

## **GROUND AND FLIGHT TRAINING SYLLABUS (3581)**

**AUG 2023**

**PREREQUISITES FOR ENROLLMENT IN GROUND TRAINING:** There are no prerequisites for enrollment in the ground training part of this course.

**PREREQUISITES FOR ENROLLMENT IN FLIGHT TRAINING:** You must possess an FAA medical certificate that is valid for at least third class privileges. You must possess an FAA commercial pilot certificate with at least airplane single engine land and Instrument airplane ratings.

**COURSE OBJECTIVE:** You will obtain the knowledge, skill, and aeronautical experience necessary to meet the requirements of 14 CFR, Section 141, Appendix I for the addition of an airplane multiengine land class rating (with instrument privileges) to your commercial pilot certificate.

### **COURSE POLICY:**

At the discretion of the instructor, students who progress rapidly within a specific stage, may within reasonable variances, continue to the next lesson with less time than is specified in the specific lesson curriculum, provided all content and completion standards are satisfactorily completed. With the exception of Flight Lessons five and six, which must be a minimum of two hours duration, the time stated in the lesson is the approximate minimum time that a student would need to meet the lesson objectives and completion standards; not absolute required times. The lesson time could be slightly more or slightly less. These reduced hours must be included in other lessons to complete the total ground and/or flight time specified by category in the syllabus to satisfactorily complete the course.

At no time will a student be allowed to continue to the next stage without having successfully completed all of the lessons and the required tests or stage checks related to the completion of the previous stage. If a student is unable to attend a ground lesson the instructor and student will coordinate a time to accomplish that lesson. The makeup lesson will be conducted in any of the approved "Rooms Used for Ground Training" at a time when the room is not otherwise scheduled for a class.

Flight training for this course will be done in accordance with the F.A.A approved syllabus. Deviations from the syllabus due to student training requirements, weather related factors, or other items as necessary will be allowed as long as a notation is made in the student training record as to the lesson covered and the reason for the deviation. Deviations must be approved by the chief or assistant chief flight instructor.

To satisfactorily complete the course of training, the student must meet all course objectives and completion standards.

**EXPECTED ACCOMPLISHMENTS AND STANDARDS:** To satisfactorily complete each ground stage you must pass the end of stage exam. To satisfactorily complete the one flight stage you must pass the end of course stage check which is equivalent to the practical test defined by the Commercial Pilot Airman Certification Standards for addition of an airplane multiengine land rating (with instrument privileges) to your commercial pilot certificate. Each lesson lists specific objectives and standards of completion.

**CHECKS AND TESTS:** The ground training portion of the syllabus contains a stage one and stage two exam. Specific content and completion standards are listed on the test lesson plan. Ground training must be completed before the completion of flight training. The final lesson of flight training will be an end of course stage check, which will be equal to in scope, depth and difficulty to the practical test defined by the Commercial Pilot Airman Certification Standards for addition of an airplane multiengine land rating (with instrument privileges) to a commercial pilot certificate with at least existing airplane single engine land and instrument airplane ratings. This test will be administered by the Chief, Assistant Chief Flight Instructor or Check Instructor approved by the FSDO.

## GROUND TRAINING SYLLABUS

During the ground training portion of this course the student will gain the knowledge necessary to operate a multi-engine land airplane. This includes aircraft systems, weight/balance and performance calculations, aerodynamics, normal operations and maneuvers, engine failure procedures, single engine operations in visual and instrument conditions and commercial pilot privileges and limitations. The student must complete all the ground training lessons and pass both exams with a grade of 80% or higher to complete ground training.

Accomplishments and Standards for Stage I (Ground Lessons 1-1 through 1-4). The student will acquire knowledge of aircraft systems, weight and balance and performance calculations, multiengine and engine out aerodynamics. The student will pass the exam (Ground Lesson 1-4) before continuing to Stage 2.

Accomplishments and Standards for Stage II (Ground Lessons 2-1 through 2-4). The student will acquire knowledge of multi-engine normal operations and maneuvers, engine failure procedures in visual and instrument meteorological conditions and commercial pilot privileges and limitations. The student will pass the exam (Ground Lesson 2-4).

### GROUND TRAINING BREAKDOWN

Ground Lesson #1-1	3.0 Hours	
Ground Lesson #1-2	1.5 Hours	
Ground Lesson #1-3	3.0 Hours	
Ground Lesson #1-4 Exam		1.0 Hours
Ground Lesson #2-1	1.5 Hours	
Ground Lesson #2-2	3.0 Hours	
Ground Lesson #2-3	1.5 Hours	
Ground Lesson #2-4 Exam		1.0 Hours

Total	13.5 Hours	2.0 Hours
-------	------------	-----------

### SYLLABUS LESSON TIME CHART

DI		Dnt	Dxc		Idl	Nldg		PP	GI		
X		X	X		X	X		X	X		
Y		Y	Y		Y	Y		Y	Y		

**X = Indicates minimum times required by FSP to complete the lesson.**

**Y = Times indicated in Lesson Time Allocation Table**

**If X is less than Y on a particular lesson the shortage must be made up in a future lesson**

**GROUND LESSON 1-1**

**TEXT REFERENCE:**

MULTI-ENGINE MANUAL "Jeppesen Sanderson" - Chapter 2 Section A "Examining Systems"  
PA44-180 POH – Section 7

**LESSON OBJECTIVE:**

During this lesson the student is introduced to and learns multi-engine aircraft systems and operations in general and the specifics of each system in the Seminole.

