner. I have sat on the other side of the table for hundreds of these rides. This free preview shows you exactly how I teach the highest-value oral topics — the ones that decide most checkrides — so you can explain them, not just recite them.

Below is one complete sample lesson, straight from the full program — real FAA figure, DPE checkride tips, the common mistakes, and a scenario. Work through it. If it clicks, the full Multi-Engine Training Series gives you all 14 illustrated lessons plus short video training and quizzes for every topic.

SAMPLE LESSON · 1 OF 14

Multi-Engine V-Speeds

KEY TAKEAWAY

By the end of this lesson, the student should be able to identify and explain the major multi-engine V-speeds, understand why they are critical to safe multi-engine operation, and describe how those speeds affect aircraft control, performance, and emergency decision-making.



Figure 13-1. Airspeed indicator markings for a multiengine airplane. Source: FAA Airplane Flying Handbook (FAA-H-8083-3C), Ch. 13.

STUDY NOTES

Overview

Multi-engine aircraft require a strong understanding of performance speeds because several of them directly affect aircraft control and climb performance during an engine failure. In this lesson, you will review the key V-speeds used in multi-engine flying, including speeds associated with directional control, climb performance, and aircraft limitations.

A pilot should not simply memorize these speeds. Each speed must be understood in terms of what it means, when it applies, and how it affects decision-making during normal, abnormal, and emergency operations.

Key Learning Points

- Multi-engine V-speeds are tied directly to aircraft controllability and performance.
- Red line and blue line are especially important in multi-engine training.
- Published V-speeds are based on specific aircraft certification and operating conditions.

- A pilot must know the aircraft's limitations before attempting takeoff, climb, maneuvering, or emergency operations.
- V-speeds should be understood as operational decision-making tools, not just memorized numbers.

DPE / Checkride Tip

On a multi-engine checkride, the examiner will usually expect more than simple memorization. Be ready to explain what each V-speed means and how it applies to real-world decision-making. For example, if asked about V_{mc}, do not just say minimum controllable airspeed. Explain that it is the minimum speed at which directional control can be maintained with the critical engine inoperative under specific certification conditions.

Common Student Mistake

A common mistake is confusing V_{mc} with V_{yse}. V_{mc} is a controllability speed. V_{yse} is a single-engine best rate-of-climb speed. They are not the same thing. One is about maintaining directional control, while the other is about achieving the best available climb performance with one engine inoperative.

Scenario-Based Discussion

You are flying a light twin shortly after takeoff. One engine fails and the aircraft begins to yaw and roll toward the inoperative engine. The airspeed is decaying toward red line.

Before taking further action, what is your primary concern?

The correct priority is to maintain aircraft control. If the aircraft cannot be controlled above V_{mc}, the pilot must reduce power on the operating engine as necessary to maintain directional control. Performance is secondary to control.

In the full package, every lesson also includes a printable **Fill-In Review** worksheet and **DPE Oral Practice** drills to rehearse out loud — plus a matching video lesson and quiz.

WHAT'S INSIDE THE FULL PROGRAM

13 More DPE-Built Lessons

You just saw one. Here is everything else waiting in the full Multi-Engine Training Series — each taught the same way, with FAA figures, scenarios, and oral drills:

Minimum Controllable Airspeed — Vmc

By the end of this lesson, the student should be able to explain what Vmc means, describe the factors that affect Vmc, and understand why maintaining...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Multi-Engine Performance and Limitations

By the end of this lesson, the student should be able to explain the major performance limitations of multi-engine airplanes, identify the factors that affect...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Determining the Critical Engine

By the end of this lesson, the student should be able to define the critical engine, explain why the left engine is typically critical in a conventional twin...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Multi-Engine Service Ceiling

By the end of this lesson, the student should be able to explain the difference between service ceiling and absolute ceiling, describe how single-engine...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Critical Density Altitude

By the end of this lesson, the student should be able to define density altitude, explain how high density altitude reduces aircraft performance, and describe...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Zero Sideslip

By the end of this lesson, the student should be able to explain zero sideslip, describe the relationship between rudder and bank during one-engine-inoperative...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Multi-Engine Propeller Systems

By the end of this lesson, the student should be able to explain how a constant-speed propeller system works, describe the purpose of the propeller governor,...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Multi-Engine Crossfeed Fuel System

By the end of this lesson, the student should be able to explain what crossfeed does, describe normal feed versus crossfeed, identify the risks of incorrect...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Introduction to Cowl Flaps

By the end of this lesson, the student should be able to explain how cowl flaps regulate engine cooling, describe when cowl flaps are typically opened or...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Multi-Engine Combustion Heater

By the end of this lesson, the student should be able to explain the purpose and basic operation of an aircraft combustion heater, identify the major...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Anti-Ice / De-Ice Systems

By the end of this lesson, the student should be able to explain the difference between anti-ice and de-ice, identify common ice-protection systems, understand...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Aircraft Pressurization

By the end of this lesson, the student should be able to explain how aircraft pressurization works, define cabin altitude and differential pressure, describe...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

Turbocharger Systems

By the end of this lesson, the student should be able to explain why turbochargers are used, describe the turbine-compressor relationship, explain how manifold...

✓ Full lesson, FAA figure, scenario & oral drills — in the complete package

EVERYTHING YOU GET

The Complete Multi-Engine Training Series

- **All 14 illustrated checkride-prep lessons** — V-speeds, Vmc, critical engine, zero sideslip, performance, and every key system.
- **Short, DPE-built video lessons** for every topic — learn it the way the examiner wants to hear it.
- **A quiz for every lesson** to lock in the material before your ride.
- **Real FAA figures** from the Airplane Flying Handbook and PHAK, with printable worksheets and oral-practice drills.
- **Taught by an active DPE** with 30+ years of experience — the person on the other side of the table.

Don't Walk In Hoping. Walk In Ready.

You just previewed one lesson. The full Multi-Engine Training Series gives you all 14 — V-speeds, Vmc, the critical engine, systems, and more — each taught the way the examiner wants to hear it, with FAA figures, scenarios, oral drills, video lessons, and quizzes. Stop memorizing answers. Start understanding them. That is the difference between a pass and a pink slip.

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Safe flying — Jeff Gerencser, Owner, Ace Pilot Academy | Active DPE | 30+ Years Aviation Experience