


VDFP General Aviation Firefighting for Structural Firefighters

VIRGINIA DEPARTMENT OF FIRE PROGRAMS
Aviation Firefighting for Structural Firefighters



Chapter 9
Incidents Off Airport Property

INCIDENTS OFF AIRPORT PROPERTY

9-1

Learning Objectives

- List some of the safety concerns at off airport/aircraft accidents
- List some of the initial actions the incident commander should consider
- List some of the strategic and tactical items to be considered
- Identify accessibility concerns

INCIDENTS OFF AIRPORT PROPERTY

9-2

Learning Objectives

- Identify resource concerns
- Identify who is responsible for scene safety throughout the incident
- Identify who is initially responsible for evidence protection

INCIDENTS OFF AIRPORT PROPERTY

9-3

Introduction	INCIDENTS OFF AIRPORT PROPERTY
<ul style="list-style-type: none">• This chapter applies the information presented in the prior chapters to three case studies• The scenarios assume that specialized aircraft rescue fire fighting units are not available	

9-4

Preplanning of Off Airport Incidents	INCIDENTS OFF AIRPORT PROPERTY
<ul style="list-style-type: none">• Firefighters should be aware of local SOP's, SOG's, Airport/Aircraft Emergency plan, and mutual aid agreements• They should also know street in their district and the shortest route to an area to include traffic at certain times of the day, detours and other possible barriers	

9-5

Preplanning of Off Airport Incidents	INCIDENTS OFF AIRPORT PROPERTY
<ul style="list-style-type: none">• Incident Command System<ul style="list-style-type: none">– Fire departments must be well aware of the concept of incident command– Firefighters can use as much or as little of it as needed based on actual and forecast conditions	

9-6

Preplanning of Off Airport Incidents

- Incident Command System
 - Basic incident command flow chart

```
graph TD; IC[Incident Command] --- S[Safety]; IC --- E[Extrication]; IC --- FS[Fire Suppression]; IC --- EMS[Emergency Medical Services];
```

9-7

INCIDENTS OFF AIRPORT PROPERTY

Preplanning of Off Airport Incidents

- Incident Command System
 - More involved incident command flow chart

```
graph TD; IC[Incident Command] --- S[Safety]; IC --- PI[Public Information]; IC --- L[Liaison]; IC --- O[Operations]; IC --- P[Planning]; IC --- Log[Logistics]; IC --- F[Finance]; O --- Staging; O --- FS[Fire Suppression]; P --- EMS[Emergency Medical Services]; P --- Transport;
```

9-8

INCIDENTS OFF AIRPORT PROPERTY

Preplanning of Off Airport Incidents

- Resources
 - Consider downed aircraft in bodies of water or on the roof of a building, special situations may require special resources
 - Resources may include special rescue teams such as the Coast Guard, Heavy Rescue Companies, or even building inspectors
 - Off airport crashes may be in remote or inaccessible areas with no water supply or special equipment may be needed to reach the scene

9-9

INCIDENTS OFF AIRPORT PROPERTY

VDFP General Aviation Firefighting for Structural Firefighters

Preplanning of Off Airport Incidents

- **Scene Safety**
 - Scene safety is everyone's responsibility
 - Many safety items to consider:
 - Approach the scene carefully, do not focus just on the crash site
 - Approach from uphill and upwind
 - Heads up. Look for downed wires, broken tree branches, hanging aircraft parts, or even victims
 - Wear full PPE with SCBA
 - Determine the stability of the aircraft including the landing gear
- Determine whether there are any fuel leaks
- Determine whether the fuel, electrical, and engine systems have been shutdown
- Avoid engines that are operating
- Avoid acid from batteries
- Stay clear of tire sidewalls
- Stay alert for hazardous cargo
- Treat every propeller as if it were turning!
- Have a RIT crew and hose line with foam ready

INCIDENTS OFF AIRPORT PROPERTY

9-10

Preplanning of Off Airport Incidents

- **Specialized Equipment**
 - It is not practical for most fire departments to have a specialized aircraft rescue fire fighting vehicle
 - Aluminized proximity suits are not practical for structural fire fighting
 - If an ARFF unit is located near-by, use them for mutual aid
 - Visit a local ARFF unit to find out what equipment they have and get an idea of how they would handle an off-airport emergency

INCIDENTS OFF AIRPORT PROPERTY

9-11

Group Exercise - Case 1 – Page 165

- The call comes in that a small private airplane has crashed into a house.



INCIDENTS OFF AIRPORT PROPERTY

9-12

VDFP General Aviation Firefighting for Structural Firefighters

Group Exercise - Case 1 – Page 165

- The call comes in that a small private airplane has crashed into a house.
 - Response
 - Size up the scene
 - Upon arrival you find an aircraft has crashed into a two-story, single family house that is well involved in fire.

