



**354TH FIGHTER WING
EIELSON AFB,
ALASKA**



***MID-AIR COLLISION
AVOIDANCE
PAMPHLET***

21 April 2016

MEMORANDUM FOR ALASKA AVIATORS

21 Apr 2016

FROM: 354 FW/SEF
354 Broadway Ave Unit 14A
Eielson AFB AK 99702-1899

SUBJECT: Military Flying in Interior Alaska

1. This pamphlet is offered to give you a working knowledge of the military airspace used in interior Alaska. This airspace is shared with the military, flying businesses, and civilians who fly for pleasure. The information in this pamphlet is focused toward reducing the risk of a mid-air collision between civil and military aviators.
2. Some pilots refer to the “Big Sky” theory of air traffic control. This method of air traffic “control” is based upon two conditions: 1) lots of airspace, and 2) very few airplanes. Although the Alaskan skies are spacious, the “Big Sky” method of mid-air collision avoidance is risky at best, and unreasonable in the Fairbanks flying area.
3. There are 13 active airfields, two glider ports, and two seaplane ports within six miles of the three airfields with separate Class D airspaces in and around Fairbanks. Nearly every type of aircraft that flies in the United States can be seen in these skies including helicopters, light planes, jumbo jets, float planes, fighters, tankers, military drones, and many other transient aircraft. This diversity brings with it a high potential for traffic conflicts.
4. In this environment a pilot using knowledge, good visual and radio lookout, and help from ground-based radar is much better off than the pilot using the “Big Sky” method. Good pilots know the location of all high density traffic areas, and the general flight characteristics of the primary types of aircraft operating in these areas. Knowing the location and restrictions (if any) is beneficial to all pilots. The smart pilot is not averse to requesting radar advisories whenever possible. Special Use Airspace Information Service (SUAIS) is available 24 hours a day and can be a great aid to pilots flying in Alaska. This pamphlet will discuss SUAIS and its use along with other information you can use to avoid a near miss or a mid-air collision. Remember.... flying safety is no accident.
5. If you have any questions about military flying at Eielson Air Force Base, or any of our military operating areas, please call the Eielson Flight Safety Office at 377-1155.

//Signed//

KENDALL W. SPENCER, Maj, USAF
Acting Chief of Safety

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MILITARY AIRCRAFT

FIGHTERS

F-16s, F-22s, F-18s and other ally fighters frequently fly in the Interior Military Operating Areas (MOA) airspace as well as Restricted Areas R-2202, R-2205, and R-2211 and military training routes (MTR). These fighters carry an onboard radar that can detect other aircraft at great distances beyond visual range. This enhances the pilot's ability to see and avoid other aircraft, but this technology does not allow the pilot to detect all aircraft. These fighters are small in size (wing span=33-45 feet) and fly at high speed (normal operating speeds at low level = 400 to 550 KTS), which can make them difficult to see.



AIRLIFT

KC-135s, C-17s, C-130s, KC-10s, and other ally airlift aircraft frequently fly in the interior MOAs as well as MTRs. C-130s frequently fly at 300-500 feet and often in groups of 2-6 aircraft with ½ to 1 mile separation. C-17s also frequently fly at 500 feet on the MTRs and in the MOAs. When navigating point to point outside of the MTRs airlift aircraft normally operate between 100 and 250 knots when below 10,000 feet.



HELICOPTERS

Multiple variants of military helicopters (HH/UH-60 Pave/Black Hawk, CH-47 Chinook, AH-64 Apache, etc.) operate in and around Alaska's interior. They operate primarily from Fort Wainwright (Ladd Army Airfield—east of Fairbanks) and Fort Greeley (Allen Army Airfield—north of Delta Junction). Aircraft operating from Fort Wainwright transit to and operate in R-2205 (east of Eielson) and will work south of the Tanana River in training areas located in the Tanana Flats south of Fairbanks. Aircraft operating from Fort Greeley commonly transit west of the Delta River and operate south of the Tanana River in the vicinity of R-2202. Army helicopter operations in these areas are generally below 1000 feet AGL.



Unmanned Aerial Systems (UAS)

UAS are operated between 3000 and 3500 feet MSL and are accompanied by a chase helicopter. The UAS is under positive control through Fairbanks Approach or Ladd Tower and will alter course to avoid collision, however we request that all civil aircraft remain a minimum of 1000ft clear.



