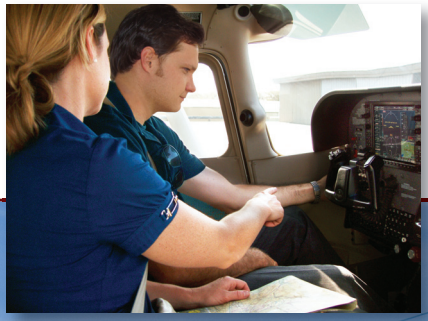
KING
Instructor's Guide



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King Schools, Inc.

Instructor's Guide

for

King Schools Pilot Training Curriculum

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Version 1.1

INSTRUCTOR'S GUIDE

King Schools Flight Training Syllabi

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King Schools Instructor's Guide

RECORD of REVISIONS

Revision Number	***Revision Date***	***Online Date***	***Change Description***
Ver. 1.0	07-12-13	07-12-13	ORIGINAL
Ver. 1.1	08-18-23	08-25-23	Pg i-xii: Removed reference to Part 141 courses and TCOs. Appendix B & D updated King Schools course title. Appendix C & E replaced Practical Test Standards with Airman Certification Standards, removed Practical test checklist and Special Emphasis Areas.

INSTRUCTOR'S GUIDE
King Schools Flight Training Syllabi

This Instructor's Guide is written for flight instructors and flight schools who are using King Schools syllabi and curricula for training their customers (currently including Private Pilot and Instrument Rating).

You will want to know that each King syllabus is designed to satisfy the regulatory training requirements of 14 CFR Part 61 (independent flight instructors and flight schools). In meeting this objective, each syllabus defines the foundation of the required ground training by a logical pairing of King Schools courses with a structured flight training program.

We have developed these curricula to help make sure your customers and you have a successful training experience. This guide is to help you understand:

- The course elements
- How to make effective use of the course components
- Suggested training concepts

King Schools syllabi are generic, and as such, they do not address any specific aircraft, airport, local area or flight school safety practices and procedures. You will need to document those practices and procedures unique to your operation:

- Although not specified for Part 61, we strongly recommended providing your customers with a copy of the local safety procedures and practices
- Please review key safety practices and procedures when making the first flight with your new customer.

CURRICULA STRUCTURE

The King Schools Flight Training Syllabi provide guidelines for you and your customers that make sure they are trained to a knowledge/proficiency level meeting the required standards for a pilot's certificate or rating.

The primary elements of the King Schools curricula are:

- King Schools Syllabus
  - The detailed road map you and your customer follow throughout ground and flight training.
  - Available as a no-cost download
    - https:kingschools.com/flight-instructor-resources
- King Schools Core Courses
  - King Schools *Ground School & Test Prep* and *Practical Test* courses (applicable to the training course certificate/rating).
    - Online home study courses completed by the customer per the *Recommended King Course Ground Lesson Schedule* or as adjusted by your flight school
    - Cover all required aeronautical knowledge ground training topics
    - Augmented with instructor delivered ground training and/or the King Schools Supplemental courses
    - Prepare customer for FAA Knowledge Test (the "written") and the oral knowledge testing of the FAA Practical Test

- King Schools Supplemental Courses
  - Online single-subject, video-based courses to enhance knowledge in a specific area.
- Additional tools you will use include
  - Flight manuals or POH for training aircraft being used
  - Aviation training devices and flight simulation programs
  - FAA Handbooks, AIM, FAA regulations, etc.

SYLLABUS STRUCTURE

The King Schools syllabi are arranged into logical

- *Stages*
  - Each with multiple flight lessons within a defined focus
  - Progress Check included with most
  - Recommended ground instruction
- *Recommended King Course Ground Lesson Schedule*
  - Table showing knowledge topic study associated at specific points within the curriculum structure
    - Forms the customer's knowledge foundation to be used for the flight lessons
    - Correlates the stage's flight and knowledge lessons
    - Recommends that study be completed prior the corresponding flight lesson
- *Course Completion Flight Training Minimums Table*
  - Regulatory minimum hours/requirements shown at the bottom rows (second page)
  - Suggested minimum category times shown for some flights
    - Guidance to make sure total minimum requirements achieved

Each individual flight lesson

- Identified by lesson number and title
- Objective statement
- List of lesson tasks
  - Each annotated with a performance standard
- Intended to be printed and used by the instructor for in-flight notations and filed in training record
  - Each task evaluated by a check in the
    - Left check column if attempted
    - *Meets* check column if meeting or exceeding the standard
    - *Continue* check column to indicate the need to repeat this task in a subsequent lesson to achieve the standard.
  - Documentation blocks provided for recording
    - Aircraft flown
    - Flight times, and
    - Instructor and customer signatures
  - Second copy for customer's independent self-assessment
    - For comparison with instructor during flight debrief (Learner Centered Grading)

PROGRESSING THROUGH THE SYLLABUS

Flight Lessons

The flight lessons in each syllabus are placed in a suggested order of completion.