**CONTENT:**

Section A – “Examining Systems”

- Engine Systems
- Propellor Systems
- Electrical Systems
- Pneumatic Systems
- Hydraulic Systems
- Fuel Systems
- Landing Gear Systems
- Ice Control Systems
- Cabin Environmental Systems
- Oxygen Systems
- Cabin Pressurization Systems
- Primary and Secondary Flight Control Systems

Seminole Systems – “PA44-180 POH, Section 7”

- Airframe
- Engines and Propellers
- Landing Gear
- Brakes
- Flight Controls
- Fuel System
- Electrical System
- Vacuum System
- Pitot Static System
- Heating, Ventilating and Defrost System – Janitrol Heater
- Stall Warning System
- Emergency Locator Transmitter

**COMPLETION STANDARDS:**

Through oral quizzing and/or discussion the student will demonstrate understanding of multi-engine aircraft systems.

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 101

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
						3.0
						3.0

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

TOTAL \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**GROUND LESSON 1-2**

**UNIVERSITY OF OKLAHOMA**

**TEXT REFERENCE:**

MULTI-ENGINE MANUAL "Jeppesen Sanderson" - Chapter 2-B "Calculating Weight and Balance" and & 2-C "Determining Performance"

PA44-180 POH – Sections 2, 5 and 6

**LESSON OBJECTIVE:**

During this lesson, the student will learn to compute and control weight and balance conditions of multi-engine airplanes. The student also will review the factors affecting airplane performance and will learn to compute the expected performance values accurately from multi-engine airplane performance charts.

**CONTENT:**

Section B - "Calculating Weight and Balance" "PA44-180 POH, Section 6"

- Weight Terminology to Include Zero and Maximum Fuel Weight
- Center of Gravity
- Determining Takeoff and Landing Weight and CG
- Weight Shift Formula
- Significance and effects of exceeding weight and CG limitations

Section C - "Determining Performance," "PA44-180 POH, Sections 2 and 5"

- Engine-Out Performance Penalty
- Using Performance Data
- V-Speeds
- Calculating Performance
  - Takeoff and Climb
  - Accelerate Stop and Accelerate Go Distance
  - Cruise Flight
  - Single Engine Ceilings
  - Descent
  - Landing
  - Engine-Out Go-Around
  - Engine-Out Landing Distances
- Significance and Effects of Exceeding Performance Limitations

**COMPLETION STANDARDS:**

Through oral quizzing and/or discussion the student will demonstrate understanding of weight/balance and performance calculations.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 102

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
 FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
											1.5
											1.5

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

TOTAL \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**GROUND LESSON 1- 3**

**TEXT REFERENCE:**

Multi-Engine Manual "Jeppesen Sanderson" - Chapter 3-A "Introducing Multi-Engine Aerodynamics", 3-B "Mastering Engine-Out Aerodynamics"

**LESSON OBJECTIVE:**

During this lesson, the student will learn the principles of Multi-engine and Engine-Out Aerodynamics

**CONTENT:**

Section A – "Multi-engine Aerodynamics"

- Boundary Layer
- Induced Flow
- Turning Tendencies

Section B - "Engine-Out Aerodynamics"

- Yaw and Roll During Engine Failure
- Critical Engine and Factors that Determine Critical Engine
- Vmc and Factors that Determine Vmc
- Controllability versus Performance
- Relationship of Vmc to Stall Speed with Increasing Altitude

**COMPLETION STANDARDS:**

Through oral quizzing and/or discussion the student will demonstrate understanding of multi-engine aerodynamics and engine-out aerodynamics.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 103

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
											3.0
											3.0

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

\_\_\_\_\_

TOTAL \_\_\_\_\_

\_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**GROUND LESSON 1-4**

**LESSON OBJECTIVE:**

The exam administered during the lesson evaluates the student's comprehension of the material presented in ground lessons 1, 2, 3 and 4.

**CONTENT:**

- PA44-180 Systems
- PA44-180 Weight and Balance Calculations
- PA44-180 Performance Calculations
- Multi-Engine Aerodynamics
- Engine-Out Aerodynamics

**COMPLETION STANDARDS:**

This lesson and stage are complete when the applicant has completed the exam with a minimum passing score of 80% and the instructor has reviewed each incorrect response to ensure complete understanding of the material.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 104

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
											1.0
											1.0

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

\_\_\_\_\_

TOTAL \_\_\_\_\_

\_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**GROUND LESSON 2-1**

**TEXT REFERENCE:**

Multi-Engine Manual "Jeppesen Sanderson" - Chapter 4-A "Normal Operations", Chapter 4-B "Maneuvers."

Aeronautical Information Manual, "Chapter 8-1-2 and 8-1-6b"

PA44-180 POH Section 4

**LESSON OBJECTIVE:**

During this lesson, the student will learn the Normal Operations and maneuvers in a multi-engine airplane.

**CONTENT:**

Section A - "Normal Operations," "PA44-180 POH, Section 4"

- Use of Checklists
- Preflight Inspection
- Engine Starting
- Taxiing – Use of Differential Thrust
- Normal and Short-Field Takeoff and Climb
- Propeller Synchronization
- Cruise
  - Night Considerations "AIM 8-1-6b"
  - High-Altitude Considerations "AIM 8-1-2"
- Descent
- Normal and Short Field Approach and Landing

Section B - "Maneuvers"

- Steep Turns
- Slow Flight
- Stalls (Power-On, Power-Off, Accelerated)
- Spin Awareness
- Emergency Descent

**COMPLETION STANDARDS:**

Through oral quizzing and/or discussion the student will demonstrate understanding of multi-engine normal operations and maneuvers.

