

FLIGHT #2: ROUTE SEARCH TRAINING FLIGHT

Objective: To practice route search techniques.

Duration: 1.5 hours or less

SCENARIO

The widespread poor weather in the previous days apparently did not prevent a local corn farmer from flying from Columbus, IN, to your area. AFRCC has opened a search for the blue-on-white Navion, N1119Q. On board was Horace A. Farmer and his wife Lucille. No flight plan was filed, nor did the PIC receive a weather briefing from flight service. The pilot is well known both at Columbus and at his home airport; the couple makes the trip about once a week. The farmstead is located within your area nearby the airport. After topping off his aircraft on Saturday evening, Mr. Farmer departed for—presumably—home. His daughter Mabel reported being unable to contact Mr. Farmer to the County Sheriff who in turn contacted AFRCC. Telephone and electric service throughout the entire state remain unreliable. The Air Operations Branch Director has assigned your crew to fly this route as part of initial attack actions to locate this aircraft. Because of the recent storm, continue to be vigilant for anything out of the ordinary while flying the route. If an ELT (practice beacon) is heard, simulate reporting it to mission base and locate the beacon.

PRE-FLIGHT BRIEFING

- 1) Complete a pre-flight briefing using the appropriate section of the flight guide. Highlight differences from the previous flight; already-briefed items can be abbreviated and reviewed only as necessary. During this flight, the mission pilot candidate will ride in the left front seat. The observer track student will ride in the left rear front seat. The instructor will:
 - 2) Discuss purpose of the flight:
 - a) Locate the following communications equipment and discuss their use:
 - i. Nav/Comms
 - ii. DME
 - iii. ADF
 - iv. GPS
 - v. VHF-FM (CAP) radio
 - vi. Audio panel
 - vii. Intercom
 - viii. Push-to-talk buttons and mike
 - b) Discuss how an observer can assist:
 - i. Set up radios (tower frequency)
 - ii. Obtaining taxi and takeoff clearances
 - iii. Mission Base reports (FM radio)
 - iv. Obtaining weather updates in-flight
 - v. Pilot Weather Reports (PIREP)
 - c) Route search – See below for details
- 3) Initiate a CAPF-104.
- 4) Have the observer trainee give a aircraft passenger and safety briefing:
 - a. Demonstrate use of safety belts and harnesses
 - b. Identify emergency exits
- 5) The mission pilot candidate should set up the CAP radio, DF, and FAA radios. Enter the proper nav/comm frequencies and the first destination in the GPS. The MP candidate should demonstrate setup of the audio panel. Assist the MP candidate as necessary. The MP candidate should verbalize what she/he is doing for the benefit of the observer track student in the rear of the airplane. Emphasize that the observer will be doing many—if not all—of these duties beginning on the next flight.
 - a) Contact BAK Tower (118.6) and give required information. Some MP candidates may not be 100% comfortable talking with ATC; render assistance if necessary.
 - b) Give wheels up, time in the grid, time out of the grid, and wheels down reports.

DEPARTURE, ENROUTE, APPROACH & LANDING COMMUNICATIONS

During the flight, the trainee should concentrate on learning to use the aircraft radios, (especially the CAP radio), and navigation equipment (VOR, DME, ADF, and GPS).

1. Enroute to the search entry point, fly at 100 KIAS and 3000 MSL. Discuss what to look for during a route or parallel track search. Whenever possible, have the trainee point out objects on the ground which resemble search visual clues, such as:
 - Light colored or shiny objects
 - Smoke and fire
 - Blackened areas
 - Local discoloration of foliage
 - Fresh bare earth
 - Breaks in cultivated field patterns
 - Water and snow
 - Tracks and signals
 - Birds and animals
2. Upon reaching the edge of class D airspace have the trainee report entering the search route. Have the trainee follow the route on both sectional and the correlate these positions to a Highway or DeLorme map.
3. Turn north towards a nearby VOR and perform the following tasks:
 - A. Tune, identify (using the Morse code), and monitor the VOR
 - B. Determine radial and the bearing to the station.
 - C. Select the VOR on GPS and compare heading.
 - D. Select on DME and compare and distance to GPS.
 - E. Use GPS nearest airport feature to determine heading and distance to the primary divert airfield in the area.
 - F. Select that airport as destination in GPS.
 - G. Enter your GPS waypoint, fly to it, and describe the nearest landmark.
 - H. Write down cross-radials at this point using at least two VORs.

ROUTE SEARCH

This exercise requires that the trainee plan a route search prior to the exercise (i.e., homework). The trainee should use a sectional chart to plan this exercise. The trainee should have the route planned out as specified in the flight-specific target sheet.

1. Search should be conducted at 1000' AGL, 1nm track spacing, and 90-100 kts.
2. Determine the Latitude/Longitude of the entry and exit points. In addition, the entry and exit points should be fixed using VOR cross-radials and VOR-DME.
3. Determine the magnetic heading and distance (nm) from BAK to the entry point.
4. Determine the VOR cross-radials and VOR-DME to the entry point.
5. Determine the outbound course.

RETURN TO BAK

1. Discuss anticipated communications with tower, and let the trainee handle communications during the approach and landing. Have the trainee report out of the area (edge of Class D or before) and wheels down.
2. Discuss anticipated taxi instructions, and let the trainee handle communications with ground control.
3. The mission pilot candidate will make this landing under the supervision of the MAS flight instructor.

DEBRIEFING

1. Answer any questions.
2. Complete the CAPF 104.
3. Sign the trainee's specialty qualification training record.