

**Chapter 9
Emergency Procedures**

Table of Contents

General.....	3
Overdue Aircraft	4
Flight Crewmember Duties and Responsibilities.....	5
Emergency Authority	5
Communications and Crew Coordination	6
Emergency Landing or Ditching	7
Fire	8
Survival.....	9
Interception Procedures	11
Post Incident/Accident Procedures.....	13
Interviews/Statements.....	15

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General

This section of the manual outlines basic responses in emergency situations. The procedures listed here are not intended to be exhaustive, as no procedure can be expected to address all possible situations. In any emergency situation, personnel should:

- ⊕ Remain calm.
- ⊕ Think first and work the problem; do not make things worse by guessing. Act immediately only if time is critical.
- ⊕ Seek assistance from all available sources.
- ⊕ Keep other crewmembers and personnel as informed as possible.

WARNING

All Bridgewater State College Aviation personnel are reminded that in any emergency situation, the FIRST AND ONLY PRIORITY IS THE SAFETY AND SURVIVABILITY OF THOSE PERSONS INVOLVED IN THE EMERGENCY.

In-Flight Emergencies

Any situation that requires immediate action to maintain the safety of flight (e.g., in-flight flight control malfunction). Special procedures are executed to address such situations.

An emergency would be classified as either a distress or urgency condition. Distress is a condition of being in need of immediate assistance. An urgency condition is one where the need for resolution is pressing, but not yet immediate.

Medical Emergencies

Except for incapacitation of a member of the flight crew, medical urgencies do not qualify as flight emergencies - safety of flight is not jeopardized. Deviation from applicable FARs is usually not justified. The correct response to a passenger's urgent medical condition (e.g.: heart attack) would be:

- ⊕ Inform ATC or Dispatch of the situation.
- ⊕ Request medical assistance to be available on landing.
- ⊕ Land at the nearest suitable airport.

Immediate Actions

An immediate action is an action that must be accomplished so expeditiously that time is not available for a crewmember to refer to a procedural manual or checklist. Situations that require immediate action could include but not be limited to:

- ⊕ Imminent crewmember incapacitation.
- ⊕ Imminent loss of aircraft control.
- ⊕ Imminent failure or destruction of a system or component that would render continued safety of flight improbable.

Immediate action items are only those actions required to stabilize the situation.

Mandatory Confirmation Items

Certain actions, except immediate action (“Memory”) items, should be confirmed by a second crewmember before the steps are taken. The types of procedural actions and necessary guidance that require these confirmations are outlined in the appropriate Flight Standards Manuals.

First Aid Kits and Fire Extinguishers

Bridgewater State College aircraft are equipped with a First Aid kit and fire extinguisher. Flight crews are responsible for ensuring that both items are aboard and ready for use for all flight events.

If the kit is missing or not operational, notify Dispatch for a replacement.

CAUTION

Tampering with or any unauthorized use of the contents of First Aid kit or fire extinguisher is PROHIBITED.

Overdue Aircraft

Any time an aircraft has not amended its ETA and is more than 30 minutes overdue at its destination, personnel shall address the situation as an emergency. Refer to the Bridgewater State College Dispatch manual for specific handling procedures for these situations.

Flight Crewmember Duties and Responsibilities

Duty Assignments/Emergencies

All flight crews shall remain knowledgeable and proficient in the use of the following emergency equipment and procedures:

- ⊕ Fire Extinguishers (types and location)
- ⊕ First Aid Kits (types, location and contents)
- ⊕ Emergency Exits (aircraft) (type, location, and operation)
- ⊕ Emergency Landing (duties and procedure)
- ⊕ Emergency Evacuation (duties and procedure)
- ⊕ Cabin, Electrical, or Wing Fire (duties and procedures)

Pilot-In-Command

- ⊕ The Pilot-In-Command's primary responsibility is to manage the overall conduct and safety of the flight. The PIC may direct another flight crewmember or passenger(s) to assist, as required.
- ⊕ The PIC shall notify all occupants regarding the emergency, time available, and any special instructions (bracing signal, evacuation plan after touchdown, etc.).
- ⊕ The PIC shall ensure that to the degree practical, the flight crew adheres to appropriate Flight Standards Manual and Emergency Procedures Checklist.

Students and Passengers

In an emergency situation, students and passengers shall:

- ⊕ Assist the Pilot-In-Command and follow instructions.
- ⊕ Secure loose items in flight compartments or discharge them overboard if appropriate.
- ⊕ Assist with evacuation, as required.

