

Semper Fly Helicopters

14 CFR PART 141 FLIGHT SCHOOL



**AVIA 1131 - PRIVATE PILOT FLIGHT STAGE I
ROTORCRAFT / HELICOPTER
CERTIFICATION COURSE
FLIGHT TRAINING MANUAL**

SECTION	PAGE
<u>Section 1 - Flight Training Syllabus</u>	1-1
1.1 <u>Course Requirements and Objectives</u>	1-1
1.2 <u>Private Pilot Course Minimum Time Summary</u>	1-3
1.3 <u>Grading Rubric</u>	1-4
<u>Section 2 - Stage One Flight Training</u>	2-1
2.1 <u>Lesson 1 - Flight Operations Orientation</u>	2-3
2.2 <u>Lesson 2 - Private Pilot Maneuvers</u>	2-4
2.3 <u>Lesson 3 - Private Pilot Maneuvers</u>	2-5
2.4 <u>Lesson 4 - Private Pilot Maneuvers</u>	2-6
2.5 <u>Lesson 5 - Private Pilot Maneuvers</u>	2-7
2.6 <u>Lesson 6 - Private Pilot Maneuvers</u>	2-8
2.7 <u>Lesson 7 - Private Pilot Maneuvers</u>	2-9
2.8 <u>Lesson 8 - Emergency Procedures</u>	2-10
2.9 <u>Lesson 9 - Private Pilot Maneuvers</u>	2-11
2.10 <u>Lesson 10 - Private Pilot Maneuvers</u>	2-12
2.11 <u>Lesson 11 - Emergency Procedures</u>	2-13
2.12 <u>Lesson 12 - Private Pilot Maneuvers</u>	2-14
2.13 <u>Lesson 13 - Private Pilot Maneuvers</u>	2-15
2.14 <u>Lesson 14 - Private Pilot Maneuvers</u>	2-16
2.15 <u>Lesson 15 - Emergency Procedures</u>	2-17
2.16 <u>Lesson 16 - Private Pilot Maneuvers</u>	2-18
2.17 <u>Lesson 17 - Private Pilot Maneuvers</u>	2-19
2.18 <u>Lesson 18 - Private Pilot Maneuvers</u>	2-20
2.19 <u>Lesson 19 - Emergency Procedures</u>	2-21
2.20 <u>Lesson 20 - Simulator Augmentation</u>	2-22
2.21 <u>Lesson 21 - Stage One Pre-Solo Check Review</u>	2-23
2.22 <u>Lesson 22 - Stage One Pre-Solo Check</u>	2-24
2.23 <u>Lesson 23 - Student Pilot Solo</u>	2-25

SECTION 1 - FLIGHT TRAINING SYLLABUS

1.1 - Course Requirements and Objectives

Enrollment Prerequisites

The Semper Fly Helicopter Private Pilot Rotorcraft / Helicopter Flight Training Course is designed to have the students concurrently enrolled in the associated Semper Fly Helicopters Private Pilot Rotorcraft / Helicopter Ground Training Course. As such, students must meet the following criteria:

1. Minimum Age: 17
2. English Proficiency - Students must be proficient in reading, writing, and speaking English to comply with FAA regulations
3. Financial Readiness - Students must be able to provide proof of ability to finance the training program, either through personal funds, loans, or GI Bill benefits for eligible veterans
4. Interview and Assessment - Semper Fly Helicopters reserves the right to conduct an interview in which the motivation and fitness for flight training can be assessed
5. Required Documents
 - A. U.S. Citizens
 - i. Proof of U.S. Citizenship
 - ii. Valid, unexpired U.S. passport OR
 - iii. Original or government-issued birth certificate of the U.S., American Samoa, or Swains Island AND a government-issued picture identification OR
 - iv. Original certification of birth abroad with raised seal (Form FS-545 or Form DS-1350) AND a government-issued picture identification OR
 - v. Original certificate of U.S. citizenship with raised seal (Form N-560 or N-561) or a Certificate of Repatriation (Form N-581) AND government-issued picture ID OR
 - vi. Original U.S. Naturalization Certificate with raised seal (Form N-550 or N-570) AND a government-issued picture ID
 - vii. FAA Class I or Class II Medical
 - viii. FAA Airman's Certificate (if you already have a student pilot certificate or higher)
 - ix. FAA Knowledge Test (if completed)
 - B. Foreign Nationals
 - i. Passport
 - ii. Visa
 - iii. FAA Class I or Class II Medical
 - iv. Complete TSA Training application

