

ELMENDORF AERO CLUB WINTER OPERATIONS SYLLABUS

cao 24 Nov 2021

This syllabus is intended as a departure point for discussion with Elmendorf Aero Club members and, as such, is not all-inclusive. Care should be taken to apprise club members of the challenges, risks and benefits in flying during the winter months in Alaska. This briefing will be conducted no later than 30 September annually IAW Aero Club SOP para 3.30, and will be documented in the member's ADP account as any other safety briefing. As a minimum, review the following:

- **3.12 Survival & Survival Gear (AK and Aero Club Requirements)**
- **3.23 Airfields**
- **3.26 Runway Condition Reading (RCR)**
- **3.27.1 Airfield Condition**
- **3.30.1 Winter Engine Care (October – April)**
- **3.30.2 Winter Parking Outside of Hangar (October – April)**
- **3.30.3 Winter Hangar Parking (October - April)**
- **3.31 Hangar Door Ops**
- **3.5 Icing**
- **3.7 Surface Winds and Temperatures**
- **3.38.2 Severe Weather**

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All numbering in this handout refers to paragraphs in the Aero Club SOP.

3.12 Survival & Survival Gear (AK & Aero Club Requirements)

SURVIVORS ARE THE ONES WHO KEEP A CLEAR HEAD AND MAKE RATIONAL DECISIONS DURING AN EMERGENCY. STATISTICS ARE THE ONES WHO DON'T...

A. Develop an emergency action plan BEFORE you fly:

1. Just as important as a thorough preflight or flight plan
2. Developing a logical plan is much easier sitting by a warm fire drinking a cold beer than sitting on a snowbank wishing you had a hot cup of coffee.
3. Having an emergency action checklist helps to focus your attention on the problem at hand and minimizes mental stress, depression, and shock.
4. Starts with the flight briefing so that everyone knows his/her initial responsibilities during an in-flight emergency through the subsequent landing and initial gathering point after the aircraft has come to rest.

B. Maintaining Life

1. Maintaining body heat is the single most important need. It can only be accomplished through proper techniques of personal protection.
2. Clothing - Proper wear and care of clothing cannot be over emphasized. *(Note: cold weather gear must be worn or carried all flights from 1 Oct to 1 May, and on all flights in mountainous areas regardless of time of year. This includes as a minimum footwear that will keep feet warm and dry, clothing that will do the same, and a hat and gloves).*
 - i. Insulation (down, wool, Thinsulate, etc)
 - ii. Layer system (total body covering) (inner, middle, protective)
 - iii. Heat loss
 - a) Radiation (cover head and neck)
 - b) Conduction (direct contact with cold objects)
 - c) Convection (wind chill/movement of air through clothes)
 - d) Evaporation (don't allow yourself to sweat)
 - e) Respiration (cover nose and mouth)
 - iv. Care and use
 - a) **C** – clean
 - b) **O**- overheat
 - c) **L** – layers
 - d) **D** – dry

- e) **E** - examine/exposure
- f) **R** – repair

3. Shelters (dictated by length of day, temp extremes, hazards)
 - i. Immediate action (gets you out of the elements)
 - ii. Improvised shelters
 - iii. Thermal principal (radiant heat from ground and insulation from snow)
 - iv. Shelter site (avoid hazards)
 - v. Ventilate (if you have external heat source)
4. Arctic fire craft (fire is not a necessity)
5. Equipment (assists with personal protection)
 - i. Survival kit (See attachment 1)
 - ii. Aircraft parts
 - iii. Personal equipment/clothing
6. Sustenance (once you are in a survival situation, you need to put fluids back into your system as soon as possible - **YOU NEED 5-6 QUARTS/DAY**)
 - i. Do not eat snow (it depletes body heat)
 - ii. Rations (use to transition from commercial to natural diet)
 - iii. Plants (if you don't know what it is, perform edibility test first)
 - iv. Animals
 - a) Stay away from big game unless you have a gun
 - b) Cut meal size pieces and freeze separately
7. First Aid Skills – The American Red Cross provides several in-person and online options