Emergency Authority

Pilot-In-Command

The Pilot-In-Command may take any action that he/she deems necessary to meet the conditions of an emergency and ensure the safety of flight. He/she may deviate from published operational procedures and policies, and from appropriate Federal Aviation Regulations, as necessary.

Dispatcher of Other Management Personnel

The Dispatcher or other BSC Aviation personnel may, in emergency situation, take immediate action, advise the Pilot-In-Command, and have the decision recorded. If communication with the Pilot-In-Command is not possible, the appropriate personnel shall declare an emergency and take any action deemed necessary to ensure the safety of the operation.

Reporting

For any situation where emergency authority is exercised, the Pilot-In-Command, Dispatcher, or appropriate management personnel shall keep the appropriate ATC facility fully informed of the progress and status of the flight. If a safe outcome requires deviation from the FARs, and if requested to do so by the FAA, the individual declaring the emergency shall:

- ⊕ Submit a written report to the Chief Flight Instructor within 2 days following the event.
- ⊕ Review the report with the Chief Flight Instructor to ensure accuracy and completeness.
- ⊕ Verify with the Chief Flight Instructor that the final report is submitted to the FAA within 10 days after the event.

Communications and Crew Coordination

Flight Crews

Bridgewater State College flight crews shall, to the degree possible, keep all occupants informed regarding the status of emergency situations. Teamwork is essential for providing the highest level of safety for the occupants and the aircraft.

Communication with ATC/Dispatch

The Pilot-In-Command shall, to the degree possible, ensure that ATC and Bridgewater State College Dispatch are kept informed of the emergency situation. ATC shall be kept apprised of the progress of the flight. Bridgewater State College Dispatch, time and workload permitting, shall be contacted as soon as practicable. The Pilot-In-Command shall contact Dispatch and the Chief Flight Instructor as soon as practicable after landing.

Lost Communication

If a flight crew loses voice communication with ATC, squawk 7600. Attempt alternative methods of re-establishing communication with ATC, including FSS, use of VOR frequency to receive instructions, or any other method deemed appropriate for the situation.

- ⊕ **VFR** – Flight crews shall land as soon as practicable at a suitable airport. Be alert for other traffic, and utilize light gun signals per 14 CFR 91.125 if possible (controlled airport).
- ⊕ **IFR** – Flight crews shall adhere to route, altitude, and clearance limit provisions of 14 CFR 91.185 and the Aeronautical Information Manual. Bridgewater State College flight crews operating in the IFR environment shall be familiar with these procedures.

CAUTION

In an emergency situation where normal communications are lost, flight crewmembers must rely on their own good judgment to conduct aircraft preparations and procedures as necessary.

Emergency Landing or Ditching

Crew Duties and Coordination

In the event of an emergency landing or planned ditching maneuver, Bridgewater State College flight crews shall adhere to the procedures provided in the appropriate Flight Standards Manual for the aircraft being flown. The PIC shall be responsible for coordinating preparations and establishing aircraft evacuation procedures.

WARNING

“The use of power in ditching is so important that when it is certain that the coast cannot be reached, the pilot should, if possible, ditch before fuel is exhausted.”

AIM 6-3-3 Ditching Procedures

WARNING

All BSC instructors and students are reminded that in a situation where a forced landing is deemed the only available option, the FIRST AND ONLY PRIORITY IS THE SAFETY AND SURVIVABILITY OF THE OCCUPANTS.

Emergency Evacuation Commands and Crewmember Duties

In any emergency situation where the possibility exists for evacuation of the aircraft, the following commands will normally be used. Commands should be delivered in a calm but authoritative and clearly audible manner:

- ⊕ The Pilot-In-Command shall coordinate and supervise the evacuation of the aircraft *after it has come to a complete stop*. The PIC shall initiate the evacuation by calling “Evacuate.”
- ⊕ In a situation where the Pilot-In-Command does not want the aircraft evacuated after the aircraft has come to a complete stop, he/she will state “Remain seated.”

An un-commanded evacuation may occur under the following circumstances:

- ⊕ Pilot-In-Command is unable to provide instructions.
- ⊕ Threatening fire or smoke.
- ⊕ Severe structural damage.