Additionally, all students must satisfy the requirements identified in Part 141; Appendix B, applicable to the certificate or rating sought by the learner. If the student is degree seeking, they must meet the enrollment criteria of the University of Oklahoma Aviation Department.

Flight Training Course Objective

The student will obtain the knowledge, skill, and aeronautical experience necessary to meet the requirements for a Private Pilot Certificate with a Rotorcraft/Helicopter category rating.

Flight Training Course Completion Standards

The student must demonstrate through written tests, flight tests, and show through appropriate records that he or she meets the knowledge, skill, and experience requirements necessary to obtain a Private Pilot Certificate with a Rotorcraft/Helicopter category rating, while maintaining the standards set in the Semper Fly Helicopters Standard Operating Procedures and Safety Policies Manual and the Airman Certification Standards.

Flight Training Curriculum

Flight school for the Private Pilot student is accomplished by enrollment in the Semper Fly Helicopters pilot course and a minimum of 51.5 flight hours. An outline for each lesson is provided in the following Flight Training Syllabus. The flight instructor will be responsible for student knowledge who obtained credit by exam or who have not taken these courses.

Flight Training Textbooks

The flight-training course is structured by the Helicopter Pilot Textbook. Jeppesen Sanderson, Inc., the Federal Regulations FAR/AIM. Flight training lessons generally follow the sequence and content of these textbooks. Other required reference materials are listed in the Introduction Section of the Airman Certification Standards.

Training Records

Semper Fly Helicopters will establish and maintain current and accurate records of the participation of each student enrolled in the aviation program. These records will include as a minimum the date the student was enrolled, a chronological log of the student's course attendance, the subjects, and flight operations covered in the student's training, and the names and grades of any tests taken by the student. Additionally, a record will be maintained on the date the student graduated, terminated training, or transferred to another school. Whenever a student graduates, terminates training, or transfers to another school, the student's record will be certified to that effect by the chief instructor. The school will retain each student record for at least 1 year from the date that the student either graduates from the course to which the record pertains, terminates enrollment in the course to which the record pertains, or transfers to another school. These records will be kept in accordance with 14 CFR 141.101. The school will make a copy of these records available to the student upon request.

1.2 - Private Pilot Course Minimum
Time Summary

<u>TRAINING STAGE</u>	<u>DUAL</u>	<u>SOLO/PIC</u>	<u>X/C</u>	<u>NIGHT</u>	<u>ORAL</u>	<u>GROUND</u>
Flight Stage One	24.5	0.5			21.5	
SUB-TOTAL	24.5	0.5			21.5	

TOTAL GROUND TIME FOR PRIVATE PILOT COURSE: 61.1 HOURS

TOTAL FLIGHT TIME FOR PRIVATE PILOT COURSE: 51.5 HOURS

TOTAL SIMULATOR TIME FOR PRIVATE PILOT COURSE: 5.0 HOURS

1.3 - Grading Rubric

After each lesson, the instructor will assign grades for each ground or flight activity using the following scale:

GRADE	STUDENT PERFORMANCE	DESCRIPTION
A	Exceeds Standards	The student meets the FAA Airman Certification Standards and usually (50% of the time or more) exceeds those standards.
B	Meets Standards	The student meets the FAA Airman Certification Standards.
C	Below Standards	The student does not meet the FAA Airman Certification Standards.
F	Failure	The safety of the flight is in question and/or the instructor was required to take control of the aircraft.
I	Incomplete	The allotted time was not sufficient for the student to perform the activity.
NG	Not Graded	The activity was not assigned to the student and will <u>not</u> be required to be completed in a separate training session.

