Federal Aviation Administration

EN ROUTE - STAGE IV

Refresher Unit 06
Lost Aircraft Orientation

Course 55055

OK-09-5106

FOREWORD

Purpose. This Air Traffic Refresher Unit provides for the systematic review of current Air Traffic Control operational procedures.

This publication is for use in the technical training of FAA Air Traffic Control Specialists. It does not replace, substitute for, or supersede official regulations, procedures, or directives.

Review. Training programs established under the Government Employees Training Act are based on actual needs, and a review of these training needs is conducted at least once every three years.

Recommended Changes. Suggested changes and corrections to this training material should be forwarded to:

DOT, FAA, Mike Monroney Aeronautical Center
En Route Training Section, AMA-511
P.O. Box 25082
Oklahoma City, OK 73125

PREFACE

This refresher unit replaces all previous versions of ER-11-6, Lost Aircraft Orientation, and reflects the latest technical changes found in the referenced source documents through February 2010, including FAA Order JO 7110.65. See “Stage IV Changes 02/11/10” on the lesson materials download page. The contents of this unit are current as of the date shown on the cover. The material herein will be kept current through unit replacement. This unit is not to be used as a Standard Operating Procedure (SOP). In all cases, a controller’s good judgment is uppermost in applying the procedures advocated.

INSTRUCTIONS

1. Write your answers to the questions in the Question Section on a separate piece of paper. This will allow the unit to be reused.

2. Compare your answers with those in the Answer and Discussion Section.

3. If you answer any questions incorrectly, study the discussion paragraph(s).

4. Review the references given in the Answer and Discussion Section.

5. An informal discussion of this unit with other specialists may help clarify any ambiguities.

LOST AIRCRAFT ORIENTATION
Question Section

DIRECTIONS: ITEMS 1 THROUGH 9 ARE COMPLETION. WRITE YOUR ANSWERS USING THE APPROPRIATE WORD(S) OR PHRASE(S).

1. N32R contacts you at 1540 advising that it is lost and requesting assistance. N32R's last known position was over CHARLIE at 1520. To determine the aircraft's approximate position, you need to know its _____ and _____ since its last known position.

2. By plotting the approximate position of N32R, you determine that it is within your radar coverage area. Another factor in determining whether the aircraft will present a radar target is the _____ of the aircraft.

3. After identifying N32R, you determine that the aircraft is in Class G airspace. You advise the aircraft of its position, and the pilot requests vectors to its destination. You may provide the pilot with the requested vectors only as a/an _____.

4. Besides radar, four other recognized methods of aircraft orientation are _____, _____, and _____.

5. You receive a call from N89T stating that the aircraft is on a VFR flight plan but is unable to maintain VFR and is **NOT** sure of its position. N89T adds that its transponder is set on code 1200 and requests radar assistance. In addition to initiating radar identification procedures, you should determine if the pilot is _____.

7. You receive a call from N872K stating that the aircraft is on a VFR flight plan and is unable to maintain VFR, but when you ask if the pilot is qualified for and capable of conducting IFR flight, the reply is "NEGATIVE." In responding to the aircraft's request for assistance, your first action should be to inform the pilot of _____.

8. You are conducting radar orientation of N872K. Just as you complete the orientation, the pilot advises you that IFR conditions have been encountered. You should advise the pilot of the _____.

9. After being advised that the pilot of a VFR flight who has encountered IFR weather conditions is qualified for and capable of IFR flight, request that he/she _____.

LOST AIRCRAFT ORIENTATION
Answer and Discussion Section

1. N32R contacts you at 1540 advising that it is lost and requesting assistance. N32R's last known position was over CHARLIE at 1520. To determine the aircraft's approximate position, you need to know its _____ and _____ since its last known position.

   ANSWER: heading; airspeed

   REFERENCE: JO 7110.65, par. 10-2-1

   DISCUSSION: By using headings and airspeed since last known position, you can plot the approximate position of the aircraft and be better able to determine the type of orientation to use.

2. By plotting the approximate position of N32R, you determine that it is within your radar coverage area. Another factor in determining whether the aircraft will present a radar target is the _____ of the aircraft.