UAV TRANSIT COORIDOR*
 (“Green Route”)

3000-3500 MSL (Red Line)

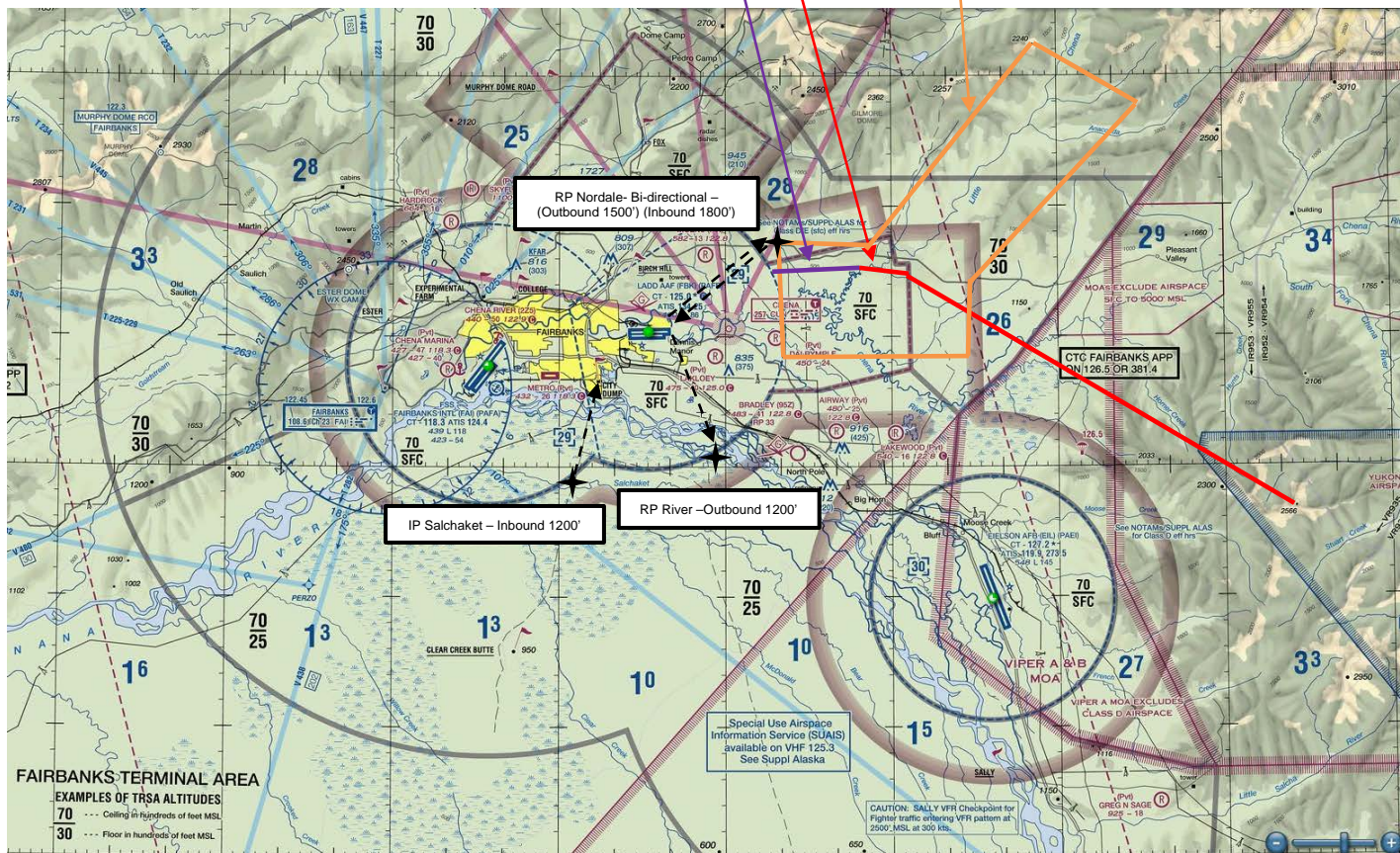
1000-3000 MSL (Purple line)

*Check Ladd AAF (PAFB) NOTAMs for updates
 (Contact Fairbanks Approach for traffic advisories)

**Helicopter Maintenance Test
 Flight Area**

(Contact Fairbanks Approach for traffic advisories)

