

## **SAMPLE PRIVATE PILOT ASEL PRACTICAL TEST SCENARIO**

### **Scenario:**

The purpose of this flight is for the PT to fly with three family members to a family function. This family function will include an overnight stay for most people who are attending. Activities planned at the function are camping at a local lake, where people can camp, hike, water-ski, and scuba dive. The nearest airport is a grass runway. (If a real grass runway does not exist, tell the PT to assume the runway at the destination airport is grass). Rides to take them to the family function have been arranged for the pilot and passengers upon arrival. A barbeque dinner honoring the grandparents is scheduled for the afternoon of the flight's arrival. One family member who is a passenger is planning to give a formal speech at this event. The return flight is planned for late evening after the event, departing just after sunset, so the pilot and one passenger can get to work on time the next morning. Two of the passengers are planning to stay overnight.

The airport for the initial departure is assumed to be a short runway with several obstacles surrounding it.

The flight involved in the scenario should be long enough to involve a fuel stop (AOA I, Task D, Objective 1). The weather used should be real-time (this does not preclude the inspector or examiner from interjecting weather changes to meet AOA VII, Task C if weather is used for the event trigger to cause the need for a diversion.

### **Event Triggers:**

Event triggers are those actions that the inspector/examiner will take to cause the pilot to take some action that was not part of the original flight plan. Events that will trigger a diversion, if required by the PTS, should be realistic and not just limited to deteriorating weather. These triggers could be, but are not limited to, a system problem with the airplane, a passenger becoming ill, or a loose fuel cap. Event triggers could also be something like a runway suddenly closing, requiring an unplanned go-around, or conflicting traffic in a traffic pattern.

Event triggers should be realistic and create a situation where the PT will have to demonstrate competency in SRM to deal with the changing situation.

Specific event triggers are listed in the ground and/or flight portion of the plan of action.

### **Single Pilot Resource Management Behaviors:**

During the ground and flight portions of the practical test, the PT should exhibit the following behaviors as appropriate to the scenario.

## **AERONAUTICAL DECISION MAKING**

References: FAA-H-8083-25, AC 60-22, FAA-H-8083-15A

**Objective:** To determine the applicant exhibits sound aeronautical decision making during the planning and execution of the planned flight. The applicant should:

1. Use a sound decision making process, such as the DECIDE model, 3P model, or similar process when making critical decisions that will have an effect on the outcome of the flight. The applicant should be able to explain the factors and alternative courses of action that were considered while making the decision.
2. Recognize and explain any hazardous attitudes that may have influenced any decision.
3. Decide and execute an appropriate course of action to properly handle any situation that arises that may cause a change in the original flight plan in such a way that leads to a safe and successful conclusion of the flight.
4. Explain how the elements of Risk Management, CFIT Awareness, overall Situational Awareness, use of Automation, and Task Management influenced the decisions made and the resulting course of action.

## **RISK MANAGEMENT**

References: FAA-H-8083-25, (Michele's book here)

**Objective:** To determine the applicant can utilize risk management tools and models to assess the potential risk associated with the planned flight during preflight planning and while in flight. The applicant should:

1. Explain the four fundamental risk elements associated with the flight being conducted in the given scenario and how each one was assessed.
2. Use an tool, such as the PAVE checklist to help assess the four risk elements
3. Use a personal checklist, such as the "I'MSAFE" checklist, to determine personal risks.
4. Use weather reports and forecasts to determine weather risks associated with the flight.

5. Explain how to recognize risks and how mitigate those risks throughout the flight.
6. Use the “5-P” model to assess the risks associated with each of the 5 factors.

## **TASK MANAGEMENT**

References: FAA-H-8083-15A

**Objective:** To determine the applicant can prioritize the various tasks associated with the planning and execution of the flight. The applicant should:

1. Explain how to prioritize tasks in such a way to minimize distractions from flying the airplane.
2. Complete all tasks in a timely manner considering the phase of flight without causing a distraction from flying.
3. Execute all checklists and procedures in a manner that does not increase workload at critical times, such as intercepting the final approach course.

