

CFI Bootcamp

Flight Instructor Training

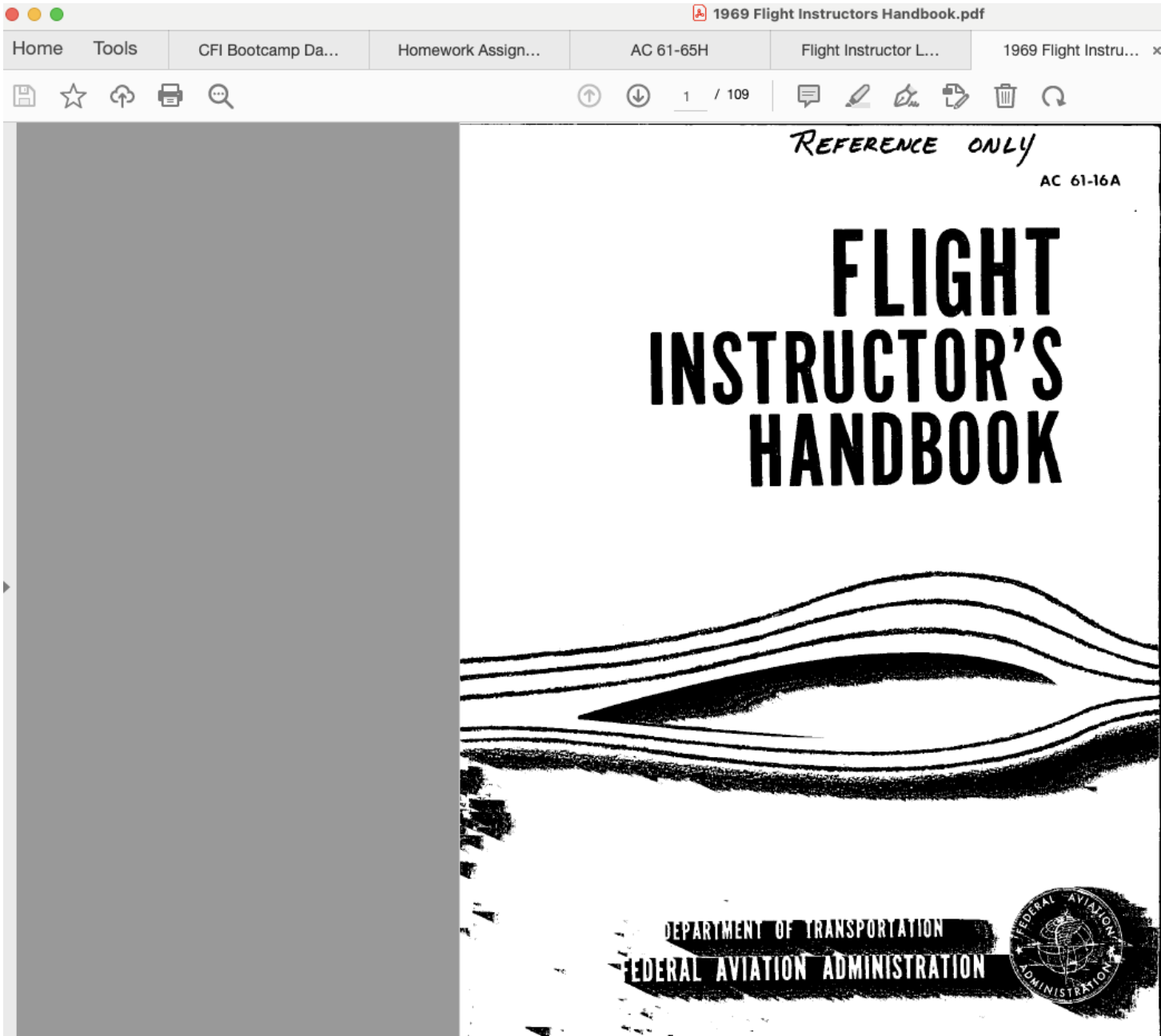


FOI then and Now

Review of the FOI from 1969

When it was Easier!

What changed since 1969?



CFI Bootcamp
Flight Instructor Training

1969 – 109 Pages



CFI Bootcamp
Flight Instructor Training

2020 – 233 Pages

Is all of this necessary?

Clear Purposes for Maneuvers!

