Circle of Safety

consumer safety education

AIR CARRIERS, PASSENGERS, PILOTS, FAA

TRAIN THE TRAVELER GUIDE

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Circle of Safety

TRAIN THE TRAVELER HANDBOOK

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SECTION 1
INTRODUCTION

Flying in rural Alaska can be challenging. It also has an element of risk that can be deadly if not properly managed. The National Transportation Safety Board (NTSB) has long charged that one of the main factors contributing to the high fatality rate is Alaskans' acceptance of risk and the apparent willingness to take risks when flying.

It is the responsibility of the air carrier and pilot to assess the risks for each flight. Federal Aviation Regulations (FARs) establish standards for pilots and companies that minimize risks. The agency considers passengers as having some responsibility for prevention of aviation accidents. The customer is one of several participants in what we call the Circle of Safety. FAA's Alaskan Region is launching a consumer education program entitled the ***Circle of Safety*** to train passengers in exercising their rights and responsibilities when it comes to air travel.

COURSE OBJECTIVE

As the Trainer for your organization, your role is to train your personnel to be alert to safety issues. This handbook provides some tools for doing the job. Upon completion of this course students should be able to identify hazards and risks inherent in rural travel. Passengers will understand rights and responsibilities when they travel. Passengers will understand the concept of basic risk assessment and management based on the elements in this handbook.

ICEBREAKER

Everyone who travels by air in Alaska has stories. Use this opportunity to engage audience members by asking them to recount some of their personal experiences while flying in rural Alaska. Ask them what they may have asked the pilot or what actions they could have taken to change the outcome of the flight. During a typical lecture, most people are simply passive observers and therefore retain very little of what is presented. People learn the most when they are actively engaged in the learning process.

Whiteout conditions. Photo: Ellen Paneok

STUDENT EVALUATION

There will be a short quiz at the end of this course.

SECTION 2
PASSENGER RIGHTS AND RESPONSIBILITIES

OVERVIEW
The purpose of this lesson is to introduce students to the concept that they have the right to expect professional service when traveling in Alaska. Students will be able to recognize the risks involved with flying in rural Alaska. Students will be able to minimize these risks by being a responsible traveler.

OBJECTIVES
On completing this lesson, students will be able to identify and explain passenger rights and responsibilities.


Loading Baggage into a Cessna 207. Photo: Ellen Paneok

MATERIALS
Passenger Rights and Responsibilities Cards

SCENARIO
"Joe Passenger" is going to travel today. His company made arrangements with the local carrier and he heads to the airport. Inside the terminal Joe looks out the window and watches the pilot loading the airplane. The pilot looks harried as he throws things in the cargo area. The tail of the airplane looks like it is about to touch the ground. The pilot throws one more item into the baggage area and the tail hits the ground. Joe starts to feel uncomfortable about the flight. The pilot comes in and curtly says, "Come on, let's go before the weather closes in." Startled, Joe asks the pilot, "Is the weather bad where we are going?" As the pilot hurries to the plane he says, "I don't know, we'll see when we get there." The tail of the airplane is still sitting on the ground and Joe is hesitant to ask the pilot any more questions because of his attitude. He squeezes Joe into the front seat and spouts off the passenger briefing so fast Joe can hardly

understand what the pilot is saying. His gut feeling says that this flight is not right. The pilot stares straight ahead and revs up the engine to get the tail off the ground and he taxis to the runway. The pilot acts as if this is a normal occurrence. So Joe thinks it must be right.

INSTRUCTION

Scenarios like the one above should not happen, but they can. Explain to the students that it is important that they take an active part in supporting safety by exercising their rights to a safe flight. Joe was anxious but felt that he could not change the outcome of the flight. He felt that he could not voice his concerns because of the pilot's attitude. He probably felt that the pilot knew what he was doing, so didn't question him.

Acknowledge to your students that these questions will not come naturally to most people. They will have to break longstanding habits, such as going back to very early training to not talk to the school bus driver. They may feel that they can't take up everyone's time, appear stupid or feel that they are at risk of being the target of belligerence. Living up to the ***Circle of Safety*** requirements, such as asking questions of an authority figure such as the pilot is intimidating. It could be much harder if that authority figure happens to be a long-time friend or relative, a common enough scenario in villages. Also alert your students to possible cultural differences. Discuss ways to ask questions that are non-confrontational.

