Flight Instructor Airplane Multiengine

Multiengine Operations, Emergency Operations

Scenario:

Your student is at the point in training that you need to introduce and practice multiengine operations and engine out emergencies, including takeoffs and landings. This lesson is primarily a skill building lesson. You are going to stay in the local area for this flight. You plan to use a nearby airport for the landing practice if the conditions are more suitable there than at your base airport.

Lesson Objectives:

The purpose of this lesson is to learn to effectively perform, teach and analyze the listed multiengine operations and emergency procedures.

Pre-Briefing:

The student instructor will review the desired outcomes, discuss the scenario for the flight, and discuss the key elements of each maneuver to be flown. The student instructor will develop a maneuver lesson that describes and utilizes the scenario prescribed for this lesson. During the preflight briefing, the instructor will play the role of the student being trained and respond accordingly.

The student instructor should be able to explain the risks associated with multiengine operations and engine-out maneuvers both at altitude and while in the traffic pattern doing takeoffs and landings and tell how to mitigate those risks. Minimum altitudes for maneuvers and emergencies, methods of simulating engine and system failures, and accelerate-stop and accelerate-go (if applicable) should be calculated and discussed.

Completion Standards:

This lesson will be complete when the student instructor can perform, teach and analyze each maneuver to the level shown on the desired outcome table and within the tolerances specified by the Flight Instructor Practical Test Standard for Airplane, Multiengine.

FI- AME- Fundamentals of Flight, Takeoffs and Landings, Traffic Pattern

Desired Outcome Grade Sheet

Scenario Activities	Task	Desired Performance	Task Grades					SRM Grades		
			Not Observed	Describe	Explain	Practice	Perform	Explain	Practice	Manage/Decide
Preflight Lesson on a Maneuver to be Performed in Flight.	Maneuver Lesson									
	SRM									
Preflight Procedures	Preflight Inspection									
	Engine Starting									
	Taxiing									
	Before Takeoff Check									
	SRM									
Airport Operations	Radio Communications and ATC Light Signals									
	Traffic Patterns									
	Airport, Runway, and Taxiway Signs, Markings, and Lighting									
	SRM									
Takeoffs and Departure	Normal and Crosswind Takeoff and Climb									
	Airport Departure Procedures									
	SRM									
Multiengine Operations	Operation of Systems									
	Performance and Limitations									
	Flight Principles- Engine Inoperative									
	Maneuvering with One Engine Inoperative									
	Vmc Demonstration									
	Demonstrating the Effect of Various Airspeeds and Configurations During Engine Inoperative Performance									
	SRM									
Emergency Procedures	Engine Failure during Takeoff Before Vmc									
	Engine Failure After Lift-Off									
	Approach and Landing with an Inoperative Engine									
Arrival and Landings	Normal and Crosswind Approach and Landing									
	Go-Around/Rejected Landing									
	SRM									
Post Flight Procedures	Postflight Procedures									
	SRM									

De-Briefing:

The debriefing will be lead by the student instructor using the Learner-Centered Grading method. The student instructor will critique the instructor about the instructor's "simulated student" performance. Then the student instructor will critique his/her own performance using the Desired Outcomes Grading sheet as a guide. The instructor and student instructor will discuss any discrepancies in their respective evaluations.

Notes to the Instructor:

The student instructor is learning how to prepare and to present effective scenario-based instruction. The student instructor may not have received scenario-based instruction and may need to review the information provided on the FAA/FITS website to gain a full understanding of the instructional process and its value.

The student instructor should develop a lesson plan that incorporates this scenario and conduct the flight in accordance with that plan. You should review this lesson plan during the preflight briefing and make any suggestions for improvement at that time.

The student instructor should be able to discuss all of the risk factors associated with conducting multiengine operations. Techniques for simulating engine failures should be done in accordance with the manufacturer's recommendations and the Airplane Flying Handbook. Minimum altitudes for each type of operation or engine out simulation should be established.

Be sure the student instructor calculates the normal takeoff and landing distances, accelerate-stop and accelerate-go (if applicable) distances, engine-out climb performance, and single-engine service ceiling for the actual conditions for the flight. The student instructor should be able to explain the significance of each of these calculations to the overall assessment of risk for this flight and how they will be used to mitigate the risks.

During the flight, you should first ask the student instructor to demonstrate (or teach) each of the maneuvers, then you should conduct the maneuver in the role of the "student". You should vary the proficiency to allow the student instructor the opportunity to analyzed and evaluate the "student's" performance and provide instruction to correct the errors.

After completing the multiengine operations at altitude, you should proceed to the airport to conduct the training in emergency operations in the traffic pattern. You should ask the student instructor to demonstrate each maneuver and then analyze and evaluate you performing then in the role of the "student."