VIII. FLIGHT TRAINING MANEUVERS AND PROCEDURES

A. *Operational Maneuvers*

- 1. Straight and level flight**
- 2. Normal takeoffs and landings**

B. *Coordination Exercises*

- 1. Medium turns**
- 2. Shallow turns**
- 3. Steep turns**
- 4. Dutch rolls**
- 5. Lazy eights**
- 6. Pylon eights**

C. *Planning Maneuvers*

- 1. 180° and 360° medium turns**
- 2. Turns to headings**
- 3. Climbs and descents to specified altitudes**
- 4. 720° steep turns**
- 5. Gliding spirals**

D. *Ground Reference Maneuvers*

- 1. Following a road or stream**
- 2. S turns across a road**
- 3. Turns about a point**
- 4. Eights around pylons**
- 5. Rectangular courses**
- 6. 180° precision landing approaches**

E. *Airspeed Control Maneuvers*

- 1. Climbs**
- 2. Descents, with and without power**
- 3. Slow flight**
- 4. Airspeed changes in level flight**

F. *Maximum Performance Maneuvers*

- 1. Maximum rate-of-climb**
- 2. Maximum angle-of-climb**
- 3. Short-field takeoffs and landings**
- 4. Soft-field takeoffs and landings**
- 5. Chandelles**

G. *Emergency or Special Flight Maneuvers*

- 1. Stall recognition and recovery**
- 2. Simulated forced landings**
- 3. Slips**
- 4. Crosswind takeoffs and landings**
- 5. Full stall landings**

6. Wheel landings (Tailwheel-type airplanes)
7. Landing on a spot

H. *Flight Operations*

1. Use of radio for communications
2. Cross-country flight planning
3. Pilotage
4. Dead reckoning
5. Use of radio aids for VFR navigation
6. Enroute emergencies

The Lesson Plan from 1969

LESSON	<u>GROUND REFERENCE MANEUVERS</u>	STUDENT _____	DATE _____
OBJECTIVES	<p><i>PLANNING & FOLLOWING A PATTERN OVER THE GROUND</i></p> <p><i>COMPENSATING FOR WIND DRIFT AT VARYING ANGLES</i></p>		
ELEMENTS	<p><i>USE OF GROUND REFERENCES TO CONTROL PATH</i></p> <p><i>OBSERVATION & CONTROL OF WIND EFFECT</i></p> <p><i>CONTROL OF AIRPLANE ATTITUDE, ALTITUDE & HEADING</i></p>		
SCHEDULE	<p><i>PREFLIGHT INSTRUCTION :20</i></p> <p><i>INSTRUCTOR DEMONSTRATIONS :15</i></p> <p><i>STUDENT PRACTICE :45</i></p> <p><i>POSTFLIGHT CRITIQUE :10</i></p>		
EQUIPMENT	<p><i>BLACKBOARD FOR PREFLIGHT INSTRUCTION</i></p> <p><i>IFR VISOR FOR MANEUVERS REVIEWED</i></p>		
INSTRUCTOR'S ACTIONS	<p><i>EXPLAIN OBJECTIVES & DIAGRAM S TURNS TURNS ABOUT A POINT & RECTANGULAR COURSES ON BLACKBOARD</i></p> <p><i>FLIGHT DEMONSTRATIONS OF ELEMENTS: & FOLLOWING A ROAD, S TURNS, TURNS ABOUT A POINT AND RECTANGULAR COURSES AS STUDENT LEARNS EACH SUCCEEDING MANEUVER</i></p>		
STUDENT'S ACTIONS	<p><i>DISCUSS OBJECTIVES & RESOLVE QUESTIONS</i></p> <p><i>REVIEW & PRACTICE STRAIGHT & LEVEL FLIGHT, SLOW FLIGHT, AND TURNS TO HEADINGS.</i></p> <p><i>PERFORM EACH NEW MANEUVER AS DIRECTED, AND PRACTICE</i></p>		
EVALUATION	<p><i>LESSON IS COMPLETE WHEN STUDENT CAN RETAIN ORIENTATION, HEADINGS WITHIN 15°, ALTITUDE WITHIN 100 FEET, AND INITIATE WIND COMPENSATION ACTION IN PROPER DIRECTION.</i></p>		

FIGURE 2.—Sample lesson plan for a flight instruction period.