In the scenario above Joe Passenger asked the pilot if the weather was bad where they were going. Because the pilot was perceived as an authority figure and not open to any discussion, Joe felt he could not ask any more questions. Have one of your students act as Joe. Have your other students give "Joe" suggestions as to how he can ask further questions of the pilot, instead of allowing the pilot to brush him off.

The questions must not be asked in an antagonistic manner, such as, "What do you mean you don't know what the weather is? Aren't you supposed to know?"

The goal for Joe is to get the pilot to slow down long enough to ask these questions. Joe is the paying customer; he has a right to ask questions about the safety of this flight.

So that scenarios like this do not occur explain to your students that they have the right to ask the pilot questions pertaining to the flight, such as:

- Have you obtained a weather forecast for this flight?
- Will this flight be done visually or on instruments?
- Have you checked the weight and balance of the airplane?
- Have you checked the performance of the airplane for the airstrips concerned?
- Are you fully licensed, rated and current for this flight?

Discuss the following points with your students:

- They have rights to a safe flight and should ask questions to clarify issues about the flight. Joe should ask about the tail falling onto the ground and why the pilot is allowing that to happen. Does that mean that the airplane's cargo is not balanced?
- Do NOT assume that everything is all right. Joe had a gut feeling that the flight didn't feel right. He should ask the pilot to be more specific about the weather.

Also explain to your students that they have the right to a thorough passenger briefing. The items listed below should be addressed:

1. Location of the Emergency Locator Transmitter and survival equipment.
2. Emergency exit locations and operation of exits.
3. Use of the seatbelts.
4. Location and use of the fire extinguisher.
5. Smoking.
6. Use of Oxygen (if required).
7. Use of flotation devices (if required)

SCENARIO

There is a story about two moose hunters who are very successful on their hunt. They both get big bull moose and are very proud. A floatplane is scheduled to pick them up and they wait on the lakeshore for their ride. They have a mountain of gear, moose meat and antlers waiting beside them. The plane lands and taxis to shore. The pilot hops out, takes one look at all their gear and says, "I can't take all that in one trip, I'll have to take several loads." Both hunters insist that they could not afford to pay for extra trips. They tell the pilot, "Well, the carrier that picked us up last year took the same amount of gear!" The pilot reluctantly loads up the plane and they all get in. The pilot attempts a takeoff and makes it into the air but the airplane can't keep flying and they crash on the tundra. They all get out of the plane and the hunters say, "Hey, this pilot made it further than the last one did!"

INSTRUCTION

Tell your students these hunters pressured the pilot to please them. Remind your students that these hunters were not proactive about safety. They could have been injured or killed in the ensuing crash. Luck was on their side. The moose-hunting story provides many chances for your students to see how a series of poor decisions can snowball into an accident. Ask your students to think about missed chances to make a safe decision.

Tell your students they should be proactive about safety than the hunters in this story. They can do this through their own actions by:

- Not asking the pilot to overload the airplane.
- Paying attention to the pilot when he gives the passenger briefing.
- Telling the pilot that he or she can fly at another time if the weather is questionable. They should NOT ask the pilot to fly into weather she considers unsafe or against regulation.
- Accepting the air carrier's decisions to delay or cancel flights due to weather.
- Not asking the pilot to fly beyond allowable duty time limits. Be alert to pilot fatigue. When humans get tired they can make mistakes.
- Dressing properly for a flight according to the weather, in case of an unplanned landing.
- Not asking the pilot to fly below 500 feet except for takeoff and landing.
- Not asking the pilot to land at an airstrip that is less than the length required by the aircraft.

IMPORTANT

Remind your students that pilots are human and can make mistakes. If passengers have any questions about the flight, they need to be proactive and ask. For instance, if the she looks tired or harried, a passenger can politely ask if she's okay. The pilot may be tired but rather than disappoint passengers will reluctantly make that flight.

SURVIVAL AWARENESS

Remind your students they are traveling in a potentially harsh environment. Although an air carrier may provide minimal survival gear, passengers should carry some basic survival items on their person. They may be the only survival equipment available in the event of an unplanned landing. (A survival information handout is made available to guide you).