INCIDENTS OFF AIRPORT PROPERTY

9-13

Group Exercise - Case 1 – Page 165

- Information
 - Time of Day - 13:27
 - Weather Conditions
 - Wind Speed & Direction – Out of the South @ 8 mph
 - Visibility – Overcast
 - Precipitation – Light Rain

INCIDENTS OFF AIRPORT PROPERTY

9-14

Group Exercise - Case 1 – Page 165

- The call comes in that a small private airplane has crashed into a house.
 - Response
 - Establish Scene Safety
 - Establish command
 - Determine Strategic goals
 - Develop a Tactical Plan of Action
 - Determine Required resources
 - Determine a Staging Area
 - Notifications per the Airport/Aircraft Emergency Plan

INCIDENTS OFF AIRPORT PROPERTY

9-15

VDFP General Aviation Firefighting for Structural Firefighters

Group Exercise - Case 1 – Page 168

- The call comes in that a small private airplane has crashed into a house.
 - Conclusion

INCIDENTS OFF AIRPORT PROPERTY

9-16

Case 2 – Page 168

- Aircraft Accidents in the Water
 - Hypothermia is a concern anytime people are in the water colder than their body temperature
 - People need to be moved from the water as soon as possible
 - Safety! Any emergency personnel near the water shall wear an approved personal flotation device (PFD)
 - Ambulance personnel and equipment should be ready to treat any victims

INCIDENTS OFF AIRPORT PROPERTY

9-17

Case 2 – Page 168

- Aircraft Accidents in the Water
 - Floating fuel may be a hazard and create an environmental problem
 - Have a plan in place if your area includes bodies of water in which planes may crash or if bodies of water are near your airport
 - Additional training in water rescue is required for these special operations

INCIDENTS OFF AIRPORT PROPERTY

9-18

VDFP General Aviation Firefighting for Structural Firefighters

Group Exercise - Case 2 – Page 170

- A twin engine, GA aircraft crashed into a large lake. There had been no radio traffic from the pilot indicating a problem. Witnesses who saw the crash reported seeing a ball of fire upon impact

INCIDENTS OFF AIRPORT PROPERTY

9-19

Group Exercise - Case 2 – Page 170

- A twin engine, GA aircraft crashed into a large lake. There had been no radio traffic from the pilot indicating a problem. Witnesses who saw the crash reported seeing a ball of fire upon impact
 - Response
 - Size up the scene
 - On arrival you find a few pieces of the aircraft floating with two of the five occupants holding on to them.

INCIDENTS OFF AIRPORT PROPERTY

9-20

Group Exercise - Case 2 – Page 170

- A twin engine, GA aircraft crashed into a large lake. There had been no radio traffic from the pilot indicating a problem. Witnesses who saw the crash reported seeing a ball of fire upon impact
 - Response
 - Establish Scene Safety
 - Establish command
 - Determine Strategic goals
 - Develop a Tactical Plan of Action
 - Determine Required resources
 - Determine a Staging Area
 - Notifications per the Airport/Aircraft Emergency Plan

INCIDENTS OFF AIRPORT PROPERTY

9-21

VDFP General Aviation Firefighting for Structural Firefighters

Group Exercise - Case 2 – Page 172

- A twin engine, GA aircraft crashed into a large lake. There had been no radio traffic from the pilot indicating a problem. Witnesses who saw the crash reported seeing a ball of fire upon impact
 - Conclusion

INCIDENTS OFF AIRPORT PROPERTY

9-22

Group Exercise - Case 3 – Page 173

- During very foggy day, a small single engine, retractable gear airplane that has four people on board, strikes the top of a high tension power tower. The fire department receives the call of an airplane crash



INCIDENTS OFF AIRPORT PROPERTY

9-23

Group Exercise - Case 3 – Page 173

- During very foggy day, a small single engine, retractable gear airplane that has four people on board, strikes the top of a high tension power tower. The fire department receives the call of an airplane crash
 - Response
 - Size up the scene
 - Upon arrival you find the fuselage in the lines with victims in the wreckage and fuel spilled from ripped wing tanks.

INCIDENTS OFF AIRPORT PROPERTY

9-24

VDFP General Aviation Firefighting for Structural Firefighters

Group Exercise - Case 3 – Page 173

- During very foggy day, a small single engine, retractable gear airplane that has four people on board, strikes the top of a high tension power tower. The fire department receives the call of an airplane crash
 - Response
 - Establish Scene Safety
 - Establish command
 - Determine Strategic goals
 - Develop a Tactical Plan of Action
 - Determine Required resources
 - Determine a Staging Area
 - Notifications per the Airport/Aircraft Emergency Plan

INCIDENTS OFF AIRPORT PROPERTY

9-25

Group Exercise - Case 3 – Page 176

- During very foggy day, a small single engine, retractable gear airplane that has four people on board, strikes the top of a high tension power tower. The fire department receives the call of an airplane crash
 - Conclusion

INCIDENTS OFF AIRPORT PROPERTY

9-26

Evidence Protection

- Firefighters must be trained in the process of evidence protection
- All aircraft incidents should be treated as a crime scene until determined otherwise
- There are only three exceptions to not disturbing or removing aircraft wreckage prior to NTSB taking custody of the scene:
 - To remove injured or trapped victims
 - To protect the wreckage from further damage
 - To protect the public from injury

INCIDENTS OFF AIRPORT PROPERTY

9-27

VDFP General Aviation Firefighting for Structural Firefighters

Summary

- The successful mitigation of an accident involving an aircraft begins long before the incident occurs
- Preplanning, SOPs, and the airport/aircraft emergency plan are some issues that need to be addressed before the call
- The incident commander determines strategic objectives and tactical action plan based on those objectives
- Evidence protection needs to be addressed

9-28

INCIDENTS OFF AIRPORT PROPERTY
