

DISCUSS GENERAL CAP-RELATED SAFETY REQUIREMENTS AND ISSUES

CONDITIONS

You are a Mission Pilot trainee and must discuss general CAP-related safety requirements and issues.

OBJECTIVES

Discuss general CAP-related safety requirements and issues.

TRAINING AND EVALUATION

Training Outline

1. As a Mission Pilot trainee, knowing general CAP-related safety requirements and issues is essential.
2. *Flying into and taxiing on unfamiliar airports.* CAP missions often require flying into small, non-towered and unlighted airports. The mission pilot needs to quickly obtain information about these airfields. Of particular importance:
 - a. Runways. Determine length, width, markings and lighting. Is runway alignment compatible with predicted wind direction and strength? If not, what is your alternative?
 - b. Taxiways. Are there any, or will you have to back taxi? Are the taxiways marked and/or lighted?
 - c. If you will be arriving in low visibility conditions or at night, taxi SLOWLY and use a wing walker if necessary. If you can't see the turnoff to the taxiway or the taxiway itself -- STOP.
 - d. Obstacles. Note all near the airport and its approaches.
 - e. Services. Fuel and oil, phone, tie downs, and maintenance. Will they be open when you arrive? Is there a phone number to call after normal hours? If in doubt, call ahead -- most FBOs are glad to assist CAP.
 - f. Local NOTAMS.
3. *Flying into large, busy airports.* Of particular importance:
 - a. Airspace and obstacles. Review airspace layout and restrictions, and note all relevant frequencies (including ATIS, AWOS or ASOS).
 - b. Taxiways. Make sure you have a taxiway diagram, and review it before you land. Brief the crew so they can assist you.
 - c. Local NOTAMS.
4. *Taxiing around and near a large number of aircraft:*
 - a. Follow the taxi plan that is in the Operations Plan, if applicable.
 - b. Taxi no faster than a slow walk when around obstacles.
 - c. When there are no flight line personnel or marshalls available, do not taxi within ten feet of any obstacle; stop, and then proceed at no faster than a slow walk.
 - d. Follow all signals given by flight line personnel. However, use common sense as some of the flight line marshals may have little or no experience. If it looks too close -- STOP.
 - e. Pilot aids such as the *Airport/Facility Directory* or commercial products such as the *Flight Guide* (Airguide Publications, Inc.) are invaluable tools for the CAP mission pilot. One should be carried in the aircraft at all times, and kept *current*. Also, several web sites (e.g., AOPA) have very detailed airport layouts available for downloading.
 - f. Another often-overlooked safety measure is reconnoitering the terrain around unfamiliar airports to determine your actions in the event the engine quits on takeoff. Get in the habit of flying a circuit around the airport upon arrival to look for emergency landing areas off the ends of each runway. Ask local pilots

for the best actions to take if you lose an engine on takeoff (from each runway). Also, suggest that mission staff include this information in the general briefing, if necessary.

5. *Squawks*. CAP aircraft have Discrepancy Logs - use them! While private pilots may delay 'minor' repairs, mission pilots should not. Just as ELT missions always seem to occur between midnight and 0dark30, you can bet that a nighttime mission will come up if a landing, taxi, strobe or navigation light is out. Been having troubles with your comm radios? Get ready for an ELT search in Class B airspace.

CAP pilots often fly unfamiliar aircraft during missions. Pay particular attention to each aircraft's squawk sheet, and don't fly unless you are satisfied with the aircraft's condition: question the aircraft's regular crew about the particulars of their aircraft -- probe for "unwritten" squawks.

In a related matter, keeping the aircraft windows clean and having a well-stocked cleaning kit in the aircraft is vital. How many of you have arrived at the airport for a night flight and found that the last pilot had flown through a bug convention and neglected to clean the windscreen? And, as if this isn't enough of a delay in launching the mission, you can't find anything to clean the windscreen!

6. *Fuel management*. CAP missions often require flying long distances to mission bases, and the missions themselves involve flying several sorties a day. Mission aircrews often carry a lot of luggage and equipment. Missions are flown in widely varying weather conditions. Therefore mission pilots must carefully plan, check and manage their fuel.

- a. Per CAPR 60-1, the PIC is responsible for maintaining a sufficient fuel supply to ensure landing with one hour of fuel remaining (computed at normal POH/AFM cruise fuel consumption). If it becomes evident the aircraft will not have that amount of fuel at its intended destination, the PIC will divert the aircraft to an airport that will ensure the requirement is met.
- b. Weight & Balance computations *must* be accurate. Do you include the weight of the permanent equipment stowed in the aircraft? Do you change your W&B from the standard FAA 170 pounds when a crewmember that doesn't meet the Air Force weight standards shows up? Do you have a scale available at your headquarters to weigh luggage and equipment?
- c. If you do not fill the aircraft fuel tanks to the top or a tab, do you have a means to accurately determine fuel on board? Each aircraft that is routinely filled to a level less than full should have a calibrated fuel-measuring device on board. Remember that these devices are specific to the particular aircraft!
- d. *Each CAP aircraft should have information concerning the aircraft's fuel consumption rate for various power settings, taken from actual flight conditions*. If the information is not in the aircraft, ask the aircraft's regular pilot for fuel burn rates. If neither of these options is available, be very conservative in your planning. Long cross-country flights, or a series of legs in a flight, or a series of mission sorties require careful planning. Make sure you note your assumptions (e.g., distance, power setting, and predicted wind direction and speed) so that you can compare them against actual conditions in flight.
- e. *Brief your crew, especially the observer, on these assumptions so they can assist you in managing the fuel*. The pilot or observer should ask about fuel status at least once an hour, or before departing on each leg or sortie. Are the winds as predicted, or are you facing a stronger-than-expected headwind? Is your power set at economy cruise, as you planned, or have you gone to full power because you're running late? Did the last leg take as long as you had planned, or did ATC put you in the north forty for 30 minutes for "traffic separation"?