- May be flown
  - Once
  - More than once
- May be customized for your local training environment.

Progress Checks

You will see a progress check flight at the end of most stages

- For checking customer progress and the effectiveness of the instructor/customer combination.
- Will involve oral quizzing and an evaluation/instructional flight.
- Given by the Chief Flight Instructor, Assistant Chief Flight Instructor or a designated instructor.

Knowledge Tests

Most certification and rating courses involve knowledge tests.

- For example, the Private Pilot course requires
  - A pre-solo knowledge test administered by the flight instructor
  - FAA Knowledge test administered by an FAA authorized test provider

You will find suggested points in the syllabus for completing these knowledge tests in the *Recommended King Course Ground Lesson Schedule*

- For example, the Private Pilot course suggests completing
  - The pre-solo knowledge test paired with Flight Lesson 11
  - FAA Knowledge test prior to the First Solo Cross Country, Flight Lesson 23

Pre-test Briefings

You will want to conduct a pre-test briefing prior to the various tests required as part of a certification or rating course. For example you are highly encouraged to conduct a pre-solo briefing with your customer in conjunction with administering, grading and reviewing the results of the private pilot course pre-solo test. You will also want to conduct an extended briefing prior to your customer's practical test. The appendences to this instructor's guide offer the following suggested topics for those briefings:

- Appendix A: Private Pilot pre-solo test and pre-solo briefing suggested topics
- Appendix B: Private Pilot pre-FAA Knowledge Test briefing suggested topics
- Appendix C: Private Pilot pre-practical test briefing suggested topics
- Appendix D: Instrument Rating pre-FAA Knowledge Test briefing suggested topics
- Appendix E: Instrument Rating pre-practical test briefing suggested topics

INTEGRATING AVIATION TRAINING DEVICES INTO THE COURSE

Your training organization may have access to computer simulation software or one of the current generation of very capable aviation training devices. If so, we highly recommended that you make liberal use them whenever possible to introduce your customers to new concepts and techniques.

Although the regulations allow only a limited amount of aviation training device time credited toward the certificate/rating aeronautical experience requirement, instructional time in the "sim" (whether the entire total can be applied) should prove valuable with the customer achieving the required proficiency more efficiently in the aircraft.

We particularly recommend maneuvers such as steep turns, basic instrument flight, using electronic navigation, and instrument procedures, as well as pre-flying solo cross-countries and mock practical tests.

For the appropriate logging of simulated flight time in accordance with the pilot certificate or rating sought by each customer, be sure to follow the guidance outlined in

- Advisory Circular 61-136, "FAA Approval of Basic Aviation Training Devices (BATDs) and Advanced Aviation Training Devices (AATDs)" or later guidance.

RECOMMENDED SYLLABUS USE

A King Schools syllabus provides the most benefit when

- The instructor assigns preparation for the next flight lesson, including
  - Paired ground lesson study
  - Customer planning/risk management tasks
- Prior to the next flight lesson, the customer
  - Studies the assigned materials
  - Performs the necessary preflight planning
- During the preflight briefing
  - The instructor reviews the assigned ground study topics
  - The customer asks any questions and clarifies their understanding of the knowledge areas and the upcoming lesson to be flown
  - The customer briefs the instructor on the assigned planning tasks
- During the postflight briefing
  - The instructor grades the applicable tasks on the flight lesson sheet
  - The customer independently grades the applicable tasks on a separate flight lesson sheet
  - The instructor and customer discuss the lesson outcome and compare grading
  - The instructor files the flight lesson sheet in the customer's training record

PREPARING PILOTS TO EFFECTIVELY MANAGE RISKS

King Schools endorses Industry and FAA flight training objectives focused on developing pilots who possess the skills and knowledge to identify, assess and mitigate the risks associated with their flying. This capability can be developed side-by-side with developing the necessary physical aircraft control skills.