NOTES

- With a grade of C, or F, the instructor must include amplifying comments on the grade form
- With a grade of C, F, or I, the student will be required to complete the activity to the FAA Airman Certification Standards in a separate training session.

SECTION 2 - STAGE ONE FLIGHT TRAINING

OBJECTIVES:

(Reference: 14 CFR Section 61.87, Solo Requirements for Student Pilots) The primary objective during Stage One is to prepare the student for solo flight. The student will receive instruction on ground operations, basic flight maneuvers, slow flight, in-flight emergencies, flight using ground references, takeoffs, traffic patterns, and landings. The student must develop the proficiency for solo flight.

Each student must review the assignment for the scheduled flight lesson prior to arriving for training.

REFERENCES:

1. The Semper Fly Helicopters Training Syllabus for the Private Pilot Rotorcraft / Helicopter Certification Course
2. The Semper Fly Helicopters Standard Operating Procedures and Safety Policies Manual
3. The Semper Fly Helicopters Private / Commercial Study Guide
4. Guimbal Cabri G2 Flight Manual
5. Guimbal Cabri G2 Flight Instructor Guide
6. Helicopter Pilot Textbook. Jeppesen Sanderson, Inc
7. Aeronautical Decision Making for Private Pilots
8. The FAR/AIM Manual
9. Private Pilot for Rotorcraft Category Helicopter Rating Airman Certification Standards, FAA-S-ACS-15
10. Risk Management Handbook, FAA-H-8083-2

COMPLETION STANDARDS:

Prior to solo flight, the student will be given a comprehensive review, and must pass an oral or written quiz on material covered during Stage One. The stage will be completed when the student has satisfactorily completed the supervised solo flights.

INDEX

LESSON	DUAL	SOLO	ORAL	PAGE
2.1 - Lesson 1: Flight Operations Orientation			4.0	2-3
2.2 - Lesson 2: Private Pilot Maneuvers	1.2		0.8	2-4
2.3 - Lesson 3: Private Pilot Maneuvers	1.2		0.8	2-5
2.4 - Lesson 4: Private Pilot Maneuvers	1.2		0.8	2-6
2.5 - Lesson 5: Private Pilot Maneuvers	1.2		0.8	2-7
2.6 - Lesson 6: Private Pilot Maneuvers	1.2		0.8	2-8
2.7 - Lesson 7: Private Pilot Maneuvers	1.2		0.8	2-9
2.8 - Lesson 8: Emergency Procedures	1.2		0.8	2-10
2.9 - Lesson 9: Private Pilot Maneuvers	1.2		0.8	2-11
2.10 - Lesson 10: Private Pilot Maneuvers	1.2		0.8	2-12
2.11 - Lesson 11: Emergency Procedures	1.2		0.8	2-13
2.12 - Lesson 12: Private Pilot Maneuvers	1.2		0.8	2-14
2.13 - Lesson 13: Private Pilot Maneuvers	1.2		0.8	2-15
2.14 - Lesson 14: Private Pilot Maneuvers	1.2		0.8	2-16
2.15 - Lesson 15: Emergency Procedures	1.2		0.8	2-17
2.16 - Lesson 16: Private Pilot Maneuvers	1.2		0.8	2-18
2.17 - Lesson 17: Private Pilot Maneuvers	1.2		0.8	2-19
2.18 - Lesson 18: Private Pilot Maneuvers	1.2		0.8	2-20
2.19 - Lesson 19: Emergency Procedures	1.2		0.8	2-21
2.20 - Lesson 20 - Simulator Augmentation**				2-22
2.21 - Lesson 21: Stage One Pre-Solo Check Review	1.2		0.8	2-23
2.22 - Lesson 22: Stage One Pre-Solo Check	1.2		0.8	2-24
2.23 - Lesson 23: Student Pilot Solo	0.5	0.5	1.5	2-25
FLIGHT STAGE ONE - TOTAL HOURS	24.5	0.5	21.5	