If in doubt, *land and refuel!* Just in case, *land and refuel!*

7. *Unfamiliar aircraft equipment*. CAP aircraft are not equipped uniformly. If you are assigned to another aircraft than the one you usually fly, check the equipment. If you don't know how to use its GPS, tell air operations. If you can't set up and operate the GPS, you won't be able to use it correctly. If you try to learn "on the fly," you will spend too much time with your head inside the aircraft instead of looking outside. The same

reasoning applies to the Audio Panel, FM radio, and DF unit. In these cases, someone will probably be available to show you how to set up and operate the equipment.

Even something as simple as an unfamiliar navaid can affect safety. In most cases, just spending some time sitting in the aircraft and going over an unfamiliar comm radio or transponder will suffice. But if you've never used an HSI before, this isn't the time to learn.

Whatever you do, don't try to bluff your way through. Tell someone and ask for assistance. Another pilot can help you, or mission staff may assign another pilot or experienced observer to your crew who knows how to operate the equipment.

8. *Trainees and inexperienced crewmembers.* CAP aircrew members may be trainees, or simply inexperienced. You must take the time to ascertain the qualifications and experience level of any crewmember assigned to you.

If a crewmember is a trainee, spend extra time on briefings and be very specific as to duties and responsibilities. If the trainee is a scanner, listen in on the observer's briefing to make sure he does the same. Make sure trainees understand that, while you will teach them as much and as often as possible, you (and the observer) have duties that must not be interfered with.

If a crewmember is newly qualified or has not flown in some time, make allowances. You may have to assume some of their normal duties (e.g., setting up and operating nav aids or radios) in certain situations, so be sure to brief them so there is no confusion. For example, you may brief that you will handle all ATC communications while in Class C airspace while the inexperienced observer will handle all other communications.

Cadets and some seniors often qualify as flight line marshalls as their first mission specialty, and there is no practical way to determine their experience level. On some missions the flight line is handled by whoever is available, regardless of qualifications. Be alert and brief your aircrew to be alert. Don't hesitate to stop the aircraft if a marshaller's signals don't make sense or seem to be leading you into an unsafe situation.

9. *Low and slow.* CAP mission search patterns often require you to fly below 1000 AGL and at speeds at or below 90 knots (but never below V_x). Proficiency and planning are critical.

- a. Ensure that "low and slow" is an integral part of your proficiency program.
- b. Strictly enforce sterile cockpit rules under these conditions, and make sure your crew is briefed on all obstacles in the search area.
- c. Flying at low altitude often means losing radar and communications with ATC and mission base. Don't hesitate to climb back up to an altitude where you can make your "ops normal" reports.
- d. Maintain situational awareness and continually ask yourself, "If the engine quits now, where will I land?"
- e. CAPR 60-1 requires pilots to maintain a minimum of 500 feet above the ground, water, or any obstruction and a minimum of 2000' AGL at night (except for takeoff/landing or when under ATC control). For SAR/DR/CD/HLS reconnaissance, the pilot will maintain at least 800 AGL. Pilots may descend below the designated search altitude to attempt to positively identify the target (but never below 500 AGL); once the target has been identified the pilot will return to 800' AGL or higher. [Refer to CAPR 60-1 for special restrictions for over-water missions.]
- f. Per CAPR 60-1, minimum airspeed will be no lower than the aircraft's published best rate of climb speed (except for takeoff, landing, go-arounds, practice stalls, slow flight training and evaluation, and glider towing).
- g. Per CAPR 60-1, practice of in-flight emergency procedures and maneuvers will be conducted during daylight VMC at an altitude high enough to allow recovery from an inadvertent stall/spin entry and complete a recovery at no lower than 2000' AGL or the aircraft manufacturer, FAA, or CAP approved training syllabi recommended altitude, whichever is higher. Simulated forced landings will be discontinued prior to descending below 500' AGL, unless you intend to land.

Additional Information

More detailed information on this topic is available in CAPR 60-1 and in Chapter 12 of the Mission Aircrew Reference Text (MART).

Evaluation Preparation

Setup: Provide the student with a current copy of CAPR 60-1 and the MART.

Brief Student: You are a Mission Pilot trainee asked about general CAP-related safety requirements and issues.

Evaluation

<u>Performance measures</u>	<u>Results</u>	
1. Concerning general CAP-related safety requirements and issues, discuss:		
a. Flying into and taxiing on unfamiliar airports.	P	F
b. Flying into large, busy airports.	P	F
c. Flying into large, busy airports.	P	F
d. Taxiing around and near a large number of aircraft.	P	F
e. Taxiing around and near a large number of aircraft.	P	F
f. Squawks.	P	F
g. Fuel management.	P	F
h. Unfamiliar aircraft equipment.	P	F
i. Trainees and inexperienced crewmembers.	P	F
j. Low and slow.	P	F

Student must receive a pass on all performance measures to qualify in this task. If the individual fails any measure, show what was done wrong and how to do it correctly.