C. Signaling and Recovery

1. Survivor responsibilities
2. Know how and when to use signals
3. Be able to use signals on short notice
4. Establish contact with rescue forces
5. Follow instructions given by rescue forces
6. Electronic signals
 - i. Line of sight
 - ii. Cone of silence
 - iii. Keep the 406 ELT on. If you have an old style ELT, turn it off when attempting voice contact.
 - iv. Effects of temp on batteries
7. Visual signals
 - i. Signal mirror (read the directions and practice before you need it)
 - ii. Pyrotechnic devices (flares) (same as above)
 - iii. Fire/smoke (aircraft tires/seat covers/oil make great black smoke)
 - iv. Distress signals stamped in the snow
 - v. Orange signal panels

3.23 Airfields

Check the destination airfield conditions before takeoff to determine if that airfield is authorized and safe for use. In addition to the limitations in AFMAN 34-152, Para 6.18., the following limitations apply. For Sparrevohn and Hope, a Mountain checkout, 200 hours (Category/Class) and a briefing must be documented on an AF Form 1584.

3.26 Runway Condition Reading (RCR)

No Aero Club aircraft will take off or land at a DOD facility when the RCR is less than 06 or braking action is NIL (actual or reported) except for an airborne emergency. For NON-DOD facilities, do not takeoff or land when the TALPA Airport RCAM is less than 1 or the braking action is NIL. When viewing NOTAMs, ensure you use the correct format when determining RCR for the intended runway. (NOTE: The DOD format is significantly different than the FAA format).

DOD RCR / Braking Action

02-05 = NIL

06-12 = POOR

13-18 = FAIR

19-25 = GOOD

TALPA Airport RCAM / Braking Action

0 = NIL

1-2 = POOR – MED POOR

3-4 = MED - MED GOOD

5-6 = GOOD – DRY

NOTE: These values are posted in the flight planning area. “Know Before You Go!”

3.27.1 Airfield Condition

Do not operate the aircraft (taxi, takeoff or land) under any of the following ground conditions:

- More than two inches of tire sink in mud, sand, gravel, or wet snow.
- More than 1/2 inch of slush.
- More than four inches of fresh/powder snow.
- Taxiing through snow berms more than 4 inches is prohibited.
- If current conditions cannot be adequately assessed either during preflight planning, or upon visual inspection during a low pass to assess the airfield (200' - 300' AGL), or a PIREP from an aircraft currently in the traffic pattern with like operating characteristics (e.g. equipped with standard tires, not “tundra” tires or skis).

A link to “GOOD OPERATING TECHNIQUES FOR LANDING AND TAKE OFF AT OFF-AIRPORT SITES” from the FAA:

https://www.faa.gov/about/office_org/field_offices/fsdo/fai/local_more/alaskan_articles/media/Good_Operating_Techniques.pdf

“If you can’t see gravel or pavement, don’t land!” ~ Gary Satterfield

3.30.1 Winter Engine Care (October – April)

During winter operations, use engine covers for any stop more than 30 minutes. All covered engines that have been exposed to temperatures below freezing for more than 3 hours or are otherwise cold soaked, must be preheated until the cylinders are warm to the touch. Allow engines to idle below 1200 RPM for 3 minutes after starting whenever the surface temperature is below freezing. Hangar aircraft after flight unless the next PIC physically accepts responsibility for the aircraft.

3.30.2 Winter Parking Outside of Hangar (October – April)

Aircraft parking in front of hangar during winter months will comply with the Outside Parking Plan (Aero Club SOP Figure 4, page 10-4). This parking plan is to assist in the preparations for taxi of aircraft to the fuel pumps as well as taxi to the run-up area for departure. Please make note of the aircraft location when parked, the doors of the aircraft should be even with the brown “man doors” of the hangar. This will assure abundant room for aircraft movement into and out of the hangar.