LADD ARMY AIRFIELD



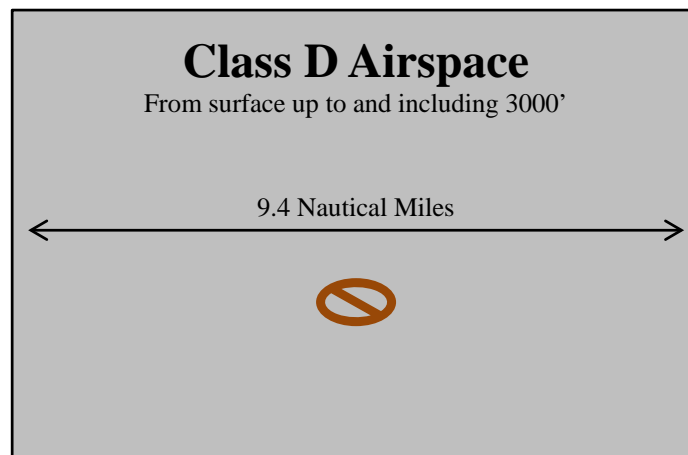
Ladd Entry/Exit (Initial/Reporting Points) and Special Use Areas

The **Ladd Maintenance Test Flight Area** is the location where US Army Helicopters conduct necessary flight check maneuvers for maintenance verification. Helicopters operating in this area are generally in contact with either Ladd Tower or Fairbanks Approach. VFR traffic should exercise caution in this area as some maintenance maneuvers require multiple turns, climbs, and descents.

EIELSON'S CLASS "D" AIRSPACE

Eielson Class D Airspace: Defined as the airspace extending upward from the surface to and including 3,000 feet MSL within a 4.7 NM radius of Eielson AFB. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

The control tower is operational daily from 0700-2300 local time and other times by NOTAM. Eielson tower must be contacted if operating in the Class D Airspace. Frequencies are 127.2 and 352.05. **NOTE:** There is a long stretch of the Tanana River that lies well within the 4.7NM radius of the Class D Airspace. Also take note that Eielson TACAN lies at the south end of the 14,530-foot runway (That's almost three miles!). As such, when traversing the Eielson Class D Air space, it is advisable not to use just the river or TACAN (DME) as a guide to "five miles", instead remain well clear to the west of the river and always contact the tower if able.



EIELSON AFB AIRFIELD INFORMATION

| | |
|--------------------|---|
| LOCATION | 22 miles east of Fairbanks, Alaska |
| RUNWAY 32/14 | 14,530 feet, concrete, two north arresting cables, one south arresting cable |
| ELEVATION | 547 feet MSL |
| LIGHTING | Airfield Rotating Beacon (1 Green, 2 White) |
| RUNWAY | High Intensity Runway Lighting (HIRL) with Sequenced Flashing, Precision Approach Path Indicator (PAPI) |
| NAVAIDS | TACAN-CH 98 Runway 32 ILS-109.90 Runway 14 ILS-110.50 |
| RADAR | No radar approaches at this time |
| CLASS "D" AIRSPACE | 4.7 nm radius up to 3,000 feet MSL |
| FREQUENCIES | TOWER-127.2 (VHF) OR 352.050 (UHF) GROUND-121.8 (VHF) OR 275.8 (UHF) EIELSON RANGE CONTROL-125.3 (VHF) |
| SUAIS | 1-800-758-8723 (or 907-372-6913 from Fairbanks area) http://www.jber.af.mil/11af/alaskaairspaceinfo/ |

EIELSON AFB AIR TRAFFIC CONTROL CONTACTS

| | |
|---------------------------------------|----------------|
| Commander, Airfield Operations Flight | (907) 377-3116 |
| Chief Controller, Tower | (907) 377-7050 |
| Chief, ATC Training Standardization | (907) 377-1233 |

EIELSON FIXED WING APPROACH/DEPARTURE TRAFFIC AREAS

Military aircraft flying visual and instrument approaches to Eielson AFB fly in defined patterns depending upon the weather and mission requirements. **It is advisable for all aircraft working within 25 miles of Eielson to contact Fairbanks Approach on VHF 126.5 for Air Traffic Control advisories and services.** If pilots do not desire or are unable to contact Fairbanks Approach it is recommended they fly their aircraft 500 feet below the following altitudes to remain clear of high traffic fixed wing approach and departure corridors servicing Eielson AFB *(Note: These recommendations do not ensure clearance from helicopters and some fixed wing aircraft that arrive and depart Eielson at low altitudes from time to time):*