TOTAL FLIGHT TIME - STAGE ONE: 25.0

**** SIMULATOR HOURS - STAGE ONE: 2.0**

2.1 - LESSON 1: FLIGHT OPERATIONS ORIENTATION

(Oral: 4.0 Hours)

OBJECTIVES:

This is an orientation of the flight school and flight line operations. This lesson provides an opportunity for the instructor and student to become acquainted. The instructor should resolve questions on the flight-training program.

CONTENTS:

1. Orientation of the aviation program and flight operations including aircraft and dispatch procedure
2. Create student records
3. Procedures Training
 - A. Radio Communications
 - B. Pattern Operations
 - C. Ramp Operations
 - D. Practice Checklist Usage (“chair-fly”) for normal and emergency operations using aircraft ramp
 - E. Fueling Operations
4. Airworthiness
 - A. Airworthiness, Registration, Type Certificate, and Operational Limitations
 - B. Maintenance inspections
 - i. 100 hour inspections
 - ii. Annual inspections
 - iii. Airworthiness Directives
 - C. Equipment inspections
 - i. Emergency Locator Transmitter
 - ii. Transponder
 - iii. Pitot-static inspection
 - D. Weight and balance: Equipment List
5. Emergency Equipment (ELT, Fire Extinguisher)

COMPLETION STANDARDS:

The student should be familiar with basic flight operations policies and procedures, have a flight record created, and be familiar with course completion requirements.

2.2 - LESSON 2: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

This is the initial orientation flight. Familiarization with the helicopter, preflight procedures, use of checklists, and safety of flight will be conducted. The student will conduct starting and run-up operations and shutdown under guidance of the instructor. The student will be introduced to include: flight planning, preflight, taxiing, normal takeoffs, en-route, descent, and normal approaches.

CONTENTS:

1. Weight and balance
2. Use of checklist
3. Thorough preflight inspection
4. Use of restraint system
5. Engine starting
6. Engine and systems checks
7. Normal takeoff and climb
8. Straight and level flight
9. Attitude flying
10. Climbs, Turns, Descents
11. Acceleration and deceleration
12. Introduction to hovering
13. Orientation to the local area
14. Positive exchange of flight controls
15. Collision avoidance
16. Shutdown, servicing, and securing the aircraft

COMPLETION STANDARDS:

The student will be able to conduct a preflight inspection with the instructor assisting. The student should complete this lesson with an increased understanding of helicopter operational procedures and use of flight controls to control aircraft attitude.

2.3 - LESSON 3: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will be introduced to hovering flight maneuvers.

CONTENTS:

1. Weight and balance
2. Use of checklist
3. Thorough preflight inspection
4. Use of restraint system
5. Engine starting
6. Engine and systems checks
7. Normal takeoff and climb
8. Straight and level flight
9. Attitude flying
10. Climbs, Turns, Descents
11. Acceleration and deceleration
12. Introduction to hovering
13. Orientation to the local area
14. Positive exchange of flight controls
15. Collision avoidance
16. Shutdown, servicing, and securing the aircraft

COMPLETION STANDARDS:

The student will be able to perform a preflight inspection, engine start, engine and systems runup checks, and engine shutdown. The student will display an increased proficiency in all tasks.

2.4 - LESSON 4: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will continue to gain proficiency in basic flight maneuvers and will be further introduced to the airport environment and how a helicopter operates there.

