

Cadet Orientation Flight Program Guide

Appendix 2



Powered Syllabus

CAPP 60-40
October 2018

GENERAL SYLLABUS

The Airman's Attitude

Pilots are asked to look for opportunities during their interactions with the cadets to impart the following positive, professional attitudes toward airmanship, as occasions arise:

1. Pro-Safety Attitude

Airmen take a sober, calculated approach to risks.

Airmen think before they act.

Through your actions and words, show that having a pro-safety attitude is important to you.

2. Disciplined Airmanship

Airmen habitually comply with FAA regulations and standard procedures.

Airmen are not “hot dog” fliers but disciplined aviators who know that rules and procedures exist to protect their safety.

Airmen execute their pre-planned mission. For o-flights, they stick to the syllabus’s learning objectives.

Through your actions and words, show that you’re self-disciplined in your flying.

3. Fitness

Airmen are health- and fitness-conscious. Physical and mental wellness is required to fly.

A habit of regular exercise is a part of the airman’s life.

Through your actions and words, show that physical and mental wellness is important.

4. Drug-Free Ethic

Airmen need to choose a drug-free lifestyle.

Even legal drugs (alcohol, cigarettes, prescriptions) can affect an airman’s personal airworthiness when those substances are abused.

Illegal drugs (cocaine, ecstasy, heroin, etc.) can affect personal airworthiness and jeopardize FAA licenses. Airmen must pass drug-screening tests.

Through your actions and words, show that flying is a sobering responsibility.

Cadet-Passenger Safety Briefing

from Susan Parson, *FAA Safety Briefing*

- S**
 - Seat belts fastened for taxi, takeoff, landing
 - Shoulder harnesses fastened for takeoff, landing
 - Seat position adjusted and locked in place
- A**
 - Air vents (location and operation)
 - All environmental controls (discussed)
 - Action in case of any passenger discomfort
- F**
 - Fire extinguisher (location and operation)
- E**
 - Exit doors (how to secure, how to open)
 - Emergency evacuation plan
 - Emergency / survival kit (location and contents)
 - Equipment (location and operation)
- T**
 - Traffic (scanning, spotting, notifying pilot)
 - Talking ("sterile cockpit" expectations)
- Y**
 - Your questions? Speak up!

Ground Handling, Preflight, Takeoff & Landing

Cadets' Reference:

*Aerospace Dimensions,
Module 1*

Estimated Duration: 45 min

1. Ground Handling

Demonstrate proper ground handling; identify those surface areas that are not to be touched.

2. Preflight Inspection

- a. Show and tell while performing a routine pre-flight inspection.
- b. Identify the required documents that must be kept on board.
- c. Show and tell about the airplane's basic anatomy.
- d. Discuss principles for staying safe during this flight.

3. Before Take-Off:

- a. Using the checklist, show and tell about routine cockpit checks.
- b. Explain the sequence of events prior to take-off.

4. Take-Off

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Discuss airplane position during takeoff roll and initial climb; demonstrate rudder controls.
- b. Describe emergency actions to be taken at different altitudes, as discussed during the "before take-off" checklist.

5. In-Flight (minimum altitude of 2500' AGL)

- a. Show and tell about the use of flight controls.
- b. Point out the airplane's attitude in relation to the horizon and different airspeeds.
- c. Identify familiar landmarks, ground features, and the position of the airport with respect to the airplane's altitude and position.

6. Approach to Landing

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Explain the approach to the traffic pattern; explain the reasons for a standardized entry procedure and perform the before landing check.
- b. Discuss the elements of the traffic pattern.
- c. Discuss the final approach and the importance of maintaining the correct airspeed.

7. Landing & Roll-Out

- a. Explain the landing attitude.
- b. Point out the correct procedure for landing roll-out.

8. Post Flight: Questions & Answers

Normal Flight Maneuvers

1. Preflight

- a. Discuss previously completed flights, as appropriate.
- b. Discuss principles for staying safe during this flight.

2. In Flight (minimum altitude of 1500' AGL)

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Trim for level flight; point out the stability of the aircraft in hands-off flight.
- b. Emphasize attitude flying.
- c. Show and tell about the trim controls and straight flying to a checkpoint using visual references.
- d. Discuss the effects of lift, drag, and gravity on the airplane.
- e. Discuss the relationship of lift, angle of attack, and relative wind.
- f. Demonstrate a shallow banked turn and point out how the airplane will maintain the turn with controls neutral.
- g. Explain load factor during turns.

3. Post Flight: Questions & Answers

Advanced Flight Maneuvers

1. Preflight

- a. Discuss previously completed flights, as appropriate.
- b. Discuss principles for staying safe during this flight.

2. In Flight (minimum altitude of 1500' AGL)

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Perform climbing turns, emphasizing collision avoidance.
- b. Demonstrate slow flight (minimum controllable airspeed - MCA).
- c. Demonstrate straight ahead and turning stalls, as appropriate.

All stalls are to be imminent stalls (first aerodynamic indication of an oncoming stall, which is usually the stall warning alarm); back seat passengers are not allowed when demonstrating stalls.

- d. Demonstrate medium and steep bank turns; discuss proper rudder coordination and control stick requirements to keep the nose up.
- e. Explain load factor during turns.
- f. Discuss steep spirals and spins; emphasize the difference and dangers of excessive load factors in steep spirals.
- g. Demonstrate ground reference maneuvers used in search activities (parallel track, S-turns, expanding square).

3. Post Flight: Questions & Answers

Cadets' Reference:

Aerospace Dimensions,
Module 1

Estimated Duration: 45 min

Use of Instruments in Flight

1. Preflight

- a. Discuss previously completed flights, as appropriate.
- b. Discuss principles for staying safe during this flight.
- c. Explain the use of basic navigation instruments (clock, altimeter, airspeed indicator, and magnetic compass).
- d. Explain the pitot/static system and its relationship to the airspeed indicator, altimeter, and vertical velocity indicator.

2. In Flight

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Explain the difference between absolute altitude (AGL), true altitude (MSL) and pressure altitude (PA).
- b. Demonstrate how to read the altimeter.
- c. Demonstrate how to read the airspeed indicator; discuss indicated airspeed, true airspeed, and ground speed.
- d. Point out how attitude and airspeed are related.
- e. Demonstrate how shallow climbs and descents affect the vertical velocity and airspeed indicators.
- f. Demonstrate turns using the magnetic compass; discuss compass turning errors – variation, deviation, magnetic dip, and oscillation error.

3. Post Flight: Questions & Answers

Weather

1. Preflight

- a. Discuss previously completed flights, as appropriate.
- b. Discuss principles for staying safe during this flight.
- c. Discuss cloud types and their effect upon flight.
- d. Discuss how terrain affects air stability.
- e. Demonstrate preflight weather briefing and discuss its importance.

2. In Flight (cover those topics appropriate to local conditions)

Cadets are never to handle the controls during take-off, landing, or when below 1000 ft AGL.

- a. Demonstrate effects that weather has upon flying.
- b. Demonstrate the crab method (forward slip) to compensate for wind.
- c. Discuss wake turbulence avoidance.
- d. Demonstrate temperature differences at a few altitudes and discuss how altitude affects rate of climb.

3. Post Flight: Questions & Answers