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 201

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
											1.5
											1.5

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

\_\_\_\_\_

TOTAL \_\_\_\_\_

\_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**GROUND LESSON 2-2**

**TEXT REFERENCE:**

Multi-Engine Manual "Jeppesen Sanderson" - Chapter 5-A "When an Engine Fails" Chapter 5-B "Engine-Out Maneuvers," Chapter 5C "Operating on Instruments," PA44-180 POH Section 3

**LESSON OBJECTIVE:**

During this lesson, the student will acquire the knowledge of instrument procedures in the multi-engine airplane with both engines operating and with one engine inoperative.

**CONTENT:**

- Section A - "When An Engine Fails" Actions:
- Directional Control, Pitch Toward Vyse
  - Maximum Power (Mixture, Props, Throttles)
  - Minimize Drag (Raise Gear and Flaps)
  - Identify failed Engine
  - Verify Failed Engine
  - Troubleshoot If Time/Altitude Permit
  - Feather (If Power Not Restored)
  - Secure Inoperative Engine
  - Monitor Operating Engine

- Section B - "Engine-Out Maneuvers"
- Engine Failure During Takeoff and Climb
    - Pre-Takeoff Briefing
  - Engine Failure While Enroute
  - Engine Failure During Approach/Landing
  - Engine-Out Go-Around
  - Unfeathering and Air Start Procedures
  - Vmc Demonstration
  - Drag Demonstration

- Section C – "Operating On Instruments"
- Departure
  - Enroute
  - Engine Failure During Flight By Reference To Instruments
  - Engine-Out Instrument Approach
  - Engine-Out Missed Approach

**COMPLETION STANDARDS:**

Through oral quizzing and/or discussion the student will demonstrate understanding of engine failure actions, engine out maneuvers and engine out procedures in instrument conditions.

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 202

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
						3.0
						3.0

DATE: \_\_\_\_\_ ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_ INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_ SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_ PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_ REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

TOTAL \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_



**GROUND LESSON 2-3**

**TEXT REFERENCE:**

- 14 CFR Part 91 Subpart K: Fractional Ownership Operations
- 14 CFR Part 119.1: Air Carriers and Operators for Compensation or Hire
- 14 CFR Part 135: Operating Requirements: Commuter and On Demand Operations
- FAA ADVISORY CIRCULAR (AC) 91-37B: Truth in Leasing

**LESSON OBJECTIVE:**

During this lesson, the student will review their knowledge of applicable regulations issued by the Federal Aviation for commercial pilot privileges, limitations and flight operations.

**CONTENT:**

Fractional Ownership Operations

- Applicability - 91.1001
- Program Operating Manual Contents – 91.1025
- Large Transport Category and Turbine Powered Airplanes Limitations, Destination and Alternate Airports – 91.1037
- IFR Takeoff, Approach and Landing Minimums – 91.1039
- Crewmember Experience – 91.1053
- Crewmember Flight, Duty and Rest Time Requirement – 91.1057

Other Operations for Compensation or Hire – 119.1(e)

- Student Instruction
- Nonstop Commercial Air Tours
- Ferry or Training Flights
- Aerial Work Operations
  - Crop Dusting, Seeding, Spraying, Bird Chasing
  - Banner Towing
  - Aerial Photography or Survey
  - Fire Fighting
  - Powerline or Pipeline Patrol
- Intentional Parachute Operations

Commuter and On Demand Operations

- Applicability – 135.1
- Manual Contents – 135.23
- Pilot Requirements, Use of Oxygen – 135.89
- IFR: Operating Limitations – 135.215
- IFR: Takeoff Limitations – 135.217
- IFR: IFR Destination Airport Weather Minimums – 135.219
- IFR: Alternate Airport Requirements: 135.223
- Pilot In Command Qualifications – 135.243
- Second In Command Qualifications – 135.245
- Crewmember Flight Time and Duty Periods Limitations and Rest Requirements – 135, Subpart F

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 203

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
 FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
						3.0
						3.0

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

TOTAL \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**UNIVERSITY OF OKLAHOMA**

**GROUND LESSON 2-3 (CONTINUED)**

Legal Dry Lease Versus Illegal Wet Lease Operations – AC 91.37B

**COMPLETION STANDARDS**

Through oral quizzing and/or discussion the student will demonstrate understanding of commercial pilot privileges, limitations and flight operations as defined in 14 CFR, Parts 91 (Subpart K), 119.1 and 135. The student will also have understanding of the difference between legal dry lease operations and illegal wet lease operations.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND STAGE # ME LESSON # 203

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FOR XC FLIGHTS, LIST DESTINATIONS: \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
											1.5
											1.5

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS: IN \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_

\_\_\_\_\_

TOTAL \_\_\_\_\_

\_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**UNIVERSITY OF OKLAHOMA**

**GROUND LESSON 2-4**

**FINAL EXAM**

**LESSON OBJECTIVE:**

The exam administered during the lesson evaluates the student's comprehension of the material presented in ground lessons 5, 6 and 7.

