Instrument Rating Airplane Single-Engine

Lost Communications, Approaches with Loss of Primary Flight Instrument Indicators, and Emergency Procedures

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Scenario:

You are going to fly to an airport about 30 minutes away to pick up package for your business partner. Your partner is away on an important business trip and you need to get this package so you can fax the contents to her so she can complete her negotiations for a new contract for your company.

The airplane you have originally scheduled, and usually fly, is not available and you are going to take another one, which is the same make and model. While reviewing the maintenance logs, you notice that 2 flights ago, the pilot noted that the primary flight display “flickered a couple of times”. A mechanic checked the discrepancy and could not duplicate the fault. No other faults have been noted in the past two flights the airplane has flown.

The weather is such that the approaches you will fly might be down to or near minimums at both your home airport and your destination.

Lesson Objectives:

The PT will demonstrate the ability to fly the airplane using standby instruments available after a loss of the primary flight instruments, and to fly holding patterns, precision approaches, and non-precision approaches without the use of the primary flight instruments. The PT will also demonstrate the ability to recognize and recover from unusual flight attitudes without use of the primary flight instruments.

Pre-Briefing:

The PT should be able to identify and discuss the risks associated with flying without the use of the primary flight instruments, the reason for the loss of the primary flight instruments, and the various situations that can cause such losses. The PT should be able to explain how to properly maintain aircraft control and how to execute holding patterns and instrument approaches without the primary flight instruments.

The instructor and the PT should discuss the risks associated with this training flight and how those risks will be mitigated.

Completion Standards:

This lesson will be complete when the student can demonstrate the maneuvers and procedures listed below to the performance level indicated and within the standards listed in Instrument Rating Practical Test Standard for Airplane.

IR-ASE- Partial Panel Approaches- Emergency Procedures **Desired Outcome Grade Sheet**			Task Grades					SRM Grades		
			Not Observed	Describe	Explain	Practice	Perform	Explain	Practice	Manage/Decide
Scenario Activities	Task	Desired Performance								
Preflight Preparation	Weather Information									
	Flight Planning									
	SRM									
Preflight Procedures	Aircraft Systems Related to IFR Operations									
	Aircraft Flight Instruments and Navigation Equipment									
	Instrument Cockpit Check									
	SRM									
Air Traffic Control Clearances and Procedures	Air Traffic Control Clearances									
	Compliance with Departure, En Route, and Arrival Procedures and Clearances									
	Loss of Communications									
	Holding- Without Primary Flight Instrument Indicators									
	SRM									
Flight by Reference to Instruments	Basic Instrument Flight Maneuvers-Without Primary Flight Instrument Indicators									
	Recovery from Unusual Flight Attitudes- Without Primary Flight Instrument Indicators									
	SRM									
Navigation Systems	Intercepting and Tracking Navigational Systems									
	SRM									
Instrument Approach Procedures	Non-precision Approach- Without Primary Flight Instrument Indicators									
	Precision Approach- Without Primary Flight Instrument Indicators									
	Landing from a Straight-In Approach									
	SRM									
Post-flight Procedures	Checking Instruments and Equipment									
	SRM									

De-Briefing:

Solicit a self-critique from the student about their personal performance by having them grade their performance based on the desired outcomes for the flight. Compare the student's self evaluation to your own and discuss why you either agreed or disagreed with the student's assessment. Use this information to direct your analysis of their flight. Additionally, discuss the role SRM played in the training activity and why it is critical to always consider how a flight or a situation could have been better managed to achieve the optimal outcome. Provide guidance on what the tasks and objectives will be for the next training activity and how they should prepare for it.

Notes to the Instructor:

Be sure of the safety aspects of this flight. It is not recommended that this flight be conducted in actual IMC. Care must be taken to provide realistic simulations of the instrument failures that can occur with a particular PFD/MFD system. Some systems allow for reversionary modes to be displayed. Others will not.

Be careful of the requirements needed to re-initialize a system once it has been failed. Always follow the manufacturer's recommendations regarding simulating instrument failures if they are available. Improperly failing some systems can cause damage.

You should plan on flying a precision approach at one airport and a non-precision at the other. The actual sequence will depend on the instrument approaches available and in use at the time of the flight.

After the flight departs and gets established in the enroute phase, simulate a failure of the primary flight instruments thereby requiring the PT to fly on the standby instruments.

After getting established flying without the primary flight instruments, ask the PT to attempt to retrieve something from the back seat while wearing the view limiting device. Use this opportunity to place the airplane into an unusual attitude and then allow the PT to attempt the recovery. Once this is satisfactorily accomplished, then give the PT instructions to hold prior to executing the approach by suggesting the weather is currently below minimums but improving. Be sure to include a realistic EFC time in the holding clearance as well as the approach to expect.

Once in the holding pattern, simulate a loss of communications. The PT should leave holding to begin an approach at the EFC. During the approach, re-establish communications and suggest the weather is right at minimums, setting the stage for a possible missed approach.

After executing the approach and missed approach, have the PT return to fly another approach to a full stop landing.

After the landing, simulate resetting the instruments, having maintenance check them out, and regaining full panel operations for the flight home. After departure and getting established enroute, simulate the instruments failed again for the final approach at the original airport. Have the PT execute the precision or non-precision approach, whatever has not been accomplished yet, to a full stop.