3.30.3 Winter Hangar Parking (October - April)

The spot on the northeast corner is reserved for the Seneca. Chock and ground all aircraft parked in the hangar. All aircraft will be moved or parked as operational needs dictate to include privately owned aircraft (POA’s). If a POA needs to be moved, the staff may move the aircraft without notifying the owner. When parking the aircraft inside the hangar, use the structural overhead beams as a guide. Optimal spacing is achieved when the aircraft nose (or tail) is aligned with a beam. You may pre-flight the aircraft in the hangar, but do not sump the fuel tanks until you are outside the hangar.

3.31 Hangar Door Ops

All new members will receive training with an instructor prior to operating the hangar doors to include moving aircraft into and out of the hangar. Only members with a valid AF Form 1584 will be authorized to operate the hangar doors. (See SOP Figure 6)

WARNING: Do not walk under hangar doors while they are in motion.

3.5 Icing

Pilots will not operate Aero Club aircraft in actual or forecast icing conditions. If icing is forecast in clouds and precipitation, the aircraft may be flown as long as the pilot remains clear of clouds and precipitation. If In-Flight visibility does not permit visual contact with precipitation (for example, at night) and icing is forecast, pilots will not fly Aero Club aircraft.

3.7 Surface Winds and Temperatures

3.7.1 Surface Winds Forecast

Flight will not be initiated if surface winds are forecast to be greater than 30 knots, and flights will be terminated as soon as practicable if surface winds exceed 30 knots.

3.7.2 Temperatures

Do not operate Aero Club aircraft at airfields with an outside temperature of -20 F or colder. Do not perform extended maneuvers requiring power reductions of more than 1-inch manifold pressure per minute or 100 rpm per minute in outside air temperatures of -10 F or colder. Examples of such maneuvers are simulated engine failures or emergency descents. Stall and recovery procedures and touch and go traffic patterns are permissible.

Note: Not applicable to primary solo student pilots. Temperatures for primary solo student pilots are listed in Chapter 4.

3.38.2 Hazardous or Severe Weather

If severe weather is encountered near Elmendorf, land as soon as conditions permit. Chock and tie down the aircraft, and install the flight control lock and rudder lock. If the weather becomes severe enough, it may be necessary to hangar as many of the Aero Club aircraft as possible.

If severe weather is encountered away from Elmendorf, initiate the following procedures:

- If on the ground, remain there and secure the aircraft.
- If airborne, divert to the nearest suitable airport where a safe landing can be accomplished. If encountering moderate or severe turbulence, maintain at or below V_a (maneuvering airspeed).
- Hangar the aircraft if possible. Ensure the aircraft is tied down, chocked, and control lock installed.
- Contact an Aero Club official.

ATTACHMENT 1

EMERGENCY EQUIPMENT TO BE CARRIED ON AIRCRAFT

ALASKA STATE STATUE

Sec. 02.35.110. Emergency rations and equipment.

(a) An airman may not make a flight inside the state with an aircraft unless emergency equipment is carried as follows:

(1) the following minimum equipment must be carried during the summer months:

(A) rations for each occupant sufficient to sustain life for one week;

(B) one axe or hatchet;

(C) one first aid kit;

(D) an assortment of tackle such as hooks, flies, lines, and sinkers;

(E) one knife;

(F) fire starter;

(G) one mosquito headnet for each occupant;

(H) two small signaling devices such as colored smoke bombs, railroad fuses, or Very pistol shells, in sealed metal containers;

(2) in addition to the equipment required under (1) of this subsection, the following must be carried as minimum equipment from October 15 to April 1 of each year:

(A) one pair of snowshoes;

(B) one sleeping bag;

(C) one wool blanket or equivalent for each occupant over four.

(b) However, operators of multi-engine aircraft licensed to carry more than 15 passengers need carry only the food, mosquito nets, and signaling equipment at all times other than the period from October 15 to April 1 of each year, when two sleeping bags, and one blanket for every two passengers shall also be carried. All of the above requirements as to emergency rations and equipment are considered to be minimum requirements which are to remain in full force and effect, except as further safety measures may be from time to time imposed by the department.

**“If it’s on you, it’s survival gear. If it’s in the back of the plane
...it’s camping gear.”**

- Walleye