

## **Instrument Airplane Multi-Engine**

### **Basic Attitude Instruments**

#### **Slow Flight, Stalls, Recovery from Unusual Flight Attitudes**

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##### **Scenario:**

You just purchased a new twin-engine airplane and have arranged to fly it home from the manufacturer. Part of the negotiated price includes some training flights with a flight instructor to familiarize you with the use of the aircraft systems. Since you are considering getting an instrument rating, you will practice some basic attitude instrument flying to learn how the displays in your new aircraft function. During the flight, you will also be shown the different handling characteristics of the aircraft and will perform some basic flight maneuvers.

##### **Lesson Objectives:**

This training scenario will introduce the PT to the preflight preparation and procedures associated with local IFR flight activities and acquaint them with the aircraft and equipment that they will be training. During the flight the instructor will help develop the PT's scan and instrument interpretation skills as well as familiarize the student with the systems and instruments associated with IFR flight. Allow plenty of time for the PT to review basic attitude instrument flying. During the navigation portion of the flight, have the PT demonstrate constant rate/airspeed climbs and descents as well as turns to headings and other instrument flight procedures. Slow flight and stalls will be practiced so the PT has the opportunity to perform those maneuvers solely by reference to instruments. Also, allow the PT to practice engine-out procedures and maneuvering by reference to instruments.

##### **Pre-Briefing:**

The instructor will discuss the objective of the lesson and determine whether the PT is adequately prepared for the activity. Each line item will be briefly covered and the student should have a clear understanding of how the training activity will be conducted and what standards will be expected of them. The instructor should also introduce the theorems of IFR flight planning and the different procedures that exist.



### **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:**

With your assistance the PT will perform the necessary preflight preparation for an IFR flight to a nearby controlled airfield; this should include the introduction of IFR flight planning procedures and clearances.

You should assist the PT conduct the instrument cockpit check before takeoff. You should demonstrate how each navigation system and electronic flight instrument display's operational status is checked.

Allow the student to handle all ATC communications, including IFR clearances, and provide assistance when necessary. During the navigation portion of the flight, have the PT demonstrate constant rate/airspeed climbs and descents as well as turns to headings and other instrument flight procedures.

Discuss the control and performance method and the primary and supporting method and explain how each technique is used during basic attitude instrument flying.

During stalls and slow flight discuss spin awareness and the importance of coordinated aircraft control.

After the PT has gained some confidence flying on instruments, demonstrate the techniques that should be used to recognize and properly recover from nose-high and nose-low unusual attitudes.

Finally, tell the PT that one of the engines is running rough and that you see oil coming out of the cowling. Have the PT do a precautionary engine shut-down and then demonstrate straight-and-level and turns with an engine inoperative while on instruments.