-2500-15000 feet MSL when operating outside Eielson's Class D Airspace, but within 15 NM of Eielson

-3500-20000 feet MSL 15-20 NM from Eielson

-4500-24000 feet MSL 20-25 NM from Eielson

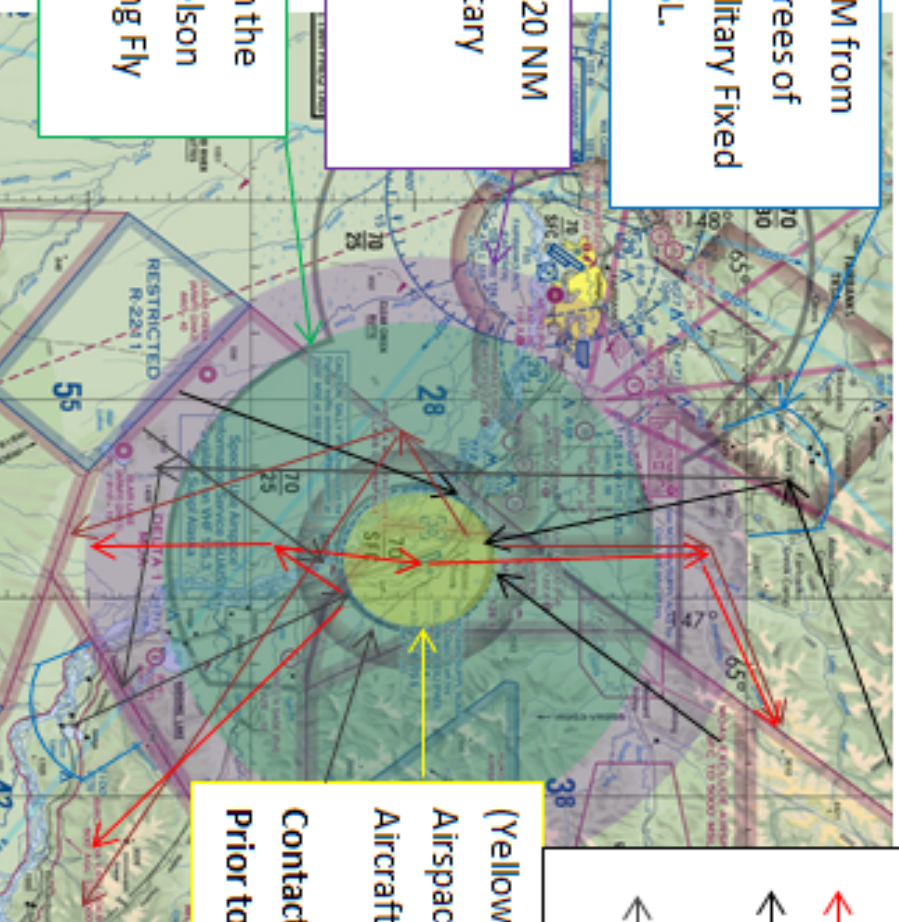
SEE MAP ON NEXT PAGE

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(Blue outlined area) 20--25 NM from Eielson TACAN within 10 degrees of Runway 14/32 centerline, Military Fixed Wing Fly 4500' MSL-10000' MSL.

(Purple shaded area) 15--20 NM from Eielson TACAN, Military Fixed Wing Fly 3500' MSL-10000' MSL

(Green shaded area) from the CLASS D—15 NM from Eielson TACAN, Military Fixed Wing Fly 2500' MSL-10000' MSL



Ground Track Legend

- ↖ RWY 14 Departures
- ↗ RWY 32 Departures
- ↖ RWY 14 Approaches (primarily used during Red Flag)
- ↖ RWY 32 Approaches (primarily used for day-to day training)

(Yellow shaded area) CLASS D
 Airspace SFC-3000' MSL, Military
 Aircraft Operate SFC-10000' MSL;
 Contact Eielson Tower on VHF 127.2
 Prior to Entry

Eielson Fixed Wing Approach-Departure Profiles

SPECIAL USE AIRSPACE INFORMATION SERVICE

What is it? SUAIS is a 24-hour service provided to civilian pilots flying in and around MOAs and Restricted Areas in Interior Alaska. Pilots can call SUAIS at **1-800-Restricted Joint Use-USAFA** (1-800-758-8723), 372-6913 from the Fairbanks area, or VHF **125.3, call sign Eielson Range Control**. Primary coverage is along the Richardson and Alaska Highways. The further from the highway, typically the coverage quality is reduced. SUAIS information is available at: <http://www.jber.af.mil/11af/alaskaairspaceinfo/> then select "Special Use Airspace Information Service (SUAIS) Pamphlet" found under "Flying in Alaska"