## **SITUATIONAL AWARENESS**

References: FAA-H-8083-25, FAA-H-8083-15A

**Objective:** To determine the applicant can maintain situational awareness during all phases of the flight. The applicant should:

1. Explain the concept of situational awareness and associated factors.
2. Explain the dangers associated with becoming fixated on a particular problem to the exclusion of other aspects of the flight.
3. State the current situation at anytime during the flight in such a way that displays an accurate assessment of the current and future status of the flight, including weather, terrain, traffic, ATC situation, fuel status, and airplane status.
4. Uses the navigation displays, traffic displays, terrain displays, weather displays and other features of the airplane to maintain a complete and accurate awareness of the current situation and any reasonably anticipated changes that may occur.

## **CONTROLLED FLIGHT INTO TERRAIN AWARENESS**

Reference: Controlled Flight Into Terrain Training Aid:

website:

[www.faa.gov/education\\_research/training/media/cfit/volume1/titlepg.pdf](http://www.faa.gov/education_research/training/media/cfit/volume1/titlepg.pdf)

**Objective:** To determine the applicant can accurately assess risks associated with terrain and obstacles, maintain accurate awareness of terrain and obstacles, and can use appropriate techniques and procedures to avoid controlled flight into terrain or obstacles by using all resources available. The applicant should:

1. Use current charts and procedures during the planning of the flight to insure the intended flight path avoids terrain and obstacles.
2. Be aware of potential terrain and obstacle hazards along the intended route.
3. Explain the terrain display, TAWS, and/or GPWS as installed in the airplane.
4. Use the terrain display, TAWS, and/or GPWS of the navigation displays as appropriate to maintain awareness and to avoid terrain and obstacles.
5. Plan departures and arrivals to avoid terrain and obstacles.
6. Alter flight as necessary to avoid terrain.
7. Plan any course diversion, for whatever reason, in such a way to insure proper terrain and obstruction clearance to the new destination.

## **AUTOMATION MANAGEMENT**

Reference: FAA-H-8083-15A

**Objective:** To determine the applicant can effectively use the automation features of the airplane, including autopilot and flight management systems, in such a way to manage workload and can remain aware of the current and anticipated modes and status of the automation. The applicant should:

1. Explain how to recognize the current mode of operation of the autopilot/FMS.
2. Explain how to recognize anticipated and unanticipated mode or status changes of the autopilot/FMS.
3. State at any time during the flight the current mode or status and what the next anticipated mode or status will be.

4. Use the autopilot/FMS to reduce workload as appropriate for the phase of flight, during emergency or abnormal operations.
5. Recognize unanticipated mode changes in a timely manner and promptly return the automation to the correct mode.

### **Ground Portion of the Practical Test:**

During the ground portion of this evaluation, the questions typically asked during private pilot should be used but in the context of the scenario to the extent possible.

This scenario has several elements embedded in it that are designed to allow for testing in several areas. These are:

- Pressure to complete the trip on time because of the arranged rides to the function.
- The potential for many strenuous activities before the return trip at night.
- The potential for pressure to delay the return trip.
- The potential for scuba diving.
- The potential for the returning passenger to want to consume alcohol at the event.
- Two of the passengers are planning to stay the night, so the PT will need to account for their luggage when doing the weight and balance.
- The return trip allows for the evaluation of Area of Operation XI: Night Operation
- The destination airport is assumed to be a grass runway, so the performance can be figured accordingly.
- The load to be carried will be near the capacity for a 4 seat airplane, so careful attention will have to be paid to weight and balance and to the required fuel for the trip. This will allow for discussion of weight and balance and aircraft performance.