Crewmember Duties

Flight crewmembers must keep a level head, and be prepared to improvise when necessary. All situations are different. Crewmembers must work to develop and maintain a positive mental attitude, both for their own benefit and for their passengers. In the event of an emergency evacuation, flight crewmembers shall:

- ⊕ Complete passenger evacuation and verify aircraft is empty.
- ⊕ Gather any emergency equipment that could be needed outside the aircraft (e.g.: fire extinguisher, first aid kit, personal survival gear).
- ⊕ In a ditching, gather in a close circle and join arms in the water. If the aircraft remains afloat, stay in close proximity but avoid contact, as the aircraft will likely eventually sink. Attempt to keep as much of the body out of the water as possible.
- ⊕ Assemble all occupants together a safe distance from the aircraft.
- ⊕ Determine each passenger's and crewmember's physical condition and administer first aid as necessary.
- ⊕ Remain calm. Recognize that personnel (including the PIC) might be in shock. Each occupant should check his/her own physical condition, if possible.
- ⊕ Do NOT allow anyone to re-enter the aircraft.
- ⊕ Consider removing the Emergency Locator Transmitter (ELT).
- ⊕ Avoid the temptation to self-incriminate shortly after an accident, rather than address immediate needs of the situation. The first priority is to complete required duties and ensure the safety and survivability of involved persons. Reflection on the situation can take place after the immediate needs have been addressed.

Fire

Initiate and follow the procedures indicated in the appropriate aircraft Emergency Procedures Checklist and/or Flight Standards Manual.

Fire Hazards

Avoid loading hazardous or flammable materials (including personal items) on the aircraft.

Fire on the Ramp

For a fire in or outside the aircraft parked on the ramp:

- ⊕ Immediately notify other personnel who are in or near the affected aircraft.
- ⊕ If the aircraft engine is running, shut down the aircraft. Evacuate the aircraft on the side opposite the fire if the fire is outside the aircraft, if available.
- ⊕ Direct occupants away from the fire area to nearby shelter or a clear area on the ramp.
- ⊕ Contact the airport fire fighting agency by any means available.

Survival

Any time an aircraft is overdue, missing or sends a radio distress call, the National Search and Rescue Plan is activated. The U.S. Coast Guard is responsible for all maritime rescues and the U.S. Air Force is responsible for inland rescues.

Survival often depends on the ability to overcome stress, provide effective leadership, and function effectively as individuals and as a team. A key factor in survival is the individual will to live – this has often been the deciding element in reported successful survival incidents.

Rescue procedures can take anywhere from hours to days. Aircraft occupants may be required to survive in the elements with minimal resources. Whenever away from the aircraft, follow these survival guidelines:

General Survival Guidelines

- ⊕ Stay near the aircraft and organize the group. Account for all personnel.
- ⊕ Assess and address physical injuries in order of severity.
- ⊕ Delegate and assign specific duties such as collecting food, gathering firewood, looking for a water supply, looking for shelter, and designating a sanitation area. Use aircraft resources for shelter, if possible.
- ⊕ Inventory all usable emergency equipment.
- ⊕ Organize signaling devices. Include ELT or fires.
- ⊕ Locating or creating a viable water source is a high priority. The human body can only function at limited capacity without it, and will succumb to dehydration within 2 – 3 days (though the person will likely be unable to function for a portion of that time as the body becomes more dehydrated).
- ⊕ Establish procedures to ration food and water.
 - Do not drink water from a fire extinguisher (it contains antifreeze).
 - When searching for water, consider collecting dew off the aircraft or local plant life. Also keep in mind that animal trails may lead to water.
 - Purify water before consumption by boiling (5 minutes, minimum) or by other methods, if available.
 - If possible, consume water about the same temperature as your body.
 - Do NOT eat snow, as it lowers the body's core temperature.
 - Drink plenty of fluids, even if you don't feel thirsty. Thirst is the body's physical alert that fluid is necessary and that it should be getting them sooner.
- ⊕ Build a fire:
 - Fire provides light, warmth, protection from wildlife, and a signal to overflying search and rescue aircraft.
 - Position materials to be burned so that plenty of oxygen can feed the fire. For warming purposes, several small fires are more effective than one large fire.
 - Use to boil water for purification.

In cold weather conditions:

- ⊕ Keep the head and extremities covered, if possible.
- ⊕ Huddle together for warmth.
- ⊕ Be alert for hypothermia.
- ⊕ Avoid overexertion. Perspiration inside the clothing lowers effective insulation and core body temperature. Loosen tight clothing to maintain good circulation and breathability.