Who is Eielson Range Control (ERC)? ERC is an airspace facilitator at Eielson AFB, Alaska. It is normally staffed from 9 a.m. to 7 p.m., Monday through Friday (except federal holidays), and times when Air Force flying is in progress in Interior Alaskan MOAs and Restricted Areas. After hours, telephone and radio callers will hear the airspace status through a recorded message. ERC is equipped with UHF and VHF radios and radar displays.

WHY USE SUAIS?

SAFETY: Eielson Range Control monitors all military activity in MOAs and can advise civilian pilots of high-speed military aircraft operating in them. The MOAs adjacent to the Richardson and ALCAN Highways between Tok, Delta Junction, and Fairbanks are areas of heavy general aviation use. MOA exclusion areas have been established along the highways. The MOAs are of special concern since they are subject to flights at high speed/low altitude by military aircraft.

EFFICIENCY: Military Restricted Areas are not always in use. Eielson Range Control can advise civilian aircraft of current restricted area status.

EMERGENCY: Eielson Range Control can assist in clearing military aircraft out of this airspace if requested by the FAA or other agencies for emergency operations such as air ambulance missions or fire fighting operations.

SUAIS RADIO AND RADAR COVERAGE

Radio relay stations permit pilots flying as low as a few hundred feet to contact Eielson Range Control in the Tanana Valley between Lake George and Fairbanks. Aircraft flying in mountainous terrain to the east of the Tanana River will need to be as high as the tops of the highest terrain in their immediate vicinity. The general area of radio coverage encompasses Circle to the north, Fairbanks to the west, Black Rapids to the south, and Chicken to the east. The ability to detect light aircraft without transponders is limited. **Transponder use is highly recommended.**

Eielson Range Control *does not* provide air traffic control services. They can provide information on the status of airspace and the *approximate* locations of *military aircraft* in the area. IFR vectoring, processing of flight plans, etc., is not provided. *Use of the SUAIS constitutes an acknowledgment, understanding, and acceptance of these limitations.*

Does SUAIS include current Army operations? SUAIS includes Army artillery firing at all hours, and known helicopter operations. It also provides Army Unmanned Aerial Vehicle operations information in their area of coverage between Donnelly Dome and Fairbanks.

Aircraft involved with these exercises will be taking off from Eielson and Elmendorf AFBs, operating in the airspaces depicted above at 500' AGL – 60000' MSL, and returning to Eielson and Elmendorf. Some aircraft are authorized to fly to 100' AGL in the Eielson and Yukon MOAs, Restricted areas, and Military Training Routes.

Contact Eielson Range Control on 125.3 MHz (SUAIS) to determine if the ranges, MTRs, and MOAs are in use, and to obtain clearance through the ranges when conditions permit.

There are no FAA controlling agencies that civilian aircraft can contact for traffic advisories when the MOAs are active. While Eielson range control may help, diligent visual lookout must be practiced when flying through active MOAs.

Aircraft from Eielson AFB and Elmendorf AFB also use low altitude Military Training Routes. These routes, both VR and IR, are depicted on sectional charts; however, only the route centerline is shown (almost all Alaskan routes are 10nm wide). Generally these routes extend from the surface to 3000 feet AGL; but some go as high as 17,000' MSL. Eielson Range Control can tell you if an MTR in the Eielson area is active. Fairbanks Flight Service Stations (FSS) is another source to tell you which routes are active within 100NM. Generally, fighter aircraft flying on MTRs are low altitude and high speed. It is best to avoid active MTRs if at all possible.