Concepts that have been successfully used in furthering those objectives include:

- Incorporating realistic scenarios in flight lessons and testing
  - For developing and evaluating responses and thought processes to emergent situations within a scenario context.
  - Referred to as Scenario Based Training (SBT)
- Creating an awareness of various hazards types and the resources available for responding to them
  - Called Single-pilot Resource Management (SRM)

- Involving the customer in self assessing their lesson performance
  - Increased understanding the of lesson objectives and desired standards
  - Known as Learner-Centered Grading (LCG)

SCENARIO-BASED TRAINING

What SBT Is

A scenario is a lesson plan that includes a

- Practical, realistic setting
- Real and/or simulated purpose, and
- Real and/or simulated set of risks to be managed

The reason a scenario includes a real and/or simulated purpose is to impart

- An urgency to complete the flight, and
- Consequences for not fulfilling the purpose of the flight

Using real-world scenarios as the basis of training

- Puts the pilot in everyday situations and circumstances while they are learning physical skills, and
- Gets them into the habit of addressing risk management from the start of their flight training

Flight instructors have been using the principles of scenario-based training since the beginning of flying.

- What the FAA is now encouraging is a more systematic and organized approach to it

As a flight instructor, you will want to utilize scenario-based training because it results in a pilot who is better prepared to be truly pilot-in-command. It helps provide

- The risk management skills needed for safe outcomes in flying, including
  - Risk
    - Identification
    - Assessment, and
    - Mitigation
  - Critical thinking
  - Flight management skills
  - Judgment
  - Aeronautical decision-making, and
  - Single-pilot resource management

The advantages of SBT are that it

- Puts learning into context
- Provides better understanding of why you are learning things
- Requires application in a realistic situation
- Requires a coordination of knowledge and skill
- Places a greater emphasis on learning risk identification, assessment and mitigation
- Teaches pilots to recognize and correct errors
- More quickly develops pilot-in-command capabilities, and
- Is a lot more fun than practice and drill

While the benefits of SBT are clear, there are some disadvantages, such as

- It takes more flight time per lesson
- It takes more preparation, effort and imagination on the part of the instructor, and
- A customer's decisions can place the instructor in difficult and unanticipated situations

However, some of the disadvantages of using SBT in flight can be overcome by using SBT in a flight simulator, where you

- Won't burn as much flight time, and
- Can more easily control the variables in the scenario

Why You Should Use SBT

Scenario-based training is a departure from traditional flight training.

Traditional, maneuver-based training emphasizes performing individual tasks.

- The focus is on motor skills
  - With only a limited emphasis on the development of risk management skills
  - Leaving a new pilot unprepared to manage the risks of flying in the real-world environment
    - Requiring them to learn risk management on their own after leaving flight training
    - The results of this have not been good

Scenario-based training

- Takes those same individual tasks and incorporates them into scenarios that mimic real-life flying
  - This helps the pilot correlate individual flight maneuvers with the safe accomplishment of a flight
- Is built on the principles that
  - Learning is enhanced when training is realistic, and
  - Risk management skills are teachable
- Helps pilots learn to identify, assess and mitigate risks to make accurate and timely decisions

Reality is the ultimate learning situation

- And SBT attempts to get as close as possible to this ideal
- So the more realistic the training scenario, the better the pilot learns
  - Core safety habits, and
  - Risk management skills that can be applied in the real-world
- Consider using NTSB reports when developing scenarios

Making Scenario-Based Training Work

There are 2 key components of SBT, the

- Pre-flight briefing to set up the scenario, and
- Post-flight briefing to evaluate the results

For SBT to be successful, there must be a

- Purpose for the flight, and
- Consequences for not completing the flight as planned

Before the flight, both you and your customer will need to communicate the

- Purpose of the flight
- Pressures to complete the flight (real or simulated)
- Risks/hazards associated with the scenario (real or simulated)
- Scenario destination(s)
- Desired outcomes
- Possible in-flight scenario changes or deviations (during later stages of the program)

You will brief the scenario you want your customer to plan, and they will plan the flight to include the

- Reason to go flying (real or simulated)
- Route
- Destination(s)
- Weather
- NOTAMs, and
- Desired learning outcomes

You will then go over the planned flight scenario with your customer, with the purpose of

- Offering guidance on how to make the lesson more effective, and
- Asking questions that help you evaluate your customer's
  - Knowledge
  - Risk management, and
  - Level of understanding
    - Open-ended questions are an effective way to accomplish this