**CONTENT:**

- PA44-180 Normal Operations
- PA44-180 Engine Failures
- Multi-Engine Maneuvers
- Instrument Procedures
- Commercial Pilot Privileges and Limitations

**COMPLETION STANDARDS:**

The student will complete the multi-engine pilot final examination with a passing score of 80% and the instructor will review each incorrect response to ensure complete understanding of the material.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # GROUND FLIGHT STAGE # ME LESSON # 204

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
 FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
						1.0
						1.0

DATE: \_\_\_\_\_ ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_ INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_  
 OUT \_\_\_\_\_ SYLL. LESSON \_\_\_\_\_  
 TOTAL \_\_\_\_\_ PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_ REMARKS: \_\_\_\_\_  
 OUT \_\_\_\_\_ / \_\_\_\_\_  
 TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATUR \_\_\_\_\_

Accomplishments and standards of the flight training portion of this course, consisting of one stage. The student will develop the skills necessary to operate a multiengine land airplane. This includes normal and emergency operations, instrument skills and application of these skills in day and night cross country operations. The student will also become proficient performing commercial multiengine and single engine maneuvers, takeoffs and landings. At the completion of this stage the student will pass the end of course stage check (Flight Lesson 8).

### FLIGHT TIME ALLOCATION

LESSON	DUAL	IDL	DXC	DL NGT	P/P
Flight Lesson 1	1.0				0.5
Flight Lesson 2	1.0				0.5
Flight Lesson 3	2.0	0.5			0.5
Flight Lesson 4	2.0	1.6			0.5
Flight Lesson 5	2.0	1.0	2.0		0.5
Flight Lesson 6	2.0	1.0	2.0	2.0	0.5
Flight Lesson 7	2.0	0.7			0.5
Flight Lesson 8	1.5	0.2			2.0
<b>Total:</b>	<b>13.5</b>	<b>5.0</b>	<b>4.0</b>	<b>2.0</b>	<b>5.5</b>

DUAL = Dual in a PA44-180

IDL = Instrument dual in a PA44-180

DXC = Dual Cross Country

DL NGT = Dual Night.

P/P = Pre/Post Flight

### SYLLABUS LESSON TIME CHART

DI	Dnt	Dxc	Idl	Nldg	PP	GI
X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y

**X = Indicates minimum times required by FSP to complete the lesson.**

**Y = Times indicated in Lesson Time Allocation Table**

**If X is less than Y on a particular lesson the shortage must be made up in a future lesson**

**FLIGHT LESSON 1 – DUAL AIRPLANE**

**UNIVERSITY OF OKLAHOMA**

**LESSON OBJECTIVE:**

During this lesson, the student will become acquainted with the training airplane. The student will learn the attitude, power settings, and configurations required for the performance of the listed maneuvers and procedures. The student will learn to apply asymmetric power during taxi operations to aid in turns and maintaining directional control during cross winds. The student will also learn additional factors for multiengine aircraft to be considered in the takeoff briefing above and beyond that of a single engine airplane. The student will learn to operate the aircraft systems with emphasis on the constant speed propeller, retractable landing gear, cowl flaps, multiengine controls/instrumentation, and environmental control systems.

**CONTENT:**

**Lesson Introduction**

**Preflight Preparation**

- Determining Performance & Limitations – Emphasis on
  - Accelerate/Stop Distance
  - Single Engine Service Ceiling
  - Single Engine Absolute Ceiling
  
- Operation of Systems
  - Constant speed propeller
  - Retractable Landing Gear
  - Cowl Flaps
  - Multiengine Controls/Instrumentation
  - Environmental Control – Janitrol Heater

**Preflight Procedures**

- Preflight Assessment
- Flight Deck Management
- Engine Starting
- Taxiing (Asymmetric Thrust To Aid Turns and Taxiing in Crosswinds)
- Pre-Takeoff Check
- Takeoff Briefing

**Airport Base Operations**

- Communications and ATC Light Signals
- Runway Lighting Systems
- Traffic Patterns

**CONTINUED ON NEXT PAGE**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # \_\_\_\_\_ FLIGHT STAGE # **ME** LESSON # **301**

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
0.7										0.5	
1.0										0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 1 (CONTINUED)**

Normal Takeoffs and Climbs

Navigation to/from Practice Area using Pilotage

Visual Scanning and Collision Avoidance – Aircraft Blind Spots

Straight-and-Level Flight and Level Turns

Climbs – Straight and Turning

Descents – Straight and Turning

Maneuvering During Slow Flight

Stalls

- Power-On
- Power-Off
- Accelerated

Steep Turns

Normal Landings

After Landing Procedures

Post Flight Procedures

**COMPLETION STANDARDS:**

Preflight Preparation/Procedures, Navigation, After Landing/Post Flight Procedures: To the standards of the Commercial Pilot – Airplane Airman Certification Standards.

Normal Takeoffs and Landings: To the standards of the Commercial Pilot Airman Certification Standards.

Flight Maneuvers: The student will execute the steps of each maneuver in the proper order. Airspeed will be maintained +/- 15 knots, heading +/-15 degrees and altitude +/-150 feet.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # \_\_\_\_\_ FLIGHT STAGE # **ME** LESSON # **301**

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI
0.7										0.5	
1.0										0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 2 – DUAL AIRPLANE**

**LESSON OBJECTIVE:**

During this lesson, the student will be introduced to engine-out procedures and will learn to identify the inoperative engine, initiate appropriate corrective procedures, maneuver the airplane with one engine inoperative and demonstrate engine inoperative loss of directional control and recovery techniques, shut down and restart procedures and the effects on aircraft performance of various airspeeds and configurations during single engine operations. Engine failures will occur during all phases of flight: takeoff roll, climb out, cruise, approach and landing.