PASSENGER RIGHTS AND RESPONSIBILITIES
The *"Circle of Safety"* includes YOU, the passenger

For your own safety

DO:

- **Keep your seatbelt/shoulder harness BUCKLED at all times.**
- **Listen to and follow the pilot's briefing and instructions.**
- **Dress properly. Wear warm clothing as appropriate.**
- **Give your flight route, destination and timeline to a reliable family member or friend.**
- **Follow the pilot's instructions in the event of an emergency.**
- **READ the passenger briefing card.**
- **Make mental note of the emergency exit locations and make sure you know how to open them.**
- **Know where the fire extinguishers, Emergency Locator Transmitters (ELTs), first aid kits and other survival equipment are located.**
- **Ask the Pilot questions if you are uncomfortable about the weather, aircraft conditions, etc.**
- **Question the pilot if the aircraft looks overloaded or unsafe.**

Don't:

- **Pressure the pilot to fly when he/she says the weather is too bad, NO reason is worth risking your life or the life of others.**
- **Pressure the pilot to carry a payload beyond the weight and balance limitations of the aircraft.**
- **Distract or disturb the pilot during critical times such as take-off and landing.**

SECTION 3
HUMAN FACTORS

OVERVIEW
The purpose of this lesson is to introduce students to human factors involved in accidents. Human beings by their very nature can make mistakes. No one sets out to have an accident. Human factors play significant roles in more accidents than do mechanical failures. Tell your students that these factors can build up and cause accidents, for example: outside pressures, poor communications, fatigue, stress, confusion and boredom. Both pilots and passengers can experience these factors.

OBJECTIVE
On completion of this lesson students will have an understanding of human factors and how they affect ability to assess risk.

DEFINITION
HUMAN FAILURE FACTOR
A factor attributed to aircraft accidents. Contributory factors are unprofessional attitudes or behavior, visual perception misjudgment, pilot technique, in-flight judgment or decision, improper operation of equipment, unknown factors

SCENARIO
"John Pilot" had flown several trips throughout the day and he was getting frustrated. He had a maintenance problem that delayed him. All day passengers had shown up late making his day even longer. When he thought he was done for the day, his chief pilot asked him to make one more flight. John reluctantly took the flight, even though he was tired. At dusk he got to the village to pick up the passenger. The passenger had called the company demanding that he be picked up; there was no place to stay in the village. John waited at the airplane for him. He was frustrated and worried and he kept watching the skies. The weather started to move in. The passenger finally showed up 20 minutes later. John boarded him and they were on their way. John was nervous because it was dark and the airstrip was not lighted. He felt he had no choice but to depart. They departed for home base and crashed due to the weather conditions.

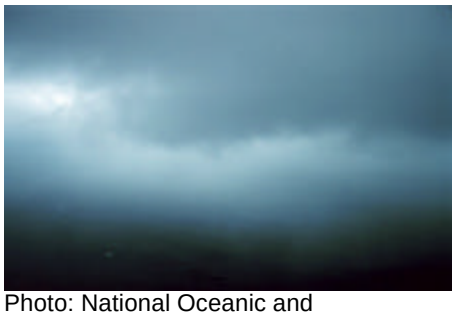

Photo: National Oceanic and Atmospheric Administration (NOAA)

INSTRUCTION
John Pilot had a long day, with many delays and problems. He was tired and felt resigned to take that last flight. He felt he had no choice. Any one of these events may

not have caused a crash if it happened by itself. Instead all these little things added up and became a chain of events that ended up in a crash.

Make your students aware of these human factors involved with flying. Pilots place demands on themselves to "get the job done." They want to please passengers and complete a commercial flight. The pilot may overload the aircraft because he or she doesn't want to make another flight. Pilots also feel peer pressure to fly; which makes them want to finish the mission. Passengers shop around for an air carrier who will fly in bad weather. If one carrier won't fly, they will shop until they find one who will. This causes economic pressure and competition among the carriers and adds more pressure for them to fly. These pressures increase the risks already involved with flying in a harsh environment.

Offloading cargo from a Cessna 207. Photo: Ellen Paneok

SECTION 4
WEATHER- WHEN CAN YOU FLY?

OVERVIEW
Weather is always a critical topic when discussing aviation safety. Weather affects flight schedules in rural Alaska where the airplane is the only source of transportation.

OBJECTIVE
Students will have knowledge of what limitations air carriers and pilots have concerning weather.