For the post-flight briefing of a flight scenario you and your customer will

- Review the elements of the flight scenario and the scenario outcome
- Compare your customer's performance to the completion standards
- Independently evaluate the tasks in the scenario, and
- Discuss and compare each of your opinions of the results

For evaluating the results it is recommended that instructors use the concept of Learner Centered Grading (LCG) which includes the

- Customer's self-assessment
  - Which fosters the habit of healthy reflection and self-criticism that competent pilots have
- Detailed debrief by you the instructor
  - Which compares your evaluation of the flight with your customer's self-assessment

A Scenario Example

Early guidance on scenario-based training suggested contrived and impractical scenarios. The sample scenario below is designed to give you the tools you need to create practical and fun scenarios.

Objective:

- Learn proper rudder usage, get more comfortable with the airplane controls and learn how to set the airplane pitch/power combination for your desired phase of flight

Where to go:

- A point within 30 minutes flight time that is in suitable airspace free from obstructions and dense traffic with the main goal being area familiarization

How to get there:

- Pilotage

Planned deviations:

- None

Planned malfunctions:

- None

Purpose/pressures (real or simulated):

- You and a friend have plans to fly to a nearby town to see your mutual friend make his season debut for a semi-professional baseball team. You are running late and have already had to return home to grab a camera you forgot because you were in a hurry

Risks (real or simulated):

- Traffic

New this scenario:

- Risk management
- Cockpit management
- Left turning tendencies
- Aileron/Rudder coordination exercise *(30° bank side-to-side keeping the nose at one point on the horizon)*
- Constant airspeed climbs and descents *(note V_x, V_y, and cruise climb attitudes)*
- Climbing and descending turns
- Descents with/without flaps
- Power-off descent at best glide airspeed *(note aircraft attitude relative to the horizon)*
- Descent at approach airspeed in landing configuration

Improving customer skills:

- Preflight inspection
- Checklist usage
- Operation of systems
- Engine starting and warm-up
- Positive exchange of flight controls
- Taxiing
- Engine run-up
- Before takeoff check
- Normal takeoff and climb - DEMO
- Level off
- Use of trim
- Straight-and-level flight
- Area familiarization
- Collision avoidance
- Medium banked turns
- Turn coordination
- Back pressure in a turn
- Turn entry and roll out
- Normal approach and landing – DEMO
- After landing, parking and securing

At the conclusion of the flight you and your customer would independently evaluate your customer's performance

- Then compare evaluations and discuss the results

As you can see, scenario-based training

- While it may take some getting used to in the transition from maneuver-based training
- Can be an effective way to prepare pilots to be competent and capable in the real world

SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

Single-pilot Resource Management (SRM) acknowledges that most general aviation flying places the pilot as the sole controller of all the available resources (both onboard the aircraft and from outside sources) that can be used to make sure the flight has a successful outcome.

Teaching and evaluating SRM starting with the first flight is the best way to encourage new pilots to take the initiative to solve in-flight problems and unforeseen circumstances proactively instead of turning to the instructor for advice.

SRM includes the concepts of

- Task management (TM)
- Automation management (AM)
- Risk management (RM)
- Aeronautical decision making (ADM)
- Situational awareness (SA)
- Controlled flight into terrain (CFIT) awareness

SRM training helps a pilot maintain situational awareness by having the ability to

- Manage the technology in the aircraft in addition to aircraft control and navigation tasks.

Enabling the pilot to accurately assess and manage risk while making accurate and timely decisions.

- Know how to gather specific information, analyze it and make decisions.

Below are standards for each training concept of SRM:

Performance	**Standards**
The training task is:	The customer will:
Risk management (RM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.
Situational Awareness (SA)	Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training.
Task management (TM)	Prioritize and select the most appropriate tasks (or series of tasks) to ensure successful completion of the training scenario.
Controlled Flight Into Terrain (CFIT) Awareness	Understand, describe, and apply techniques to avoid CFIT during inadvertent encounters with IMC during VFR flight, periods of reduced visibility, or at night.
Automation management (AM)	Program and utilize the most appropriate and useful modes of cockpit automation to ensure successful completion of the training scenario.
Aeronautical decision-making (ADM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.

LEARNER-CENTERED GRADING

Learner-centered grading includes two parts

- Learner self-assessment
- A detailed debrief by the instructor

Learner Self-Assessment

The purpose of the self-assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self-assessment is followed by an in-depth discussion between you and the customer that compares your assessment to the customer's self-assessment.