**CONTENT:**

**Lesson Review**

Preflight Preparation

Operation of Systems

Preflight Procedures

Airport Base Operations

Normal Takeoffs and Landings

**Lesson Introduction**

Emergency Operations Engine Failure – Initial Response (Control – Correct application of rudder, ailerons and elevator ; Mixture, Props, Throttle Full; Configuration – Clean; Identify and Verify Failed Engine; Pitch to Maintain Level Flight at Vyse or Higher; Determination of Whether to Troubleshoot or Feather)

- During Takeoff Roll
- Climb
- Cruise
- Approach and Landing

Engine Failure Trouble-Shooting Procedures

Full Feather and Engine Securing Procedures

Engine Restart Procedures

**CONTINUED ON NEXT PAGE**

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 302

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
1.7					0.5	
2.0					0.5	

DATE: \_\_\_\_\_ ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_ INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_ SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_ PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_ REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 2 (CONTINUED)**

Maneuvering With One Engine Inoperative

- Straight and Level Flight
- Turns in Both Directions
- Climbs and Descents to Assigned Altitudes

Vmc Demonstration

Effects of Various Airspeeds and Configurations During Single Engine Flight (Drag Demo)

**COMPLETION STANDARDS:**

Preflight Preparation/Procedures and Normal Takeoffs and Landings: To the standards of the Commercial Pilot – Airplane Airman Certification Standards.

Engine Failure Initial Response, Trouble Shooting, Full Feather and Engine Securing

Procedures: The student will be able to apply the appropriate checklists while maintaining headings +/-15 degrees, airspeeds +/-15 knots and altitudes +/-150 feet.

Vmc Demo: The student will be able to perform the maneuver steps in the proper order to the standards of the Commercial Pilot – Airplane Airman Certification Standards except heading will be maintained within +/-15 degrees

Drag Demo: The student will gain an appreciation that single engine aircraft performance is optimum when the aircraft is operated at Vyse, in a clean configuration and with the inoperative engine propeller feathered.

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 302

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_



**FLIGHT LESSON 3 – DUAL AIRPLANE**

**LESSON OBJECTIVE:**

During this lesson, the student will be introduced to and perform maximum performance take-off and climbs, short field approach and landings, and single engine go-arounds for rejected (balked) landings. The students will also perform engine-out procedures introduced in Flight Lesson 2. The student will be introduced to emergency descent procedures as well as multiengine basic attitude instrument flying with both engines and with one engine inoperative.

**CONTENT:**

**Lesson Review**

Preflight Preparation

Preflight Procedures

Operation of Systems

Stalls

- Power-On
- Power-Off
- Accelerated

Engine Failure

- During Takeoff Roll
- After Liftoff and Climb
- During Cruise
- On Approach and Landing

Vmc Demonstration

**Lesson Introduction**

Emergency Descent

Short Field Take-off and Maximum Performance Climb

Short Field Landing

Single Engine Go Around

**CONTINUED ON NEXT PAGE**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 303

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FOR XC FLIGHTS, LIST DESTINATIONS: \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
1.7			0.3		0.5	
2.0			0.5		0.5	

DATE: \_\_\_\_\_ ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_ INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_  
OUT \_\_\_\_\_ SYLL. LESSON \_\_\_\_\_  
TOTAL \_\_\_\_\_ PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_ REMARKS: \_\_\_\_\_  
OUT \_\_\_\_\_ / \_\_\_\_\_  
TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 3 (CONTINUED)**

Flight By Reference to Instruments Both Engines Operating (IR)

- Straight and Level, Climbs, Descents and Turns
- Unusual Attitude Recognition and Recovery
- Partial Panel – Failure of Attitude Indicator and HSI

Flight By Reference to Instruments One Engine Inoperative (IR)

- Recognition of Engine Failure and Simulated Feather by Reference to Instruments
- Straight and Level, Climbs, Descents and Turns

**COMPLETION STANDARDS:**

At the completion of this lesson the student will be able to perform the procedures and maneuvers to the following standards:

Stalls, Engine Failure, Vmc Demo, Emergency Descent, Short Field Takeoffs and Single Engine Go Arounuds: To the standards of the Commercial Pilot – Airplane Airman Certification Standards.

Flight By Reference to Instruments Both Engines Operating: To the standards of the Instrument Rating – Airplane Airman Certification Standards.

Flight By Reference to Instruments One Engine Inoperative: Headings +/-15 degrees, altitudes +/-150 feet, airspeed +/-15 knots

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 303

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 4 – DUAL AIRPLANE**

**UNIVERSITY OF OKLAHOMA**

**LESSON OBJECTIVE:**

During this lesson, the student will be introduced to and learn multi-engine maneuvers and procedures for precision and non-precision approaches. The student will also learn the procedures for conducting single-engine precision and non-precision approaches.