INSTRUCTION
Explain to your students when single engine airplanes are used for air carrier flights the pilot must have 2 miles forward visibility if the cloud ceiling is less than 1000 feet (Federal Regulation Part 135.205 VFR: Visibility requirements). However, the minimum altitude a pilot can fly is 500 feet above the ground (Federal Regulation Part 135.203 VFR: Minimum altitudes). The FAA has approved certain single engine aircraft to fly IFR such as the Cessna Caravan, however these aircraft require additional equipment for that certification. Give them an example of how a person on the ground might estimate whether there is sufficient clear visibility:

> *If they are at an airport that has a 3000-foot runway; they must be able to see roughly three times the length of that runway.*

For an exercise, have your students go outside and estimate the distances from where they stand by looking at various structures or objects.

FAA weather camera clear day image of Anaktuvuk Pass.
Image on the left shows poor weather.

Inform your students that because multi-engine aircraft are equipped with various instrumentation and navigational equipment that allows pilots to fly in the clouds, the visibility requirements are less than for VFR flights. The visibility requirements vary with each airport and weather conditions. It is important to tell your students that if pilots are flying in those conditions they must be under Instrument Flight Rules (IFR). Pilots must be trained and licensed to fly under these conditions.


Piper Navajo instrument panel for flying in the clouds.

Frost and Ice

The students need to know that if they see ice on an airplane and they are in doubt about how it will affect their flight, they need to ask the pilot. Explain how ice affects the performance of the aircraft. The aircraft pictured below would not be acceptable for flying.


Snow and frost on an aircraft. Photo: Ellen Paneok

Extreme Cold

Alaskans can sometimes take the weather for granted. Remind your students to dress appropriately and to anticipate cold, wet conditions in the event of an unplanned landing. What they wear and have in their backpack may be the difference in survival.

IMPORTANT

Stress to your students that they have a right to safe flight. If they have concerns about the weather, they should discuss the issue with the pilot before departure. Stress to them that they can ask questions (refer to Section 2, Passenger Rights and Responsibilities).

Circle of Safety
SECTION 5
REPORTING PROCEDURES

OBJECTIVE
This section will teach students how to identify possible unsafe aviation practices and how to report them.

SCENARIO
A chaperone is on a flight with school children for an event in another community. The flight is uneventful and the students are chattering away in the back. As the aircraft nears the destination and the pilot prepares to land, the engine quits. The plane drops close to the trees and the children start screaming. The chaperone grabs the edges of the chair. She sees the pilot reaching for all kinds of buttons and switching levers. Just when the chaperone thinks the airplane is going to crash into the trees the engine suddenly starts up again. Her heart starts beating again with relief. The pilot lands the airplane and the children scramble out of the plane and they are crying. The chaperone asks the pilot what happened, thinking that they just escaped a deadly crash. The pilot simply states, "Oh, I just accidentally ran one of the gas tanks dry and had to switch them over, no big deal."

INSTRUCTION
If things appear to be unsafe, such as the scenario above, passengers should make any such concerns known to the pilot and should report the event to the Aviation Coordinator. More examples: they perceive an unsafe aviation practice such as a near accident on landing, obviously poor visibility or an obviously overloaded airplane. Passengers might also see a possible mechanical problem, such as oil dripping out of the engine cowling or a low landing gear tire.

Discuss the issue of questioning an authority figure such as a pilot. Explain that how one asks a question can make the difference how the pilot responds. By alerting a pilot to the concern, the passenger opens a discussion about safety and what they consider acceptable service. If the situation is not remedied, your employees should refuse the flight and report the problem. They should be instructed to contact the Aviation Coordinator. Instruct them how to fill out Section A of the Aviation Event Reporting Form and submit it to the Coordinator.

A sample is provided on page 13.

Circle of Safety
Safety Report
Sample
SECTION A

Date of event: *DAY/MONTH/YEAR*

Time of event: *10:00 AM*

Location of event: *ACME AIRPORT, ACME VILLAGE*

Air Carrier Involved: *FLYAWAY AIRLINES*

Description of the Event:
MY STUDENTS AND I WERE ON A FLIGHT BETWEEN HOMETOWN AND ACME. WE WERE CLOSE TO THE AIRPORT AT ACME WHEN THE ENGINE DIED. THE PILOT PRESSED A BUNCH OF LEVERS AND SWITCHES, THEN THE ENGINE CAME BACK ON. I THOUGHT WE HAD A REAL BAD PROBLEM AND WHEN WE LANDED I ASKED THE PILOT ABOUT IT. HE JUST SAID THAT HE RAN ONE GAS TANK DRY AND THAT IT WAS NO BIG DEAL. MY KIDS AND I WERE REAL SCARED.