To improve learning, we recommend that customers prepare to learn from their experiences both before and after key events. This preparation should increase learning and enhance future performance.

Pre- and postflight briefings are essential for setting goals. During events and tasks that require high levels of attention, there may be little time for learning as the bulk of the customer's cognitive resources are given to performing the actual task.

How customer performance feedback occurs is important to the learning process. Instructors should avoid

- Lecturing the learner.
- Being overly critical early in training.
- Providing only negative feedback.

The use of closed-ended questions may hinder the usefulness of the feedback process as well, as they encourage one-word, yes/no types of answers that do not elicit opinions of performance or suggestions for improvement.

- It is more effective to use open-ended questions that probe the learner to assess their own performance.
- Ask *"What if"* questions to assist in scenario-based training
    - Examples: "What if you preflight and the fuel gauges read zero but you can visually confirm that the tanks are full?" or "What would you do if you observed a high oil temperature and low oil pressure?"

Allotting enough time for the feedback is also important.

- Debriefs that are rushed often turn into one-way "lectures" because of time constraints.

Referring to prior preflight briefings when conducting subsequent debriefs provides a sense of

- Continuity
- Reliability, and
- Consistency.

Customers may also be more receptive to feedback during a debriefing if they were advised of the goal criteria during or before the preflight briefing.

Independently Grading the Scenario

After the scenario is complete, you and the customer should independently grade their performance for lesson tasks.

It is very important that enough time is allowed to properly utilize the learner-centered grading criteria.

- Simply assigning grades and signing logbooks within a limited period of time and transitioning quickly to the next customer will not work with this new grading system.

After independently evaluating the *actual task outcomes* compared to the *desired task outcomes*

- You and the customer compare and discuss your individual evaluations during the postflight discussion.

You and the customer may disagree on the evaluations.

- This should be used as an opportunity to further discuss the lesson objective and task standards.
- The instructor has the final authority in assigning the final grade for the desired outcomes.

EVERYDAY RISK MANAGEMENT

The PAVE Checklist

Use the PAVE Checklist as an easy way to implement the SRM concepts.

The PAVE checklist is

- A simple way to remember and examine the risk factors before you fly, and
- Can also help you manage the specific risks associated with taking off and landing.

The PAVE checklist puts risk factors into four categories:

Pilot
Aircraft
en**V**ironment
External pressures

The pilot. Are you fatigued? When was the last time you were flying in the weather conditions that you will encounter? What are your personal minimums?

The aircraft. Are you familiar with the aircraft? Its avionics? Is it airworthy? What is the density altitude? How does that affect your climb rate? What is your maximum crosswind component?

The environment. Are the temperature and dew point close? Are you familiar with the area and its topography? Are there any NOTAMs?

External pressures. Are others influencing the flight? Do you have people waiting for you at the airport?

MANAGING SYLLABUS REVISIONS

The FAA may change regulations and/or policy regarding pilot training that can impact syllabus content. In such a case, a King Schools syllabus will be revised. Once the revised syllabus is deemed to be in conformance with the regulations, King Schools will publish a notice of revision.

King Schools will normally only make changes to a syllabus under the following circumstances:

1. Editorial Revisions—previously undiscovered typographical errors having no consequence to a course using that syllabus, i.e. spelling or grammatical errors.
2. Curriculum Revisions—FAA mandated through regulatory, procedure, policy, or testing standards changes.

Documentation of Revisions
Each version of a syllabus is identified with a version number on the second page (Copyright page). The Record of Revisions pages (R1, R2…), following the Table of Contents, will note the Revision Number (i.e. Ver. 1.1), the Revision Date, the Online Date, and provide a Change Description with the affected pages. Each page in the syllabus will display the version of that page in the footer (i.e. Ver. 1.0 is an unchanged, original page).

Timing of Syllabus Revisions
The King Schools syllabi are distributed as PDF documents through the Internet. When the FAA publishes an implementation date for a change (i.e. a revised Airman Certification Standards), the goal is to change the PDF syllabus document on the FAA's effective date. The ability to achieve that goal depends on the complexity of the change and the lead time between the FAA's announcement and effective dates.

Appendix A

PRE-SOLO KNOWLEDGE TEST AND BRIEFING

Objective: To make sure customer has the appropriate knowledge to fly solo.

