Aircraft Incidents

Aircraft incidents are high-risk, low-frequency events that may challenge a telecommunicator's call-handling skills. This course prepares telecommunicators to recognize different types of aircraft incidents, identify common aircraft and their components, assess hazards associated with aircraft emergencies, and gather critical information based on the location of the aircraft and the caller. Learners examine aircraft crashes, onboard emergencies, strange sightings, aircraft and helicopter anatomy, crash-site considerations, and appropriate information gathering from witnesses and callers.

Learning Objectives

Upon completion of this course, learners will be able to:

1. Identify common types of aircraft incidents and describe circumstances associated with each.
2. Distinguish among common types of aircraft and recognize hazards associated with their design, function, cargo, or fuel source.
3. Describe key components of airplanes and helicopters and explain their relevance during an emergency call.
4. Explain how the location of an aircraft incident affects hazards, access, resource needs, and emergency response.
5. Gather critical information from ground witnesses, strange-sighting callers, and onboard witnesses while promoting caller and bystander safety.

Module 1: Types of Aircraft Incidents and Aircraft Identification

This module introduces the primary categories of aircraft incident calls telecommunicators may receive and explains why identifying the type of aircraft involved is important when assessing potential hazards. Learners examine aircraft crashes and in-air collisions, onboard emergencies such as mechanical failures or hijackings, and reports of strange or unidentified aircraft. The module also introduces common aircraft types and the unique risks they may present.

Module Objectives

Upon completion of this module, learners will be able to:

1. Classify aircraft incident calls as crash or collision reports, onboard emergencies, or strange-sighting reports.
2. Identify common causes and circumstances associated with aircraft crashes and onboard emergencies.
3. Distinguish among cargo, military, passenger, private, ultralight, glider, helicopter, and hot-air-balloon aircraft.
4. Describe hazards associated with specific aircraft types, including fuel, hazardous cargo, live munitions, and propane.
5. Explain why identifying the aircraft type is important when determining potential dangers and response needs.

Content/Activities

- Types of Aircraft Incidents
- Aircraft Crashes
- Hijacking
- Strange Sightings
- Cargo Planes and hazardous-material considerations
- Military Aircraft and live-munition considerations
- Gliders/Sailplanes
- Helicopters
- Passenger Planes and mass-casualty considerations
- Ultralight Aircraft
- Hot Air Balloons and propane hazards
- Private Aircraft

Module 2: Airplane Components and Emergency Relevance

This module familiarizes learners with the major components of a commercial airplane. Understanding common aircraft terminology helps telecommunicators interpret caller descriptions, determine where an onboard caller may be located, and recognize components that may contribute to an emergency or affect evacuation and rescue operations.

Module Objectives

Upon completion of this module, learners will be able to:

1. Identify the fuselage, cockpit, cabin, stabilizers, wings, and jet engines of a commercial airplane.
2. Describe the primary function of each major airplane component.
3. Explain how fuselage characteristics may help identify the type of aircraft involved.
4. Relate caller-reported locations, such as the cockpit, cabin, or wing, to emergency circumstances.
5. Explain how engine, wing, and fuel-related information may assist in assessing an aircraft emergency.

Content/Activities

- Commercial Airplane Parts
- Fuselage
- Cockpit
- Cabin
- Horizontal Stabilizer
- Vertical Stabilizer
- Wings and emergency exits
- Jet Engines
- Activity: Parts of an Airplane

Module 3: Helicopters and Helicopter Components

This module examines how helicopters differ from fixed-wing aircraft and introduces their principal components. Learners explore how rotor systems create lift, how helicopter design allows vertical movement and hovering, and how major components such as the fuselage, tail rotor, landing gear, and powerplant contribute to helicopter operation.

Module Objectives

Upon completion of this module, learners will be able to:

1. Explain how helicopter flight differs from fixed-wing aircraft flight.
2. Identify the main rotor blades, fuselage, tail rotor, landing gear, and powerplant of a helicopter.
3. Describe how rotor blades create lift and how the tail rotor assists with balance and directional control.
4. Compare common helicopter landing systems, including skid gear, floats, and skis.
5. Describe the role of the helicopter powerplant and identify common helicopter engine types.

Content/Activities

- Helicopter Parts
- Single and dual main rotor systems
- Main Rotor Blades
- Fuselage
- Tail Rotor
- Landing Gear
- Skid Gear
- Floats and skis
- Powerplant/Engine
- Reciprocating and turbine engines
- Activity: Parts of a Helicopter

Module 4: Responding to a Ground Witness

This module focuses on calls from people who witness an aircraft incident from the ground. Learners examine caller and bystander safety, incident timing and status, crash-site location, victim and injury information, and the different hazards associated with residential, commercial, forested, open-water, and open-countryside incidents. The module also addresses the expanded hazard area that may result from an in-air collision.