**CONTENT:**

**Lesson Review:**

Preflight Preparation

Preflight Procedures

Operation of Systems

**Lesson Introduction**

Normal Operations

- Precision Approaches (IR)
- Non-Precision Approaches (IR)
- Missed Approaches Procedures (IR)

Emergency Operations (Single Engine)

- Identification of Inoperative Engine (IR)
- Procedures for Troubleshooting, Feathering and Securing (IR)
- Engine Failure During Precision Approaches (IR)
- Engine Failure During Non-Precision Approaches (IR)
- Single Engine Missed Approach Procedures (IR)

**COMPLETION STANDARDS:**

Normal Operations: The student will be able to perform the listed procedures to the standards of the Instrument Rating – Airplane Airman Certification Standards.

Emergency Operations (Single Engine) – The student will be able to perform the listed procedures to the standards of the Commercial Pilot – Airplane Airman Certification Standards with the exception that headings will be maintained +/-15 degrees, altitudes +/-150 feet, DA/MDA -0/+150 feet, airspeed +/-15 knots.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 304

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
1.7			1.4		0.5	
2.0			1.6		0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 5 – DUAL – AIRPLANE DAY CROSS-COUNTRY**

**LESSON OBJECTIVE:**

During this lesson the student will become familiar with the cross-country procedures involved in flying multi-engine aircraft during the day. The student will also be exposed to system and equipment malfunctions beyond engine failures. This lesson will consist of a cross-country flight of at least two-hours two hours in duration, a total straight-line distance of more than 100 nautical miles from the original point of departure and occurring in the day. The flight will be conducted under Instrument Flight Rules.

**CONTENT:**

**Lesson Introduction**

Cross-Country Flight Planning. Emphasis on:

- Determination of Power Settings and airspeeds at high altitudes
- Determination and Consideration of Single Engine Service and Absolute Ceilings

Departure Procedures

Navigation

- Dead Reckoning
- Navigation Systems and Radar Services (IR)
- Diversion
- Lost Procedures

Cruise Procedures – Power Settings and Mixture Leaning

Arrival Procedures

Instrument Approach Procedure (Precision or Non-Precision as Selected by the Instructor) (IR)

High Altitude Operations – Requirements for Supplemental Oxygen

**CONTINUED ON NEXT PAGE**

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # **CRM** FLIGHT STAGE # **ME** LESSON # **305**

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

EQUIPMENT\_MALFUNCTIONS\_INCLUDES\_UNUSUAL\_ATTITUDE\_RECOVERY\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	AATD	PP	GI
2.0		2.0	1.0			0.5	
2.0		2.0	1.0			0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 5 (CONTINUED)**

Equipment and System Malfunctions

- Electrical System
  - Alternator Failure
  - Popped Circuit Breaker
  - Electrical Fire
  - Radio Failure
- Vacuum Pump Failure
- Landing Gear Failure
- Propeller Governor Failure
- Engine Fire

**COMPLETION STANDARDS:**

This lesson is complete when the specific requirements for this cross-country flight have been met. Performance of the listed procedures will be to standards of the Instrument Rating – Airplane and Commercial Pilot – Airplane Airman Certification Standards.

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 305

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
 EQUIPMENT\_MALFUNCTIONS\_INCLUDES\_UNUSUAL\_ATTITUDE\_RECOVERY\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI		Dnt		Dxc		Idl	Nldg			PP	GI

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**UNIVERSITY OF OKLAHOMA**

**FLIGHT LESSON 6 – DUAL AIRPLANE NIGHT CROSS-COUNTRY**

**LESSON OBJECTIVE:**

During this lesson the student will become familiar with the cross-country procedures involved in flying a multi-engine aircraft at night. The student will also be exposed to system and equipment malfunctions beyond engine failures. This lesson will consist of a cross-country flight of at least a two-hour duration, a total straight-line distance of more than 100 nautical miles from the original point of departure and occurring at night. The flight will be conducted under Instrument Flight Rules.

**CONTENT:**

**Lesson Introduction**

Night Flying Considerations

- Preflight Procedures
- Lighting and Equipment for Night Flying

**Lesson Review**

Cross-Country Flight Planning. Emphasis on:

- Determination of Power Settings and airspeeds at high altitudes
- Determination and Consideration of Single Engine Service and Absolute Ceilings

Departure Procedures

Navigation

- Dead Reckoning
- Navigation Systems and Radar Services (IR)
- Diversion
- Lost Procedures

Cruise Procedures – Power Settings and Mixture Leaning

Arrival Procedures

Instrument Approach Procedures (Precision or Non-Precision as Selected by the Instructor) (IR)

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 306

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
2.0	2.0	2.0	1.0	2	0.5	
2.0	2.0	2.0	1.0	2	0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**UNIVERSITY OF OKLAHOMA**

**FLIGHT LESSON 6 (CONTINUED)**

Equipment and System Malfunctions

- Electrical System
  - Alternator Failure
  - Popped Circuit Breaker
  - Electrical Fire
  - Radio Failure
- Vacuum Pump Failure
- Landing Gear Failure
- Propeller Governor Failure
- Engine Fire

**COMPLETION STANDARDS:**

This lesson is complete when the specific requirements for this cross-country flight have been met. Performance of the listed procedures will be to standards of the Instrument Rating – Airplane and Commercial Pilot – Airplane Airman Certification Standards.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 306

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 7 – DUAL – LOCAL**

**LESSON OBJECTIVE:**

The student will review the procedures and maneuvers indicated to demonstrate proficiency in preparation for the End of Course Stage Check.