Suggested Procedures:

1. Prior to your customer's impending first solo flight (allow reasonable time), assign an open book quiz to be completed by the scheduled pre-solo briefing. Suggested topics are included below, but you will also want to make sure that your quiz covers the specifics of this customer's airport, local operating area, and aircraft.
2. During pre-solo briefing, review the open book quiz with your customer and make sure that the customer comfortably understands all the concepts.
3. Administer a closed book pre-solo aeronautical knowledge test per 14 CFR Part 61.87(b) and upon completion, review all incorrect answers with your customer.
4. Use the pre-solo briefing topic list to make sure that all appropriate topics have been covered.

Pre-solo Briefing Topics:

Flight school safety practices and procedures
Airworthiness requirements
Preflight preparation and inspection
Aircraft performance and operating limitations
Fueling
Fuel reserves
VFR weather minimums
VFR cruising altitudes
Minimum safe altitudes
Careless and/or reckless operation
Radio procedures
Right-of-way rules
ATC light signals
Emergency procedures including carburetor icing
Collision avoidance
Practice area location(s)
Local airspace
Traffic pattern
Solo flights restrictions
Required certificate and logbook endorsements

Appendix A

Pre-Solo Open Book Quiz Topics

1. Aircraft limitations
2. Aircraft operation and maintenance
3. FARs
   a. Eligibility requirements for student pilots (61.83)
   b. Solo flight requirements for student pilots (61.87)
   c. General limitations (61.89)
   d. Responsibility and authority of the pilot in command (91.3)
   e. Careless or reckless operation (91.13)
   f. Dropping objects (91.15)
   g. Alcohol or drugs (91.17)
   h. Portable electronic devices (91.21)
   i. Preflight action (91.103)
   j. Use of safety belts, shoulder harnesses and child restraint systems (91.107)
   k. Right-of-way rules (91.113)
   l. Minimum safe altitudes (91.119)
   m. Altimeter settings (91.121)
   n. Compliance with ATC clearances and instructions (91.123)
   o. ATC light signals (91.125)
   p. Operating on or in the vicinity of an airport in Class G airspace (91.126)
   q. Operating on or in the vicinity of an airport in Class E airspace (91.127)
   r. Operations in Class D airspace (91.129)
   s. Operations in Class C airspace (91.130), as necessary
   t. Operations in Class B airspace (91.131), as necessary
   u. Restricted and prohibited areas (91.133)
   v. Fuel requirements for flight in VFR conditions (91.151)
   w. Basic VFR weather minimums (91.155)
   x. Civil aircraft: Certifications required (91.203)
   y. Aircraft lights (91.209)
   z. Aerobatic flight (91.303)
4. Aeronautical Information Manual
   a. Wake turbulence
   b. Radio failure procedures
   c. Airport markings
   d. Traffic pattern
      1. Pattern legs
      2. Entry and departure
      3. Standard turns
5. Local procedures
   a. Frequencies
      1. Airports
      2. Emergency
   b. Airport procedures
      1. Traffic pattern directions and altitudes
      2. Noise abatement
      3. Particular flight school procedures (as applicable)

Sample Open Book Quiz Questions

Instructions: Answer each question in the space provided, using the FARs, the AIM, the *Airport/Facility Directory*, and the *Pilot's Operating Handbook*. Use the space to the left of the question number to list the reference for each question.

1. What is the maximum gross weight of the airplane in the Normal category?

2. If a glider is converging with an airplane, which has the right of way?

3. What are the limit load factors in both the Normal and Utility categories with the flaps up? Flaps down?

4. What preflight action is required of a pilot prior to a flight?

5. What is the maximum rpm of your airplane?

6. Define an aerobatic maneuver.

7. Generally describe the engine in your airplane.

8. List the definition of careless or reckless operation.

9. What is the oil sump capacity in your airplane? What is the minimum?

10. What is the minimum amount of time after the consumption of alcohol a pilot is required to wait before flying?

11. What would happen to the fuel indicators if all electricity in the airplane was lost?

12. What are the basic VFR weather minimums? What is the minimum visibility for a student pilot?

13. Why is it necessary to drain fuel out of the sumps after refueling and before the first flight of the day?

14. List and describe each of the light gun signals available from air traffic control.

15. Will the engine still run if the master switch is turned off? Why or why not?

16. What are wing-tip vortices (wake turbulence)? With which aircraft are they greatest?

Describe proper avoidance.

17. What endorsements are required for solo flight? What three documents must you have in your possession to solo an aircraft as a student?

18. During runup, what is the maximum allowable rpm drop when checking the magnetos?

19. Draw an airport traffic pattern, labeling each leg and the proper entry and departure points. Which turn direction is standard for an airport traffic pattern?