In hot weather conditions:

- ⊕ Remain in shade. Stay under shelter during the day. In a sandy environment, scrape away at least 6 in. of sand to take advantage of cooler ground temperatures.
- ⊕ Limit physical activity to the degree possible, and work at night, if possible.
- ⊕ Wear clothing to retain sweat. Keep head, body and back of neck covered.
- ⊕ Be alert for heat-related illnesses, including mental effects that impact judgment and can lead to poor decision making, which can decrease the likelihood of survival.

Interception Procedures

General

This section of the manual references the FAA Aeronautical Information Manual, Chapter 5, Section 6. Identification intercepts during peacetime operations are vastly different than those conducted under increased states of readiness. Unless otherwise directed by the control agency, intercepted aircraft will be identified by type only. When specific information is required (e.g.: markings, numbers) the interceptor aircrew will respond only if the request can be conducted in a safe manner. During hours of darkness or Instrument Meteorological Conditions (IMC), identification of unknown aircraft will be by type only. The interception pattern described below is the typical peacetime method used by air interceptor aircrews. In all situations, the interceptor aircrew will use caution to avoid startling the intercepted aircrew.

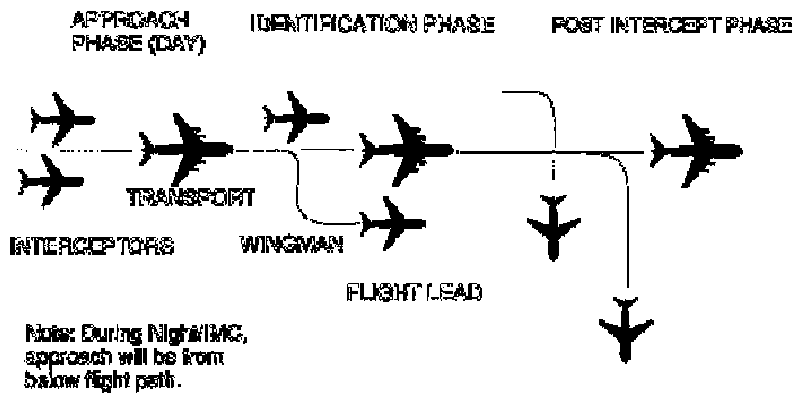
Intercept Phases

Phase One - Approach Phase: During peacetime, intercepted aircraft will be approached from the stern. Generally two interceptor aircraft will be employed to accomplish the identification. In night or IMC, the aircraft will maintain a radar trail tactic, and maintain safe vertical separation.

Phase Two - Identification Phase: The intercepted aircraft should expect to visually acquire the lead interceptor and possibly the wingman during this phase in Visual Meteorological Conditions (VMC). The interceptor may close with the intercepted aircraft to obtain necessary identification information, but will take every possible precaution to avoid startling intercepted aircrew or passengers. When interceptor crews know or believe that an unsafe condition exists, the identification phase will be terminated. In night or IMC, the intercepted aircraft will be identified by type only, with interceptors maintaining safe separation.

Phase Three - Post Intercept Phase: Upon identification phase completion, the flight leader will turn away from the intercepted aircraft. The wingman will remain well clear and accomplish a rejoin with the leader.

**INTERCEPTION PATTERNS
FOR IDENTIFICATION OF
INTERCEPTED AIRCRAFT
(TYPICAL)**



CAUTION

Bridgewater State College flight crews are expected to familiarize themselves with the FAA-published Interception Signals available in the AIM, Chapter 5, Section 6 – 4.

Communication

In any intercept situation, flight safety is paramount. Any BSC aircraft that is intercepted by another aircraft shall immediately:

- ⊕ Follow the instructions as provided by the intercepting aircraft, interpreting and responding to the visual signals.
- ⊕ Attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity and position of the aircraft and the nature of the flight.
- ⊕ Notify the appropriate air traffic services unit, if possible.
- ⊕ If equipped with a transponder, select Code 7700, unless otherwise instructed by the appropriate air traffic services unit. *Request immediate clarification* if any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual or radio signals, and continue to comply with the instructions provided by the intercepting aircraft.

Post Incident/Accident Procedures

The following remaining pages in this section of the manual constitute the Post Incident/Accident list – they can be removed from the manual and used as a procedural guide when Bridgewater State College flight crews and personnel are dealing with an incident/accident.