**CONTENT:**

**Lesson Review**

Preflight Preparation

- Determining Performance & Limitations – Emphasis on
  - Accelerate/Stop Distance
  - Single Engine Service Ceiling
  - Single Engine Absolute Ceiling

- Operation of Systems

- Constant speed propeller
- Retractable Landing Gear
- Cowl Flaps
- Multiengine Controls/Instrumentation
- Environmental Control – Janitrol Heater

Preflight Procedures

- Preflight Assessment
- Flight Deck Management
- Engine Starting
- Taxiing
- Pre-Takeoff Check
- Takeoff Briefing

Takeoffs

- Normal
- Short Field Maximum Performance

Maneuvering During Slow Flight

Stalls

- Power On
- Power Off
- Accelerated

**CONTINUED ON NEXT PAGE**

**UNIVERSITY OF OKLAHOMA**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 307

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
2.0			0.7		0.5	
2.0			0.7		0.5	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_



**UNIVERSITY OF OKLAHOMA**

**FLIGHT LESSON 7 (CONTINUED)**

Steep Turns

Vmc Demonstration

- Engine Failure
- On Takeoff Roll
  - Climb Out
  - Cruise
  - Approach and Landing with One Engine Inoperative
  - Engine Troubleshooting Procedures
  - Feather and Engine Secure Procedures
  - Engine Restart Procedures

Emergency Descent

Precision Approach (IR) – Single Engine

Non-Precision Approach (IR) - Single Engine

- Landings
- Normal
  - Short Field

**COMPLETION STANDARDS:**

At the completion of this lesson the student will demonstrate the ability to perform each of the listed maneuvers and procedures at a proficiency level that meets or exceeds the Instrument Rating – Airplane Airman Certification Standards and the Commercial Pilot – Airplane Airman Certification Standards. Additionally, the student will have earned a complex aircraft logbook endorsement.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 307

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
1.5			0.7		2.0	
1.5			0.7		2.0	

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**FLIGHT LESSON 8 – DUAL AIRPLANE**

**FINAL STAGE CHECK**

**LESSON OBJECTIVE:** The student will demonstrate satisfactory knowledge, risk management and skills in the tasks specified below from the Commercial Pilot – Airplane Airman Certification Standards. This lesson is the final stage check conducted by the Chief or Assistant Chief Flight Instructor or Check Instructor approved by the FSDO. It will be conducted using a plan of action IAW the current version of the Commercial Pilot – Airplane Airman Certification Standards. The following minimum tasks will be evaluated. Prior to the test the evaluator will check for updates to the Commercial Pilot Airman Certification Standards and incorporate any changes into his/her plan of action.

Performance and Limitations (AOI, Task F).

Operation of Systems (AOI, Task G).

Preflight Assessment (AOII, Task A)

Flight Deck Management (AOII, Task B)

Engine Starting (AOII, Task C)

Taxiing (AOII, Task D)

Before Takeoff Check (AOII, Task F)

Normal Takeoff and Climb (AOIV, Task A)

Normal Approach and Landing (AOIV, Task B)

Short-Field Takeoff and Maximum Performance Climb (AOIV, Task E)

Short-Field Approach and Landing (AOIV, Task F)

Steep Turns (AOV, Task A)

Maneuvering During Slow Flight (AOVII, Task A)

Power-Off Stalls (AOVII, Task B)

Power-On Stalls (AOVII, Task C)

**CONTINUED ON NEXT PAGE**

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # CRM FLIGHT STAGE # ME LESSON # 208

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_  
FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI
			?			

DATE: \_\_\_\_\_ ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_ INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_  
OUT \_\_\_\_\_ SYLL. LESSON \_\_\_\_\_  
TOTAL \_\_\_\_\_ PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_ REMARKS: \_\_\_\_\_  
OUT \_\_\_\_\_ / \_\_\_\_\_  
TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

**UNIVERSITY OF OKLAHOMA**

**FLIGHT LESSON 8 (CONTINUED)**

Accelerated Stalls (AOVII, Task D)

Spin Awareness (AOVII, Task E)

Engine Failure During Takeoff Before Vmc (simulated) (AOIX, Task E)

Engine Failure After Lift-Off (Simulated) (AOIX, Task F)

Approach and Landing with Inoperative Engine (Simulated) (AOIX, Task G)

Maneuvering with One Engine Inoperative (AOX, Task A)

Vmc Demonstration (AOX, Task B)

Engine Failure During Flight (By Reference to Instruments) (AOX, Task C)

Instrument Approach – One Engine Inoperative (By Reference to Instruments)  
(AOX, Task D)

**COMPLETION STANDARDS:**

The student will demonstrate satisfactory knowledge, risk management and skills of the tasks indicated as defined by the Commercial Pilot – Airplane Airman Certification Standards.

STUDENT NAME \_\_\_\_\_ ID# \_\_\_\_\_

INSTRUCTOR NAME \_\_\_\_\_ CERT# \_\_\_\_\_

AIRCRAFT # **CRM** FLIGHT STAGE # **ME** LESSON # **208**

SAT \_\_\_\_% UNSAT \_\_\_\_% INCOMPLETE \_\_\_\_% CANCELLATION \_\_\_\_\_

HOMEWORK COMPLETE: Y / N (% grade is normally part of the lesson grade.)