MANEUVER <u>TAKE OFF AND DEPARTURE STALLS</u> INSTRUCTOR <u>JACK MOSLEY</u>	
OBJECTIVE <u>To teach the safe recognition of and recovery from stalls</u>	
DOING UNITS (STEPS)	KNOWING UNITS (KEY POINTS)
1. Preflight discussion - review aerodynamics of stalls	a. Angle of attack b. Stall recognition clues c. Recovery techniques
2. Instructor's demonstration - altitude 3,000 AGL, clearing turns, CAGE gyros, use take off configuration	a. Climbing power b. 30° bank at normal climb speed c. Maintain bank and rate of turn d. Increase pitch with elevators e. Initiate recovery when stall is recognized f. Reduce angle of attack g. Stop turn h. Regain straight and level flight i. Reset power and trim.
3. Require student to describe procedure	a. Stall recognition b. Control usage c. Reason for stall
4. Directed student practice	a. Use verbal corrections ... don't ride controls b. Correct wrong procedures at once
5. Encourage student experimentation	a. Effects of power settings b. Effects of delay on altitude loss c. Effects of configurations
6. Review of maneuver, emphasizing instrument indications	a. Hazards involved in stalls b. Emphasize control coordination c. Acknowledge student progress

PERFORMANCE ELEMENTS	GRADING CRITERIA
Airspeed control	Accuracy of procedure
Altitude loss - not more than 300'	Stall recognition
Maintenance of turn	Altitude conservation
Smoothness of control usage	Reaction time
	Altitude control
	student understanding

FIGURE 8.—Sample flight information breakdown.

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3. Require student to describe procedure	a. Stall recognition b. Control usage c. Reason for stall
4. Directed student practice	a. Use verbal corrections - "don't ride controls" b. Correct wrong procedures at once
5. Encourage student experimentation	a. Effects of power settings b. Effects of delay on altitude loss c. Effects of configurations
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FIGURE 3.—Sample flight information breakdown.

VIII. FLIGHT TRAINING MANEUVERS AND PROCEDURES

LESSON 1. DUAL FLIGHT

The first lesson consists of familiarization with the airplane and its operating procedures, the sensations of flight, and the local flight areas, and the use of the flight controls and instruments. A short out-and-back cross-country flight to a nearby airport is often effective in stimulating the new student's interest.

1. *Airplane familiarization* Ground instruction.
 - Preflight inspection.
 - Cockpit familiarization.
 - The airplane flight manual.
2. *Starting the engine* Demonstration.
3. *Radio communications* Do.
4. *Taxiing* Demonstration or directed performance.
5. *Pretakeoff check* Demonstration with student participation.
6. *Takeoff, traffic pattern, and climbout* Demonstration.
7. *Familiarization flight* Demonstration, and performance by student as feasible (Visual and Instrument References).
 - Control effects and usage.
 - Flight area familiarization.
 - Straight and level flight.
 - Pitch and bank control.
 - Approach, traffic pattern, landing, and parking.
8. *Postflight discussion.*
9. *Preview of next lesson.*
 - Straight and level, climbs, turns, and descents.
 - Slow flight and power-off stalls.

3. Steep Turns

Purpose

Steep turns are advanced coordination maneuvers which require precise coordination, good timing, and careful airspeed control. The higher control forces involved, the overbanking tendency of most airplanes, and the fact that most small airplanes are operating near their performance limit combine to make any inept control usage, or errors in technique, immediately apparent.

Elements

- a. Coordination, with emphasis on rudder usage
- b. Control of banked attitude
- c. Maintenance of altitude and air-speed
- d. Orientation

Associated maneuvers

- a. Medium turns
- b. Lazy eights
- c. Accelerated stalls
- d. Chandelles

Common errors

- a. Insufficient control usage
- b. Poor coordination
- c. Poor timing on entries and recoveries
- d. Failure to maintain altitude and air-speed
- e. Dissimilar right and left turns, especially in airplanes with side-by-side seating
- f. Poor pilot posture—tendency to lean against bank

6. 180° Precision Landing Approaches

Purpose

180° precision approaches have a practical application to forced landings, and are also used in flight training to develop planning, airspeed control, and the ability to make consistent accuracy landings without power.

Elements

- a. Planning
- b. Airspeed control
- c. Coordination
- d. Correction for wind effect

Associated maneuvers

- a. Simulated forced landings
- b. Descents without power
- c. Slow flight
- d. Landings
- e. All other ground reference maneuvers

Common errors

- a. Failure to maintain desired track
- b. Poor airspeed control
- c. Poor coordination
- d. Faulty judgment of altitude and distance
- e. Ineffective compensation for wind effect

Handees

E. *Use of Training Aids*

- 1. Models**
- 2. Charts, Diagrams, and Performance Tables**
- 3. Audiovisual Courses**
- 4. Programed Instruction**
- 5. “Handees”**

Location

Did we make worse pilots then?

No