MRS.CHAPERONE	*MONTH/DAY/YEAR*	*123-456-7890*
Signature of Person Reporting Event	Date	Contact Phone Number

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SECTION B

Corrective Action Taken:
I CONTACTED THE FLIGHT STANDARDS OFFICE TO SEE IF ANY OTHER ACTION SHOULD BE TAKEN. **(The Coordinator will take all information and inquire to an FAA Aviation Safety Inspector whether there is a safety issue involved.)**

JOHN DOE	*MONTH/DAY/YEAR*	*098-765-4321*
Signature of Aviation Coordinator	Date	Contact Phone Number

SECTION 6
TEST QUESTIONS

1. What is the ***Circle of Safety***?

The Circle of Safety is a FAA consumer education program that encourages airline passengers to exercise both their rights and responsibilities in aviation. It calls on passengers to minimize their exposure to risk be being alert to weather conditions, pilot behavior and the condition of the aircraft.

2. Can single engine aircraft fly legally in the clouds?

No (The Cessna Caravan is the only single engine aircraft that can fly in the clouds).

3. What is the minimum visibility for a single engine aircraft flight?

Two miles if the cloud ceiling is less than 1000 feet (Federal Regulation Part 135.205 VFR: Visibility requirements). However, the minimum altitude a pilot can fly is 500 feet above the ground (Federal Regulation Part 135.203 VFR: Minimum altitudes).

4. What are some human factors that can build up and cause accidents?

Peer pressures, bad communications, fatigue, stress, confusion and boredom. Both pilots and passengers can experience this (Section 3, Human Factors).

5. Who would you report a possible unsafe event to?

The Aviation Coordinator for your organization.

6. Name three responsibilities that passengers have in the ***Circle of Safety***.

Section 2.

a. **Pay attention to the pilot during the preflight briefing.**
b. **Tell the pilot that you can fly at another time if the weather is questionable. You should NOT ask the pilot to fly into unsafe weather.**
c. **Accept the air carrier's decision to delay or cancel a flight due to weather.**
d. **Do not ask the pilot to overload the aircraft.**
e. **Be alert to pilot fatigue. Be aware that the pilot has flight and duty time limitations. The pilot may have already flown many flights.**
f. **Dress properly for a flight according to the weather, in the event of an unplanned landing (See the survival handout in Appendix B).**
g. **Do not ask the pilot to fly below 500 feet.**
h. **Do not ask the pilot to land at an airstrip that is less than the length required by the aircraft.**
i. **Remember that pilots are human and can make mistakes; if you have a question about the flight, ask it.**

APPENDIX A
SURVIVAL INFORMATION

Alaska State law requires that no pilot may make a flight in Alaska without carrying emergency equipment. This equipment includes:

- Food for each person in the aircraft sufficient to maintain life for two weeks
- One hatchet or ax
- One first aid kit
- One knife
- Two small boxes of matches
- One mosquito headnet for each person
- Two small signaling devices, such as colored smoke bombs, signal mirrors, railroad flares, or "Very" pistol shells stored in sealed metal containers

In addition of the above, the following items are required for winter travel, October through April:

- One pair snowshoes
- One sleeping bag
- One woolen blanket for each person

Although an air carrier may provide minimal survival gear when traveling in rural Alaska many people choose to wear a survival kit on their person. This can be accomplished by wearing a "fanny pack" or a fishing vest with multiple pockets in which to place survival items. This personal kit should cover the necessary basics such as fire starting materials, shelter, water procurement, signaling devices and medical items. Many people pack the following in their personal kits:

- Waterproof matches
- Candle
- Space blanket (shelter, windbreak, ground cover, cape)
- Small mirror (for signaling airplanes)
- Compass
- Hard candy or bullion cubes
- Combined fishing and sewing kit
- Ball of string
- Whistle (for signaling)
- Insect repellent

The above may be the only survival equipment available in the event of an unplanned landing. This will ensure that the barest minimums for survival will be met if a rapid egress from the aircraft is necessary, and its survival kit cannot be retrieved.

At any one time one can be put at the mercy of Mother Nature relying solely on instinct, experience, and the will to survive. Those who give up do not survive. Victims need good coping mechanisms and a positive attitude. In a forced landing situation victims do not get to select their survival environment, terrain or climate. One must learn to adapt, be flexible and above all be prepared.