CONTENTS:

1. Helicopter operations at an airport
2. Radio communications
3. Airport markings
4. Collision avoidance procedures
5. Wake turbulence and wind shear avoidance
6. Instructor directed maneuvers

COMPLETION STANDARDS:

This lesson will be completed when the student displays a basic understanding of airport operations and continues to increase in proficiency in aircraft control.

2.5 - LESSON 5: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will continue to gain proficiency in previously introduced maneuvers and be introduced to normal takeoffs and approaches. The lesson will emphasize how crosswinds will affect the aircraft.

CONTENTS:

1. Hovering review
2. Takeoff to a hover
3. Landing from a hover
4. Hovering flight, hover taxi, air taxi
5. Normal and crosswind takeoff from a hover
6. Normal and crosswind approach to a hover
7. Aircraft Communications

COMPLETION STANDARDS:

This lesson will be completed when the student displays an increased proficiency in aircraft control during hovering flight and normal takeoff and approaches and gain an understanding as to how crosswinds affect these maneuvers.

2.6 - LESSON 6: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will be introduced to the steep approach and rapid decelerations.

CONTENTS:

1. Steep approach to a hover
2. Rapid decelerations (quick stops)
3. Aircraft Communications
4. Instructor directed maneuver practice

COMPLETION STANDARDS:

This lesson will be complete when the student can demonstrate an increase in aircraft control and the basic maneuvers controlling the helicopter during steep approaches and decelerations.

2.7 - LESSON 7: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will be introduced to the procedures for straight-in autorotations.

CONTENTS:

1. Normal Approaches
2. Rapid decelerations (quick stops)
3. Straight-in autorotations
4. Go-arounds
5. Aircraft Communications

COMPLETION STANDARDS:

The student will gain a basic understanding of the aerodynamics related to autorotations. The student will continue to show an increase in proficiency in aircraft control during flight.

2.8 - LESSON 8: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for maximum performance takeoffs and running landings.

CONTENTS:

1. Maximum performance takeoff and climb from a hover
2. Shallow approach and running landing
3. Instructor directed maneuver practice
4. Aircraft Communications

COMPLETION STANDARDS:

This lesson will be completed when the student has a basic understanding of the procedures for utilizing a maximum performance takeoff and making a running landing. The student will show an increased proficiency during takeoffs, traffic patterns, approaches, and hovering.

2.9 - LESSON 9: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review previously taught maneuvers that they might need practice in gaining a basic proficiency.

CONTENTS:

1. Maximum performance takeoff and climb from a hover
2. Shallow approach and running landing
3. Instructor directed maneuver practice
4. Aircraft Communications

COMPLETION STANDARDS:

The student should demonstrate continued increased proficiency of aircraft control. The student should demonstrate a basic understanding of all maneuvers introduced at this time.

2.10 - LESSON 10: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will continue to gain proficiency in previously introduced maneuvers and be introduced to normal takeoffs and approaches. The lesson will emphasize how crosswinds will affect the aircraft.

CONTENTS:

1. Hovering review
2. Takeoff to a hover
3. Landing from a hover
4. Hovering flight, hover taxi, air taxi
5. Normal and crosswind takeoff from a hover
6. Normal and crosswind approach to a hover

COMPLETION STANDARDS:

This lesson will be completed when the student displays an increased proficiency in aircraft control during hovering flight and normal takeoff and approaches and gain an understanding as to how crosswinds affect these maneuvers.

2.11 - LESSON 11: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for forced landings. The student will become familiar with basic landing area selection and Low G maneuvers and recovery procedures.

CONTENTS:

1. Forced Landings
2. Effects of low G maneuvers and proper recovery procedures
3. Introduction to Confined Area Operations

COMPLETION STANDARDS:

This lesson will be completed when the student has a basic understanding of the procedures for forced landing operations and Low G maneuvers and recovery procedures. The student will continue to show increased proficiency with aircraft control during all phases of flight.

2.12 - LESSON 12: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will be shown and gain a basic proficiency of conducting a hovering autorotation and controlling the aircraft without the use of an engine governor. The student will be introduced to systems and equipment malfunctions and procedures to control the problems.