Module Objectives

Upon completion of this module, learners will be able to:

1. Gather critical information from a ground witness without encouraging the caller to approach or enter a hazardous scene.
2. Determine whether the aircraft is falling, has already crashed, or was involved in an in-air collision.
3. Assess how residential, commercial, forested, water, and countryside crash locations may affect response requirements.
4. Identify information about victims, injuries, trapped persons, debris, and other hazards that may influence resource deployment.
5. Explain why specialized equipment, mutual aid, accurate directions, and pre-incident plans may be required for aircraft incidents.

Content/Activities

- Responding to a Ground Witness
- Caller and bystander safety
- Determining whether the event is ongoing or has already occurred
- Residential crash locations
- Commercial crash locations
- Forested crash locations
- Open Water crash locations
- Open Countryside crash locations
- Specialized access equipment
- SOPs, pre-incident plans, and mutual aid agreements
- Injuries or Victims
- Mass-casualty considerations
- Mid-Air Collision
- Falling-debris hazards

Module 5: Responding to Strange Sightings

This module prepares learners to handle reports of unusual, suspicious, low-flying, or unidentified aircraft. Learners practice gathering objective information about the aircraft, its location and direction of travel, its appearance and behavior, and the caller's reason for believing the activity is unusual or suspicious.

Module Objectives

Upon completion of this module, learners will be able to:

1. Identify information needed when a caller reports a low-flying, unusual, or unidentified aircraft.
2. Gather the caller's location, the aircraft's location, and its direction of travel.
3. Obtain descriptive information such as aircraft type, number of aircraft, colors, markings, speed, and approximate altitude.
4. Use recognizable landmarks and structures to help a caller estimate an aircraft's height.
5. Explain the importance of taking unusual-aircraft reports seriously while gathering objective details and following agency notification procedures.

Content/Activities

- Responding to a Strange Sighting Call
- Low-flying aircraft
- Aircraft over restricted areas or no-fly zones
- Unidentified flying objects
- Caller location and aircraft location
- Direction of travel
- Longitude and latitude information when available
- Local airport or resource verification
- NORAD notification considerations when applicable
- Why the caller believes the aircraft is suspicious
- Aircraft type and number
- Distinguishing colors, markings, and logos
- Time observed and estimated speed
- Approximate Height of the Aircraft
- Using towers, buildings, and other recognizable references to estimate altitude
- Strange Sighting Call Example

Module 6: Responding to an Onboard Witness

This module addresses calls received from passengers or crew members who are onboard an aircraft experiencing an emergency. Because the caller may be directly exposed to the incident, the telecommunicator must obtain essential information efficiently while considering the nature of the emergency, the caller's location within the aircraft, the aircraft's status, and the need to coordinate an appropriate response.

Module Objectives

Upon completion of this module, learners will be able to:

1. Identify critical information to gather from a passenger or crew member reporting an onboard aircraft emergency.
2. Determine the caller's location within the aircraft and the nature of the reported emergency.
3. Gather available information about the aircraft, flight, occupants, hazards, and current conditions.
4. Distinguish considerations associated with mechanical emergencies, threats, hijackings, and other onboard hazards.
5. Apply calm, concise, and safety-focused call-handling practices when communicating with an onboard witness.

Content/Activities

- Responding to an Onboard Witness
- Passenger and crew member reports
- Caller location within the aircraft
- Aircraft and flight information
- Mechanical emergencies
- Threat-related emergencies
- Hijacking considerations
- Hazard and occupant information
- Emergency communication and information relay

Module 7: Course Review and Knowledge Check

This module reinforces the major concepts presented throughout the course. Learners review aircraft incident types, aircraft and helicopter components, location-specific response considerations, potential hazards, and information-gathering priorities for different types of callers.

Module Objectives

Upon completion of this module, learners will be able to:

1. Differentiate among the primary types of aircraft incident calls.
2. Recognize common aircraft and helicopter components from descriptions or images.
3. Match aircraft and crash-site characteristics with appropriate hazard and response considerations.
4. Select appropriate information-gathering questions based on whether the caller is a ground witness, strange-sighting witness, or onboard witness.
5. Apply course concepts to aircraft-incident call-handling scenarios.

Content/Activities

- Knowledge Check
- Review of aircraft incident types
- Review of aircraft identification and components
- Review of helicopter components
- Review of crash-site and response considerations
- Review of ground-witness information gathering
- Review of strange-sighting information gathering
- Review of onboard-witness information gathering
- Conclusion

Course Completion Criteria

To successfully complete this course and earn continuing education hours, learners must achieve a minimum score of 75%. The quiz must be completed within 30 minutes.

- CE hours awarded: 1
- Certificate duration: 12 Months

Technical Requirements

- Desktop, laptop, or mobile device
- Speakers or headphones
- High-speed Internet access
- A current web browser