20. List the traffic pattern altitude, direction of turns, noise abatement procedures, and all radio frequencies for the following local area airports (_____) and their runways.

21. What is the fuel capacity? How much is usable?

22. What is the authority and responsibility of the pilot in command?

23. When are you required to wear a safety belt?

24. When are you permitted to deviate from an ATC instruction?

25. What grade(s) of aviation fuel is/are available for use? What color is each?

26. When an aircraft is approaching another head-on, each pilot should alter their course to the _____.

27. A (n) _____ on the runway indicates that the runway is closed.

28. Draw the pavement marking requiring you to stop before entering a runway.

29. When is dropping objects from an airplane permitted?

30. The_____ of two aircraft on approach to the same runway has the right of way.

31. What must a pilot do before entering Class D airspace?

32. What is the minimum safe altitude anywhere? Over congested areas?

33. List the day-VFR weather minimums in Class G, E, and D airspace.

34. List the documents that must be aboard the airplane at all times.

35. When must the airplane's navigation lights be on?

36. Can a student pilot fly into Class B airspace? If so, what is required?

37. What is the minimum reserve fuel required for day VFR operations?

Appendix A

Pre-Solo Aeronautical Knowledge Test Topics (Closed book

1. Define *and* list the following speeds for your aircraft:

V_S-_____ V_{SO}-_____

V_X-_____ V_Y-_____

V_A-_____ V_{FE}-_____

V_{NO}-_____ V_{NE}-_____

2. List the procedure to respond to an engine fire on the ground while starting.

3. Draw the taxiway marking that you would see approaching a runway and would not cross without ATC clearance (indicate taxiway and runway sides).

4. List at least three good practices to avoid runway incursions.

5. Explain your actions if the tower gives you the instruction “line up and wait.”

6. What is your airplane’s best glide speed? When is it used?

7. List the procedure to respond to an in-flight engine failure.

8. List the procedure for loss of communication radio when arriving at an airport with an operating control tower.

9. List the procedures for an in-flight engine fire.

10. Describe collision avoidance procedures climbing, descending to a traffic pattern, and before starting maneuvers.

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Appendix B

PRE-SOLO CROSS-COUNTRY BRIEFING AND FAA KNOWLEDGE TEST PREP

Objective: To make sure your customer has the appropriate knowledge for solo cross-country flights.

Suggested Procedures:

1. Prior to your customer's first solo cross-country flight, schedule a briefing to review general cross-country topics. This briefing does not replace the cross-country planning review required to endorse solo cross-country flights [§61.93(c)].
2. Review the Private Pilot Aeronautical Knowledge Areas and your customer's preparedness for the FAA Knowledge Test [§61.105(b)].
3. You will be well served to make sure your customer successfully completes the Private Pilot FAA Knowledge Test prior making their first solo cross-country flight for the following reasons:
    a. Provides documented confirmation of required knowledge
    b. Satisfies a significant prerequisite for taking the FAA Practical Test as soon as all flying requirements are met
4. Suggest that you have your customer print and bring the results of the three fixed practice exams and at least one random practice exam from the King Private Pilot Ground School & Test Prep Course. Review with your customer any incorrect answers on the practice exams.

Solo Cross-Country Briefing Topics:

Appropriate logbook and certificate endorsements
Preflight preparation
Obtaining weather information
Route planning
Airplane performance and limitations
Navigation log
FAA flight plan
Radio frequencies and procedures
National Airspace System
Airport operations
Alternate plans of action
In-flight advisories
Basic VFR weather minimums
Emergency operations
Locating ATC frequencies
Lost procedures
Traffic patterns
Runway incursion avoidance
Closing flight plans
Aircraft discrepancies
PAVE/CARE checklists

Appendix B

FAA Knowledge Test Briefing Topics [§61.105(b)]:

(1) Applicable Federal Aviation Regulations of this chapter that relate to private pilot privileges, limitations, and flight operations;

(2) Accident reporting requirements of the National Transportation Safety Board;

(3) Use of the applicable portions of the "Aeronautical Information Manual" and FAA advisory circulars;

(4) Use of aeronautical charts for VFR navigation using pilotage, dead reckoning, and navigation systems;

(5) Radio communication procedures;

(6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts;

(7) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence;

(8) Effects of density altitude on takeoff and climb performance;

(9) Weight and balance computations;

(10) Principles of aerodynamics, powerplants, and aircraft systems;

(11) Stall awareness, spin entry, spins, and spin recovery techniques for the airplane and glider category ratings;

(12) Aeronautical decision making and judgment; and

(13) Preflight action that includes—

(i) How to obtain information on runway lengths at airports of intended use, data on takeoff and landing distances, weather reports and forecasts, and fuel requirements; and

(ii) How to plan for alternatives if the planned flight cannot be completed or delays are encountered.