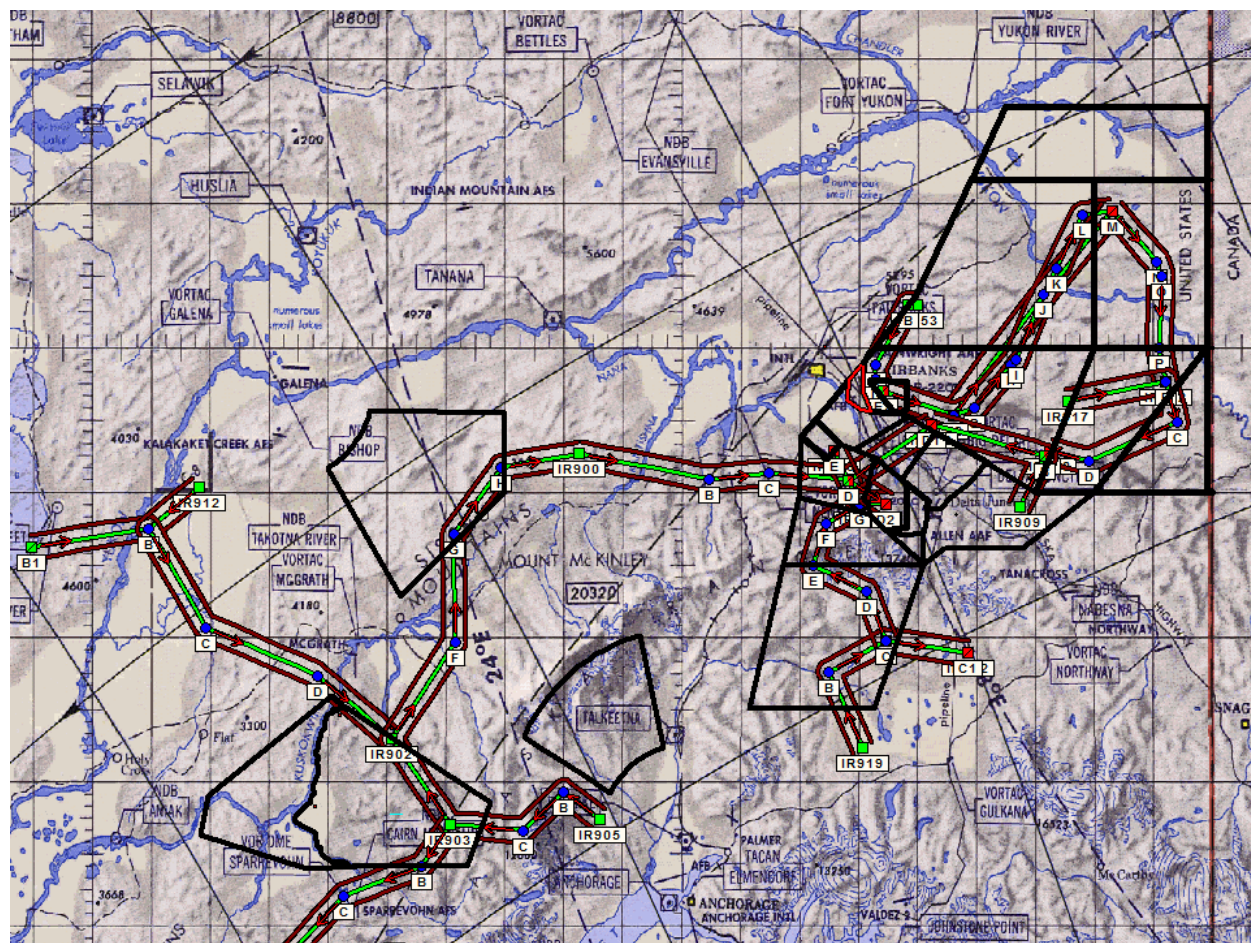
DO:

- Plan ahead and become familiar with the Alaskan Military Operating Areas and Restricted Airspace.
- Call SUAIS prior to flight at 1-800-758-8723 or 907-372-6913.
- Ensure your windscreen is clean and practice good visual scanning techniques.
- Listen to your radio and obey basic flying rules.
- Contact Eielson Range Control for SUAIS in the vicinity of Eielson AFB, Interior ranges or MOAs.
- Avoid flying through active MOAs and MTRs, whenever possible.
- If Eielson Range Control is not available, contact nearest FSS or Fairbanks Approach to determine if ranges, MOAs, or MTRs are active.
- When flying through active MOAs or MTRs maintain a constant visual lookout (ahead and behind) for military traffic.

DON'T:

- EVER fly through an active restricted area without contacting Eielson Range Control on 125.3 for permission. Live bombing, artillery, or surface to air missile firings may be in progress. Position reports made on this frequency may be heard even if you do not receive a response.
- Fly through active Military Airspace unless it is impractical to go around it.