   ANSWER: altitude

   REFERENCE: JO 7110.65, pars. 10-2-1, 10-2-4

   DISCUSSION: While the aircraft may be within the horizontal limits of your radar, its altitude may be the determining factor in being detected by radar. If weather and circumstances permit, it may be necessary to have the aircraft increase its altitude to improve radar reception.

3. After identifying N32R, you determine that the aircraft is in Class G airspace. You advise the aircraft of its position, and the pilot requests vectors to its destination. You may provide the pilot with the requested vectors only as a/an _____.

   ANSWER: additional service

   REFERENCE: JO 7110.65, par. 5-6-1

   DISCUSSION: An aircraft may be vectored while in Class G airspace only upon pilot request and then only as an additional service. (However, radar advisories may be offered to an aircraft operating either in or out of controlled airspace. A radar advisory is intended to assist pilots by providing advice and information based on radar observations, and is not a clearance or instruction.)

LOST AIRCRAFT ORIENTATION
Answer and Discussion Section *(Continued)*

4. Besides radar, four other recognized methods of aircraft orientation are _____, _____, and _____.

   ANSWER: NAVAIDs; pilotage; sighting by other aircraft

   REFERENCE: JO 7110.65, par. 10-2-3

   DISCUSSION: The controller must determine which method is best to use under the circumstances. Normally radar is the best, but circumstances such as weather, terrain, or remaining fuel might preclude its use.

5. You receive a call from N89T stating that the aircraft is on a VFR flight plan but is unable to maintain VFR and is **NOT** sure of its position. N89T adds that its transponder is set on code 1200 and requests radar assistance. In addition to initiating radar identification procedures, you should determine if the pilot is _____.

   ANSWER: qualified for and capable of conducting IFR flight

   REFERENCE: JO 7110.65, par. 10-2-8

   DISCUSSION: If a VFR aircraft requests radar assistance when it encounters or is about to encounter IFR weather conditions, determine if the pilot is qualified for and capable of conducting IFR flight.

LOST AIRCRAFT ORIENTATION
Answer and Discussion Section *(Continued)*

6. You receive a call from N872K stating that the aircraft is on a VFR flight plan and is unable to maintain VFR, but when you ask if the pilot is qualified for and capable of conducting IFR flight, the reply is "NEGATIVE." In responding to the aircraft's request for assistance, your first action should be to inform the pilot of _____.

   ANSWER: airports where VFR conditions are reported

   REFERENCE: JO 7110.65, par. 10-2-8

   DISCUSSION: If the pilot states he/she is not qualified for or capable of conducting IFR flight, inform the pilot of airports where VFR conditions are reported, provide other pertinent weather information, and ask if he/she will elect to conduct VFR flight to such an airport. If this is not feasible, you may provide radar assistance if the pilot declares an emergency. If the pilot refuses to declare an emergency, you may still provide radar assistance if you have determined the exact nature of the services desired.

7. You are conducting radar orientation of N872K. Just as you complete the orientation, the pilot advises you that IFR conditions have been encountered. You should advise the pilot of the _____.

   ANSWER: appropriate terrain/obstacle clearance minimum altitude

   REFERENCE: JO 7110.65, par. 10-2-8

   DISCUSSION: If the aircraft has already encountered IFR conditions, inform the pilot of the appropriate terrain/obstacle clearance minimum altitude. If the aircraft is below appropriate terrain/obstacle clearance minimum altitude and sufficiently accurate position information has been received or radar identification has been established, furnish a heading or radial on which to climb to reach appropriate terrain/obstacle clearance minimum altitude. Range/bearing readout can be used to great advantage in determining this information.

8. After being advised that the pilot of a VFR flight who has encountered IFR weather conditions is qualified for and capable of IFR flight, request that he/she _____.

   ANSWER: file an IFR flight plan

   REFERENCE: JO 7110.65, par. 10-2-8

   DISCUSSION: If the pilot states that he/she is qualified for and capable of IFR flight, request him/her to file an IFR flight plan. After the flight plan is filed, you may clear the aircraft to the destination airport, as appropriate.