## Event Triggers

- During the discussion, the examiner can suggest that the passengers have offered to pay all of the expenses for the flight. This allows for additional testing of private pilot limitations.
- One of the passengers mentions have recently been taking medication for a sinus infection but that he/she feels ok for the flight today. (This can be the precursor to a reason to divert the flight during the flight portion of the test). This allows for testing of aeromedical factors.
- Suggest that the airplane has recently had a problem with one of the main avionics components being reported by a previous pilot as unreliable. (Such as the MFD or PFD). Suggest that maintenance personnel have ground checked the equipment and it seems ok. This allows for the evaluation of the use of an MEL or Kinds of Operations List, and aircraft systems. This also sets the stage for the in-flight demonstration of pilotage and dead-reckoning.
- Suggest that the returning passenger has mentioned the possibility of doing a short scuba dive while at the event. An alternative is to mention the passenger has said he is looking forward to a nice cold beer with the barbeque dinner. This allows for further testing of the regulations regarding alcohol use by pilots and passengers and/or flying after scuba diving.
- Suggest that ( after evaluating the real-time weather for this scenario) that a recent PIREP was issued stating there was an unexpected heavy haze layer at the planned cruising altitude shortly after take off. This is because of a fire that has started near the route of flight. ( This sets the stage for Area of Operation IX: Basic Instrument Maneuvers and the discussion of Temporary Flight Restrictions).
- At some point, ask the PT to recalculate the weight and balance to reflect the actual load for the test. This allows you to further evaluate the PT's ability to perform weight and balance calculations. You can ask how this will affect the previously calculated performance and what adjustments, if any, would be necessary. Remind them that this is simply to insure the actual weight and balance for the flight is correct and that during the flight, it will be assumed the passengers in the scenario will be on board.

## **Flight Portion of the Practical Test:**

During the preflight, start, taxi and run-up, allow the PT to perform as they normally would while evaluating the appropriate Areas of Operation and Tasks as you normally would but in the context of the scenario.

The PT should elect to perform and short flight take off and maximum performance climb on the initial departure, based on the scenario.

Allow the PT to conduct the flight according to the flight plan. In most cases, this will be using the programmed GPS route and using the autopilot as appropriate.

### Event Triggers

- The flight enters the area of haze and smoke reported in the PIREP. Visibility is unexpectedly reduced to where there is no visible horizon and is estimated to be less than VFR conditions. (This is where the PT dons the view-limiting device). This event allows for the evaluation of Area of Operation IX: Basic Instrument Maneuvers. Select Task E and two others to evaluate.

In addition to the evaluation of Area of Operation IX, the PT should be evaluated on the appropriate use of the autopilot in this situation, decision-making (finding a suitable escape course from the low visibility situation), situational awareness, CFIT awareness, and risk management.

- When the visibility clears (PT removes view limiting device), the passenger that has been taking the medication complains that the smoke that was encountered has aggravated their condition and they are feeling nauseous and their ears/sinuses are hurting and really want to get on the ground as soon as practical. (This is the trigger for the diversion to a nearby airport). During this diversion, aeronautical decision-making, risk management, CFIT awareness, situational awareness, task management, and automation management is evaluated.
- After the PT has initiated the diversion, the equipment that was previously reported as unreliable fails. The PT is then expected to use pilotage and dead reckoning to fly to the diversion airport. This can be one or more of the items evaluated under Area of Operation X, Task B: Systems and Equipment Malfunction.
- Assume the diversion airport is grass, and had the PT perform the soft-field landing as in the original scenario. After the landing, simulate taxiing to an area where the ill passenger can be disembarked. Assume one other passenger also disembarks.

NOTE: At this point, the original scenario is suspended to allow for the accomplishment of remaining take-offs and landings. When these are accomplished, return and simulate re-boarding the two passengers that got off and resume the scenario. The two passengers have decided that it would be best to return home rather than continue the original trip.

- Have the PT reprogram the navigation equipment to return to the original departure airport.
- At some point after take off over a suitable area, simulate an engine failure.

NOTE: After the completion of the simulated engine failure, suspend the scenario to allow for the completion of Area of Operation VI: Ground Reference Maneuvers and Area of Operation VIII: Slow Flight and Stalls. When these have been adequately evaluated, resume the amended scenario to the original airport of departure.

- At this point, tell the PT to assume they are lost and need to use appropriate procedures to return to the airport.
- Once established on a course to the airport, evaluate any remaining items necessary under Area of Operation X, Task B as appropriate.

Upon arrival at the airport, have the PT demonstrate any landing or procedure under Area of Operation IV, Takeoffs, Landings, and Go-Arounds that have not been previously evaluated.

Evaluate Area of Operation XII, Post-flight Procedures as appropriate.

This should conclude the scenario.