TRAINING AREAS AND LOW LEVEL ROUTES



SPECIAL CONSIDERATIONS FOR RED FLAG ALASKA EXERCISES

Red Flag Alaska is a series of large scale flying exercises, which occur in the Eielson AFB area several times a year. These exercises may have up to 100 military aircraft flying in the Eielson AFB area at one time (in the span of two hours). A projected Red Flag exercise schedule can be found at: <http://www.jber.af.mil/11af/alaskaairspaceinfo/> or in the “Flying in the Eielson AFB Area” section of this pamphlet.

These aircraft normally depart Eielson using Runway 32 and recover using Runway 14. It is **HIGHLY RECOMMENDED** that operating east of Fairbanks and in the vicinity of North Pole during these exercises comply with the procedures outlined in the “Eielson Fixed Wing Approach/Departure Traffic Areas” Section of this pamphlet.

It is very hazardous to fly VFR within the Interior Military Operations Areas during Red Flag Alaska exercise periods. These periods are usually three hours long; normally one period is in the morning and one in the afternoon. Fairbanks FSS, Fairbanks Approach, or Eielson Range Control (VHF 125.3, 1-800-758-8723, or 907-372-6913) can confirm these exercise periods. Civilian aircraft flying from Northway or Glennallen to Fairbanks can avoid Red Flag Alaska airspace by flying in the VFR corridors beneath the Buffalo and Birch MOAs. You are encouraged to participate in the Special Use Airspace Information Service (SUAIS) provided by

Eielson Range Control when airborne. This service is described above and also in pamphlets obtained at any Flight Service Station in the interior or on the web page.

LIGHTS OUT OPERATIONS AT NIGHT

Military operations now require pilots to train with Night Vision Goggles (NVGs). This training involves flying with reduced aircraft lighting and in some cases no exterior lights at all. At times pilots practice NVG takeoffs and landings which require Eielson AFB airfield lighting to be turned down or even off. A NOTAM will be posted listing times, Restricted Airspace, and/or MOAs being used. Pilots relying only on See and Avoid will not be able to see these aircraft, nor in some cases the airfield--and should avoid the area or coordinate with the controlling agency in order to ensure positive separation. Safety procedures are in place using radar to ensure that military aircrews know when VFR aircraft enter the airspace. If necessary, they will turn their lights on and stop training if an unsafe situation develops.

WAKE TURBULENCE

Dangerous? **YES!** Unexpected, invisible, and unpredictable? **NO!** The one positive aspect of wake turbulence is its predictable occurrence. Wake turbulence is a vortex created by any wing producing lift. The vortex trails the wing tips and spreads outwards and downwards at 500 feet per minute. All aircraft produce some degree of wake turbulence, however, the greater the generating aircraft weight and the slower it flies, the more powerful the vortices. Cargo aircraft and passenger airliners produce powerful wake turbulence that could have a dramatic effect on the unsuspecting general aviation pilot. Reference AIM for a complete discussion of wake turbulence. Here are some good rules of thumb for avoiding wake turbulence. During cruise, avoid flying directly behind and below other aircraft. During landing, stay at or above the larger aircraft's final approach flight path – note its touchdown point – and land beyond it; during takeoff, liftoff before the rotation point of the heavy aircraft and climb above its flight path. Allow adequate time separation between yourself and the aircraft in front of you, even if traveling perpendicular to its flight path. Don't get caught in these horizontal tornadoes.....Think Ahead!

REPORTING CONFLICTS WITH MILITARY AIRCRAFT

Near Midair Collision Avoidance Reporting

1. Purpose and Data Uses. The primary purpose of the Near Mid-Air Collision (NMAC) Reporting Program is to provide information for use in enhancing the safety and efficiency of the National Airspace System. Data obtained from NMAC reports are used by the FAA to improve the quality of FAA services to users and to develop programs, policies, and procedures aimed at the reduction of NMAC occurrences. All NMAC reports are thoroughly investigated by Flight Standards Facilities in coordination with Air Traffic Facilities. Data from these investigations are transmitted to FAA Headquarters in Washington, DC, where they are compiled and analyzed, and where safety programs and recommendations are developed.

2. Definition. An NMAC is defined as an incident associated with an aircraft in which a possibility of collision exists as a result of proximity of less than 500 feet to another aircraft, or a

report is received from a pilot or a flight crew member stating a collision hazard existed between two or more aircraft.