Appendix C

PRIVATE PILOT PRE-PRACTICAL TEST BRIEFING

Objective: To make sure your customer has all applicable knowledge expected to be demonstrated during the practical test. Identify any weak areas that can be corrected on the spot or assign additional study to be reviewed later. Conduct the briefing as a practice oral portion of the practical test.

Suggested Procedures:

1. As your customer's proficiency approaches the desired standards, assign the King Schools Private Pilot Practical Test course and reading the Private Pilot Airman Certification Standards. Schedule a pre-practical test briefing.
2. During the pre-practical test briefing review those subject areas deficient on the airman knowledge test and go over any questions from the Practical Test Course focusing on the Private Pilot Airman Certification Standards including the topics suggested below.

Pre-Practical Test Briefing Topics:

Application for airman certificate (FAA from 8710)
Introduction section of the current Airman Certification Standards
Standards for each area of operation
Certificates and documents
Airworthiness requirements
Weather
Cross-Country flight planning
Airspace
Performance and limitations
Operation of systems
Aeromedical factors
Radio communications
ATC light signals
Emergency operations
Night operations

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Instrument Rating FAA Knowledge Test Briefing Topics

Appendix D

PRE-FAA KNOWLEDGE TEST BRIEFING

Objective: To make sure customer has the appropriate knowledge prior to taking the FAA Instrument Rating Knowledge Test.

Suggested Procedures:

1. Prior to the long cross-country, schedule a briefing to review the required aeronautical knowledge requirements [per §61.65(b)] and your customer's preparedness for the FAA Knowledge Test.
2. Suggest that your customer print and bring the results of the three fixed practice exams and at least one random practice exam from the King Instrument Rating Ground School & Test Prep Course. Review with your customer any incorrect answers on the practice exams.

FAA Knowledge Test Briefing Topics [§61.65(b)]:

(1) Federal Aviation Regulations of this chapter that apply to flight operations under IFR;
(2) Appropriate information that applies to flight operations under IFR in the "Aeronautical Information Manual;"
(3) Air traffic control system and procedures for instrument flight operations;
(4) IFR navigation and approaches by use of navigation systems;
(5) Use of IFR en route and instrument approach procedure charts;
(6) Procurement and use of aviation weather reports and forecasts and the elements of forecasting weather trends based on that information and personal observation of weather conditions;
(7) Safe and efficient operation of aircraft under instrument flight rules and conditions;
(8) Recognition of critical weather situations and windshear avoidance;
(9) Aeronautical decision making and judgment; and
(10) Crew resource management, including crew communication and coordination.

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Instrument Rating Pre-Practical Test Briefing Topics

Appendix E

INSTRUMENT RATING PRE-PRACTICAL TEST BRIEFING

Objective: To make sure your customer has all applicable knowledge expected to be demonstrated during the practical test. Identify any weak areas that can be corrected on the spot or assign additional study to be reviewed later. Conduct the briefing as a practice oral portion of the practical test.

Suggested Procedures:

1. As your customer's proficiency approaches the desired standards, assign the King Schools Instrument Rating Practical Test course and reading the Instrument Rating Airman Certification Standards. Schedule a pre-practical test briefing.
2. During the pre-practical test briefing review those subject areas deficient on the airman knowledge test and go over any questions from the Practical Test Course focusing on the Instrument Rating Airman Certification Standards including the topics suggested below.

Pre-Practical Test Briefing Topics:

Application for airman certificate (FAA from 8710)
Introduction section of the current Airman Certification Standards
Standards for each area of operation
Single-pilot resource management
Pilot qualifications
Weather information
Cross-country flight planning
Airplane systems related to IFR operations
Airplane flight instruments and navigation equipment
Instrument cockpit check
Terminal Publication Procedures (TPP)
Aeronautical decision making
Risk management
Task management
Situational awareness
Controlled flight into terrain awareness
Automation management
Crew resource management
Use of checklists
Use of distractions during practical test
Positive exchange of flight controls
Attitude instrument flying
Emergency instrument procedures

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