Before Leaving the Aircraft

The Pilot-In-Command or the next crewmember (senior student or passenger) is in charge until a management appointed College official relieves him/her from responsibility.

<p style="text-align: center;">NOTE</p>
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The PIC shall not relinquish responsibility for an incident/accident process to any person until that individual positively identifies, by approved photo identification, that he/she is a qualified representative of Bridgewater State College, the FAA, NTSB, or local/state/federal law enforcement office.

The Pilot-in-Command shall:

- ⊕ Notify Dispatch as soon as practical. Do not assume tower will notify Dispatch.
- ⊕ To the extent practical, remove emergency/medical equipment and other appropriate equipment.
- ⊕ Remove the aircraft's can, flight plan, weather, flight release, and any other relevant information or notes.

Before Leaving the Scene

The Pilot-In-Command shall:

- ⊕ Ensure the welfare of the student and/or passengers.
- ⊕ Remain at the location of the incident or accident.
- ⊕ Congregate a safe distance away from the aircraft (100 yards is recommended).
- ⊕ Attempt to ascertain the location and status of all occupants.
- ⊕ Determine each occupant's physical condition and seek medical attention, if required.
- ⊕ Safeguard the aircraft and its contents, if able, to include:
 - Protecting the area from trespassing and pilfering.
 - Ensuring no smoking in the area.
 - Obtaining assistance from airport and law enforcement officials to ensure evidence is not lost due to unnecessary interference with the wreckage.
- ⊕ Per NTSB 830 requirements, do not disturb or move the aircraft or wreckage. Do not remove from the scene any records involved in or pertaining to an incident or accident, unless granted permission by an authorized representative of the NTSB. Exceptions may be made to protect the aircraft or wreckage from further damage, or protect the public from injury.

- ⊕ Accumulate and protect flight data.
- ⊕ Collect all possible data and information as soon as possible after the accident or incident, emphasizing conditions that might be subject to change or be destroyed in the course of the recovery effort.
- ⊕ Observe and record any perishable information that might relate to the accident or incident. This information might include, but not be limited to:
 - Indication of ice on the control surfaces.
 - Diagrams of the accident site.
 - Location and diagrams of significant tracks or marks on the ground or in the snow. Measurements may be required.
 - Signs of bird strikes (feathers, flesh, etc.) on the windshield, wings, stabilizer, fuselage, intakes, engines, etc.
 - Names, addresses, telephone numbers and an outline of available facts from any witnesses, and/or the student or passenger(s).
- ⊕ Coordinate the departure from the scene with Bridgewater State College management.
- ⊕ Bridgewater State College Aviation management personnel will coordinate all contact with regulatory authorities after the crew has departed the scene of the accident.

CAUTION

Flight crews involved in an accident or incident have just endured a significant psychological trauma, and are to avoid providing interviews or answering questions from the media. All media contacts will be handled by the College.

CAUTION

Any BSC flight crewmember involved in an aircraft incident or accident must obtain authorization from the Chief Flight Instructor or his/her designee prior to initiating or continuing any further flight in a BSC aircraft.

Interviews / Statements

News Media

Do not make any statements to either the public or press in relation to the incident/accident.
Refer all questions to:

Bridgewater State College Inc.
131 Summer Street
Bridgewater, MA 02325
(508) 531-1000

CAUTION

The following reporting procedure is to be strictly followed. This will ensure that all involved parties (FAA, NTSB, Law Enforcement, etc.) receive only a single complete, factually accurate, and properly articulated initial report of the incident/accident.

U.S. Government Authorities

- ⊕ Bridgewater State College pilots are entitled to appropriate representation during any post-incident/accident interview with either the NTSB or the FAA.
- ⊖ NO Bridgewater State College pilot should make *any* verbal statements or permit themselves to be interviewed until representation is available from Aviation Operations management.
- ⊕ All pilot statements must be submitted to the Chief Flight Instructor, who will in turn supply copies to the FAA.
- ⊖ Bridgewater State College pilots shall comply with reasonable requests from regulatory authorities, law enforcement officials, or NTSB investigators. Present the following for inspection, but do not relinquish:
 - Pilot Certificate
 - Medical Certificate
 - Flight documents
 - Aircraft documents (e.g.: log book, airworthiness certificate)
- ⊕ Bridgewater State College Aviation management will coordinate the delivery of all pertinent documents to the regulatory authorities, law enforcement officials, or NTSB investigators.

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