CONTENTS:

1. Hovering autorotations
2. Engine rotor RPM control without use of governor
3. Systems and equipment malfunctions
4. Instructor directed maneuver practice

COMPLETION STANDARDS:

The student will have a basic understanding of hovering autorotations and controlling the aircraft's RPM without the use of a governor. The student will also have a basic understanding of system and equipment malfunctions and what is required to control problems the malfunctions might introduce.

2.13 - LESSON 13: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will review and practice previously taught maneuvers they might need additional assistance with.

CONTENTS:

Instructor directed maneuver practice.

COMPLETION STANDARDS:

The student will continue to demonstrate an increased proficiency with aircraft flight control.

The student should demonstrate an increase in basic proficiency with all maneuvers covered to this point.

2.14 - LESSON 14: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will be shown how to conduct slope landing operations and how to respond to anti-torque system failures.

CONTENTS:

1. Slope operations
2. Anti-torque system failures
3. Instructor directed maneuver practice

COMPLETION STANDARDS:

This lesson will be completed when the student has a basic understanding of the reasons and procedures for slope operations and anti-torque failures. The student should demonstrate a continuing increase in proficiency for all flight maneuvers.

2.15 - LESSON 15: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will review the procedures for recognition and recovery from low RPM conditions and settling with power. The student will become familiar with the basic reasons and procedures for these maneuvers.

CONTENTS:

1. Low rotor RPM recognition and recovery
2. Settling with power

COMPLETION STANDARDS:

This lesson will be completed when the student has a basic understanding of the recognition and recovery procedures for low rotor RPM. The student should demonstrate a basic knowledge of what causes settling with power and the corrective actions required. The student should demonstrate a continued increase in proficiency with aircraft control.

2.16 - LESSON 16: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will practice any maneuvers the instructor deems necessary to increase the student's proficiency in all maneuvers to this point.

CONTENTS:

Instructor directed maneuver practice

COMPLETION STANDARDS:

The student will continue to demonstrate an increased proficiency in any areas of weakness.

2.17 - LESSON 17: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will practice any maneuvers the instructor deems necessary to increase the student's proficiency in all maneuvers to this point.

CONTENTS:

Instructor directed maneuver practice.

COMPLETION STANDARDS:

The student will continue to demonstrate an increased proficiency in any areas of weakness.

2.18 - LESSON 18: PRIVATE PILOT MANEUVERS

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will practice any maneuvers the instructor deems necessary to increase the student's proficiency in all maneuvers to this point.

CONTENTS:

Instructor directed maneuver practice.

COMPLETION STANDARDS:

The student will continue to demonstrate an increased proficiency in any areas of weakness.

2.19 - LESSON 19: EMERGENCY PROCEDURES

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

The student will review the procedures for recognition and recovery from low RPM conditions and settling with power. The student will become familiar with the basic reasons and procedures for these maneuvers.

CONTENTS:

1. Low rotor RPM recognition and recovery
2. Settling with power

COMPLETION STANDARDS:

This lesson will be completed when the student has a basic understanding of the recognition and recovery procedures for low rotor RPM. The student should demonstrate a basic knowledge of what causes settling with power and the corrective actions required. The student should demonstrate a continued increase in proficiency with aircraft control.

2.20 - LESSON 20: SIMULATOR AUGMENTATION

(Simulator: 2.0 Hours)

OBJECTIVES:

This lesson gives the student an opportunity to utilize the simulator to improve any Stage One maneuver or procedures which may require additional practice in preparation for the Stage Check, as determined by the instructor.