Note:

1. Circle appropriate status/grade and put number (%) grade on line.
2. If cancellation state reason.

REMARKS: \_\_\_\_\_

FOR I OR U: SUBJECTS THAT ARE NOT COMPLETE/INSTRUCTOR COMMENTS

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FOR XC FLIGHTS, LIST DESTINATIONS:** \_\_\_\_\_

DI	Dnt	Dxc	Idl	Nldg	PP	GI

DATE: \_\_\_\_\_

ENTERED BY \_\_\_\_\_

TIME: IN \_\_\_\_\_

INVOICE \_\_\_\_\_ FLIGHT REC \_\_\_\_\_

OUT \_\_\_\_\_

SYLL. LESSON \_\_\_\_\_

TOTAL \_\_\_\_\_

PROCESSED ON \_\_\_\_\_

HOBBS / TAC: IN \_\_\_\_\_ / \_\_\_\_\_

REMARKS: \_\_\_\_\_

OUT \_\_\_\_\_ / \_\_\_\_\_

TOTAL TIME \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

INSTRUCTOR SIGNATURE \_\_\_\_\_

# For the record: Who's in control here?

## Don't be left high and dry on a bogus dry lease

March 1, 2020 By Jared Allen

Over the past year, we've seen the FAA intensify its efforts to shut down "illegal charter operations," or flights transporting paying passengers in a way that runs afoul of the air carrier certification and operating rules.

Jared Allen is the AOPA Legal Services Plan senior staff attorney and an instrument-rated private pilot.

Those intentionally violating the FARs are the primary targets of the FAA's efforts, and rightfully so. However, it seems an additional focus of the FAA is ensuring that aircraft supposedly operated under "dry lease" agreements, a common and legal arrangement for an aircraft owner to contract out use of an aircraft, are not "wet leases" in disguise.

The difference between a dry lease and wet lease—which likely requires air carrier certification—is often misunderstood. For the uninitiated, one of the FAA's concerns about leases is that "irresponsible companies" may purport to operate under a dry lease, but in reality are operating illegally as uncertificated air carriers.

The difference between a "dry" and "wet" lease has nothing to do with fuel. In a dry lease, the aircraft owner provides an aircraft to a lessee without any crew. The lessee is responsible for providing his or her own flight crew and accepts "operational control," defined by FAR 1.1 as "the exercise of authority over initiating, conducting or terminating a flight." Generally speaking, the lessee becomes the aircraft operator and is accountable for all aspects of the aircraft's operation. In a wet

lease, the lessor provides both the aircraft and the crew, and by doing so, retains operational control of the flight.

Whether an aircraft is wet or dry leased directly affects the FARs that apply to the aircraft's operation. A wet lease generally requires operations to be conducted under Part 121 or 135 by an air carrier certificated under Part 119 (FAR 91.501 is a common exception). When dry leasing, the lessor is not required to hold an air carrier certificate and the lessee may operate the aircraft following Part 91 rules (or, if the lessee is an air carrier, operation under parts 121 or 135 is also possible).

To determine the validity of a dry lease, the FAA conducts a case-by-case analysis of the lease terms and how the arrangement realistically works to determine whether the lessee effectively assumed operational control of the aircraft. Intended for those seeking to lease aircraft—but also helpful for pilots—is Advisory Circular 91-37B: Truth in Leasing, which provides several questions intended to clarify who will maintain operational control of an aircraft, such as who assigns the crew; accepts flight requests; ensures the flight, aircraft, and crew comply with the FARs; decides how, when, and where the aircraft is maintained; determines fuel and weather requirements; and pays costs such as fuel and airport fees.

Whether the crew is truly acquired by the lessee independently of the aircraft is also determined on a case-by-case basis. Any restrictions by the aircraft owner on where a lessee may hire crew are red flags. It's easier to demonstrate this independence if the crew is acquired from a separate, unrelated entity. If the aircraft and crew are provided by an owner or furnished by two entities who appear to be "acting in concert," the FAA may conclude the arrangement is a wet lease.

Most investigations into an aircraft's operations begin with the pilots. Ramp inspections may be followed by demands under FAR 61.51 for pilots to present their logbooks to the FAA for inspection, an easy way for inspectors to determine the who, where, and when of an aircraft's operation. In some instances, the FAA has issued administrative

subpoenas for pilots to produce other flight records, or even submit to a deposition to testify about flight operations.

Although unintentional FAR violations may be resolved with the FAA's Compliance Program, should the FAA determine that legal enforcement action is appropriate, the potential consequences are severe. For instance, in 2017 the NTSB upheld the revocation of an airman's certificates for conducting flights that should have complied with provisions of parts 119 and 135, but did not. Beyond regulatory sanctions, operating illegally may also compromise insurance coverage in case of a mishap.

Commercial pilots and ATPs who believe they have been hired to fly an aircraft under a dry lease allowable under Part 91 must be extremely diligent in confirming that the operations are not actually a wet lease and required to comply with part 119 and 135 rules. Inquire about the terms of the lease, any relationship between your employer and the aircraft owner, and the questions posed in AC 91-37B. And of course, avoid getting caught up with any "irresponsible companies" or you might just be left high and dry.

Email [jared.allen@aopa.org](mailto:jared.allen@aopa.org)

### **Jared Allen**

Mr. Allen is AOPA's Legal Services Plan (LSP) senior staff attorney and is an instrument-rated private pilot. He provides initial consultations to pilots through the LSP when the FAA has contacted them about potential FAR violations. Jared has helped numerous pilots successfully navigate through compliance actions.

[Go to Jared Allen's Profile](#)