

# Observer Tabletop Exercise SF#1

## Wing Shadow ELT, SF Sectional

Observer Trainee \_\_\_\_\_ (Print Name) Date \_\_\_\_\_

Instructor \_\_\_\_\_ (Print Name)

### Objective

The objective of this exercise is to provide the Observer Trainee with practice in obtaining courses, distances and times. This can be done with or without using a plotter and E6B computer as the Trainee prefers. A secondary objective is to familiarize the Trainee with the procedure used to locate an ELT using the "wing null" method. This method is rarely used on a normal basis but the Observer should know how to it is done if called upon to do it.

### Procedure

This exercise may be completed with an Instructor leading a group of Trainees through it or by individual trainees on their own. The Observer Trainee may be able to plan this mission with a minimum of help. However, it is a teaching tool and if necessary, step-by-step instructions shall be given. Additional training is always welcomed. All courses and bearings shall be plotted on a sectional chart. A Mission Pilot or Mission Observer must sign and date this exercise sheet, after reviewing the chart for correctness. The Trainee shall retain this sheet as proof of the training being accomplished. The answers to the questions may be found on the reverse of this sheet.

### Materials Needed

The trainee will need an appropriate sectional chart (does not need to be current), pencil, scratch paper, straight edge or navigation plotter and E6B (optional). An Instructor shall have a navigation plotter and E6B.

### Scenario

You are flying in a privately owned Cessna 182 from your home airport, Cloverdale, to the Mission Base located in Red Bluff. The pilot had checked in with the Mission Base before takeoff to receive the latest information on the search. He was advised that his course to Red Bluff would take the aircraft near a possible location of the search object. He was requested to monitor the emergency frequency, 121.5, for any ELT signals. If a signal is heard, it is to be located. Unless there are signs of life, the information is not to be radioed to the Mission Base as media helicopters are around the base. However, Mission Base will interpret any unexplained changes to your Base ETA as an indication you are doing an ELT search.

### Specifics

1. What is the magnetic course you are flying between Cloverdale Airport (38° 46.5'N, 122° 59.5'W) and Red Bluff Airport (40° 09'N, 122° 15'W)? Plot the course.
2. You are cruising at 130 Knots towards Red Bluff when over the community of Elk Creek, you pickup an ELT signal. The pilot makes a left 360° turn and the signal disappears (nulls) when the compass reading is 197° magnetic. Which wing points to the ELT? What is the true bearing from the aircraft to the ELT? Plot the bearing.
3. You return to you course to Red Bluff and fly 5 minutes. What is your location in reference to Red Bluff VOR?
4. A left 360° turn is made again and a "null" is observed when the compass reading is 168° magnetic. What is the true bearing from the aircraft to the ELT? Plot the bearing.
5. You turn 90° left from your last position and fly for 6 minutes. What is your location in reference to Red Bluff VOR?
6. You make another 360° turn, this time to the right. This time the null is observed when the compass reading is 324° magnetic. What is the true bearing from your location to the ELT? Plot the bearing.
7. You fly directly to where your plots indicate the ELT is located. A "four winds" wreckage pattern is spotted. Plot the location. What are the latitude and longitude of the site and location from the Red Bluff VOR?
8. Do you radio the information to Mission Base?
9. If not, what is your magnetic course and ETE to the mission base at 155 Knots? Use the Red Bluff VOR to measure the course.

## **Answers**

1. 005° MC. (022° TC - 17° variation)
2. High wing. 304° true bearing. ( $197^\circ \text{ MC} + 90^\circ = 287^\circ \text{ MC} + 17^\circ \text{ variation}$ )
3. 191° radial at 21 nautical miles.
4. 275° true bearing. ( $168^\circ \text{ MC} + 90^\circ = 258^\circ \text{ MC} + 17^\circ \text{ variation}$ )
5. 221° radial at 27 nautical miles.
6. 251° true bearing. ( $324^\circ \text{ MC} - 90^\circ = 234^\circ \text{ MC} + 17^\circ \text{ variation}$ )
7. 39° 48.5'N, 122° 55'W and 225° radial at 36 nautical miles.
8. No, "four winds" indicates an in-flight break up of the aircraft with survivors unlikely.
9. 040° magnetic and 14 minutes.

Your answers may be slightly different which is OK. Any major difference indicates an error. Redo the question.