3. Reporting Responsibility. It is the responsibility of the pilot and/or flight crew to determine whether an NMAC did actually occur and, if so, to initiate a NMAC report. Be specific, as ATC will not interpret a casual remark to mean that a NMAC is being reported. The pilot should state: "I wish to report a near mid-air collision."

4. Where to File Reports. Pilots and/or flight crew members involved in NMAC occurrences are urged to report each incident immediately:

- a) By radio or telephone to the nearest FAA ATC facility or FSS or,
- b) In writing to the nearest Flight Standards District Office (FSDO).

5. Items to be Reported.

- a) Date and time (UTC) of incident.
- b) Location of incident and altitude.
- c) Identification and type of reporting aircraft, aircrew destination, name and home base of pilot.
- d) Identification and type of other aircraft, aircrew destination, name and home base of pilot.
- e) Type of flight plans; station altimeter setting used.
- f) Detailed weather conditions at altitude or flight level.
- g) Approximate courses of both aircraft: indicate if one or both aircraft were climbing or descending.
- h) Reported separation in distance at first sighting, proximity at closest point horizontally and vertically, and length of time in sight prior to evasive action.
- i) Degree of evasive action taken, if any (from both aircraft, if possible).
- j) Injuries, if any

Aviation Safety Reporting System

The Aviation Safety Reporting System (ASRS) is an aviation safety program funded by the FAA and administered by NASA that allows for hazard or incident reporting. The program is voluntary, confidential and non-punitive. The ASRS collects, analyzes, and responds to voluntarily submitted aviation safety incident reports in order to lessen the likelihood of aviation accidents.

Civilian or military aviators, air traffic controllers, flight attendants, mechanics, ground personnel, and others involved in aviation operations submit reports to the ASRS when they are involved in, or observe, an incident or situation in which aviation safety was compromised.

To report a hazard or incident:

1. Go to the ASRS website @ <http://asrs.arc.nasa.gov/>.
2. Click on the link for the appropriate form — your browser should start the free Adobe Acrobat Reader. (If not, download the form and start Acrobat Reader manually.) You have two choices for submitting an incident report.

Electronic reporting forms (NASA ARC Form 277-series, Aviation Safety Reporting System) are available for access and secure electronic filing from the NASA ASRS Web site at <http://asrs.arc.nasa.gov>. Alternatively, forms from this site may be accessed, printed, and completed by hand, or accessed and completed by computer and then printed. These may

then be mailed to NASA Aviation Safety Reporting System, P.O. Box 189, Moffett Field, California 94035-0189.

The ASRS Immunity Concept: Pilots

The filing of a report with the National Aeronautics and Space Administration (NASA) is considered by FAA to be indicative of a constructive attitude. Such an attitude will tend to prevent future violations. Accordingly, although a finding of a violation may be made, neither a civil penalty nor certificate suspension will be imposed if:

- The violation was inadvertent and not deliberate;
- The violation did not involve a criminal offense, accident, or action showing lack of competence or qualification;
- The person has not been found in any prior FAA enforcement action for a period of 5 years prior to the date of the occurrence;
- The person proves that, within 10 days after the violation, he or she completed and delivered or mailed a written report of the incident or occurrence to NASA under ASRS.

NOTE: For air traffic controllers the immunity rules are not the same. For exact regulation details, see FAA Advisory Circular Number 00-46E

(http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/FCB842A11696DA958625796B0077C050?OpenDocument&Highlight=00-46e)

and Facility Operation and Administration Handbook, 7210.3Z.

AVIATION SAFETY RESOURCES ON THE WEB

- **Alaska Military Operations Areas/Special Use Airspace Information Service @**
<http://www.jber.af.mil/11af/alaskaairspaceinfo/>
- **FAA Safety Team - FAAST @**
<http://www.faasafety.gov/default.aspx>
- **Aviation Safety Reporting System @**
 - **<http://asrs.arc.nasa.gov/>**

A Superior Pilot Is One Who Stays Out Of Trouble By Using Superior Judgment To Avoid Situations, Which Might Require The Use Of Superior Skills!

This pamphlet published by Eielson AFB Flight Safety Office
with coordination through 611 Air and Space Operations Center
611 AOC/CODK (Airspace Management)
Elmendorf Air Force Base
and
FAA Federal Aviation Safety Team (FAASTeam), Fairbanks, Alaska