CONTENTS:

1. Hovering Maneuvers
 - A. Vertical Takeoff and Landing
 - B. Slope Operations
 - C. Surface Taxi
 - D. Hover Taxi
 - E. Air Taxi
2. Takeoffs, Landings, and Go-arounds
 - A. Normal and Crosswind Takeoff
 - B. Normal and Crosswind Approach
 - C. Maximum Performance Takeoff and Climb
 - D. Steep Approach
 - E. Rolling Takeoff
 - F. Shallow Approach and Run-on Landing
 - G. Go-arounds
3. Performance Maneuvers
 - A. Rapid Deceleration
 - B. Straight in Autorotation
 - C. 180° Autorotation
4. Emergency Operations
 - A. Power Failure at a Hover
 - B. Power Failure at Altitude
 - C. Systems and Equipment Malfunctions
 - D. Settling-With-Power
 - E. Low Rotor RPM Recovery
5. Special Operations
 - A. Confined Area Operation
 - B. Pinnacle / Platform Operations
 - C. Night Operations
6. Instrument Operations

COMPLETION STANDARDS:

The student should demonstrate continued increased proficiency of aircraft control and a basic level of understanding of all maneuvers introduced during the lesson.

2.21 - LESSON 21: STAGE ONE PRE-SOLO CHECK REVIEW

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

In this lesson, the student will review the procedures for solo operations. The student will demonstrate all basic flight maneuvers to the satisfaction of the instructor.

CONTENTS:

Review of communication procedures, traffic patterns, and emergency procedures.

COMPLETION STANDARDS:

This lesson will be complete when the instructor has reviewed the student's log book, student pilot certificate and training required record to ensure that all requirements have been met and all required endorsements are logged in the student's log book. The student will demonstrate the ability to safely solo the helicopter and complete traffic pattern procedures in a safe manner. The student should be able to maintain altitude and heading in a safe manner. All maneuvers contained within this stage must be performed at least 1.5 times the standards set forth in the ACS.

2.22 - LESSON 22: STAGE ONE PRE-SOLO CHECK

(Dual: 1.2 Hours, Pre/Post Flight Briefings: 0.8 Hours)

OBJECTIVES:

During this Stage Check the designated check pilot will evaluate the student's proficiency of the Stage One maneuvers and procedures to determine if the student is ready to solo and be advanced to Stage Two of flight training.

CONTENTS:

1. Preflight inspection
2. Engine start
3. Engine systems preflight check
4. Vertical takeoff from a hover
5. Hovering: sideward, rearward, forward, and turns
6. Radio communications
7. Normal take-off from a hover
8. Traffic patterns
9. Autorotative descents with power recovery
10. Hovering autorotation
11. Simulated forced landing
12. Recognition and recovery from low RPM
13. Rapid decelerations
14. Normal approach to a hover
15. Governor failure
16. Engine shut-down

COMPLETION STANDARDS:

This lesson will be complete when the student demonstrates the required maneuvers to a satisfactory level in accordance with the Airman Certification Standards as guidance. The student will demonstrate knowledge of all emergency procedures covered in Stage One.

2.23 - LESSON 23: STUDENT PILOT SOLO

(Dual: 0.5 Hours, Solo: 0.5 Hours, Pre/Post Flight Briefings: 1.5 Hours)

OBJECTIVES:

The student will review the procedures for solo operations, pursuant to 14 CFR Appendix B to Part 141 5(c)(2).

CONTENTS:

The flight will begin as a dual flight with the instructor and student flying together. Both occupants will make a safety assessment of the student's ability and readiness to safely complete their first solo flight in the pattern. Either the student or instructor may postpone and repeat this lesson due to an unsafe assessment with no ill effects.

NOTE: At no time will the student conduct any of the following maneuvers: autorotations of any kind, settling with power, recovery from low RPM, or governor failure, except for an actual emergency.

COMPLETION STANDARDS:

The student and instructor will ensure the student is prepared to be the sole occupant in the traffic pattern. The student must accomplish at least three landings and takeoffs safely beginning and terminating in a hover. This must take place at an airport with an operating control tower.

This flight concludes Stage One Flight Training.