UNCLASSIFIED

McChord AFB

Team McChord

62d Airlift Wing
C-17 Local Flying Operations and the Civilian Aviator

62d AW Flight Safety

Joint Base Lewis-McChord, WA

Innovative Airmen…Airlift Excellence…Respect For All!

OVERVIEW

Team McChord

- Introduction
- C-17 Overview
- McChord Airspace
- NVG Operations
- Low Level Training Routes
- Airdrop Operations
- Moses Lake Operations
- Mid-Air Collision Avoidance (MACA)
- Conclusion

Introduction

- Our goal with this presentation is to educate others on the midair potential in the McChord area.
- We all have responsibility to be aware of potential conflicts and AVOID them!
  - 49% occur in the traffic pattern
  - Of the remaining 51%, ½ were during enroute, climb, cruise, descent
  - Rest were formation or other hazardous activities
  - 80% of collisions happen w/in 10NM of an airport
- The "big sky" theory is not the best approach in our saturated airspace.

C-17A Overview

Team McChord

C-17A Overview

Team McChord

Wingspan: 170 feet
Length: 174 feet
Max Takeoff Weight: 585,000lbs
Max Cruise Speed: 350kts/.825M
Approach Speed: 100 - 140kts
Low Level Speed: 310kts
VHF radio: Yes
Color: Dark Grey

Various Missions

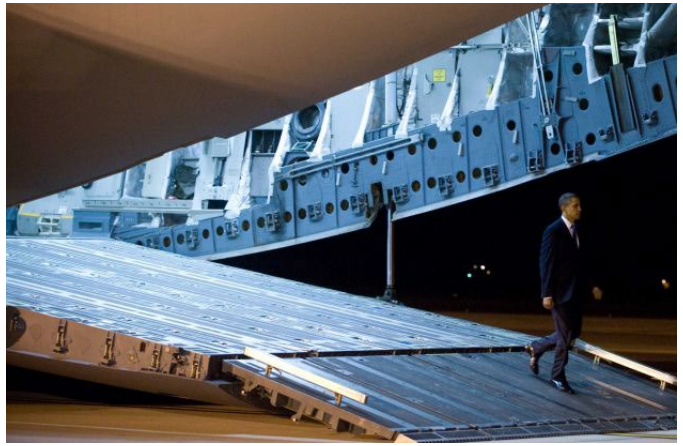
Team McChord

Combat Airlift

Air Refueling (AR)

Supporting Scientists in Antarctica

Aeromedical Evacuation (AE)



Presidential Support

HALO Airdrop

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McChord Airfield (KTCM)

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- McChord Field has a 10,100’ Rwy (34/16)
- ILS, RNAV, TACAN approaches; overt and covert Assault Landing Zone (ALZ)
- Tower is operational 24 hours per day (Freq. 124.8)
- Home to 62 AW, 446 AW, 48 C-17A aircraft

Our Location

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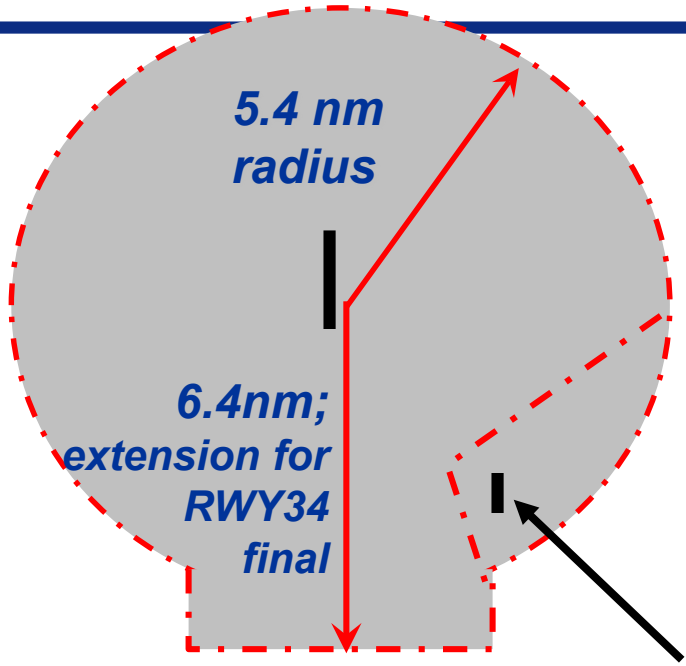
McChord's Airspace

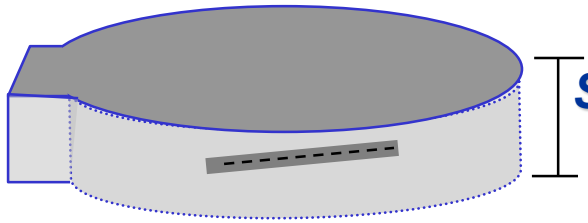
- Class "D" airspace
- 24 hours/day
- VFR transitions are not a problem
- Two-way radio communications required to enter class D



Spanaway operations excluded from Class D SFC to 1000' MSL

Contact McChord Tower on

124.8



Surface to 2500' AGL (2800' MSL)

Common Transient Aircraft

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In the course of the year, you will share airspace with fighters, bombers, tankers, transports, and helicopters. The most frequent visitors are:

62d Airlift Wing

McChord Patterns

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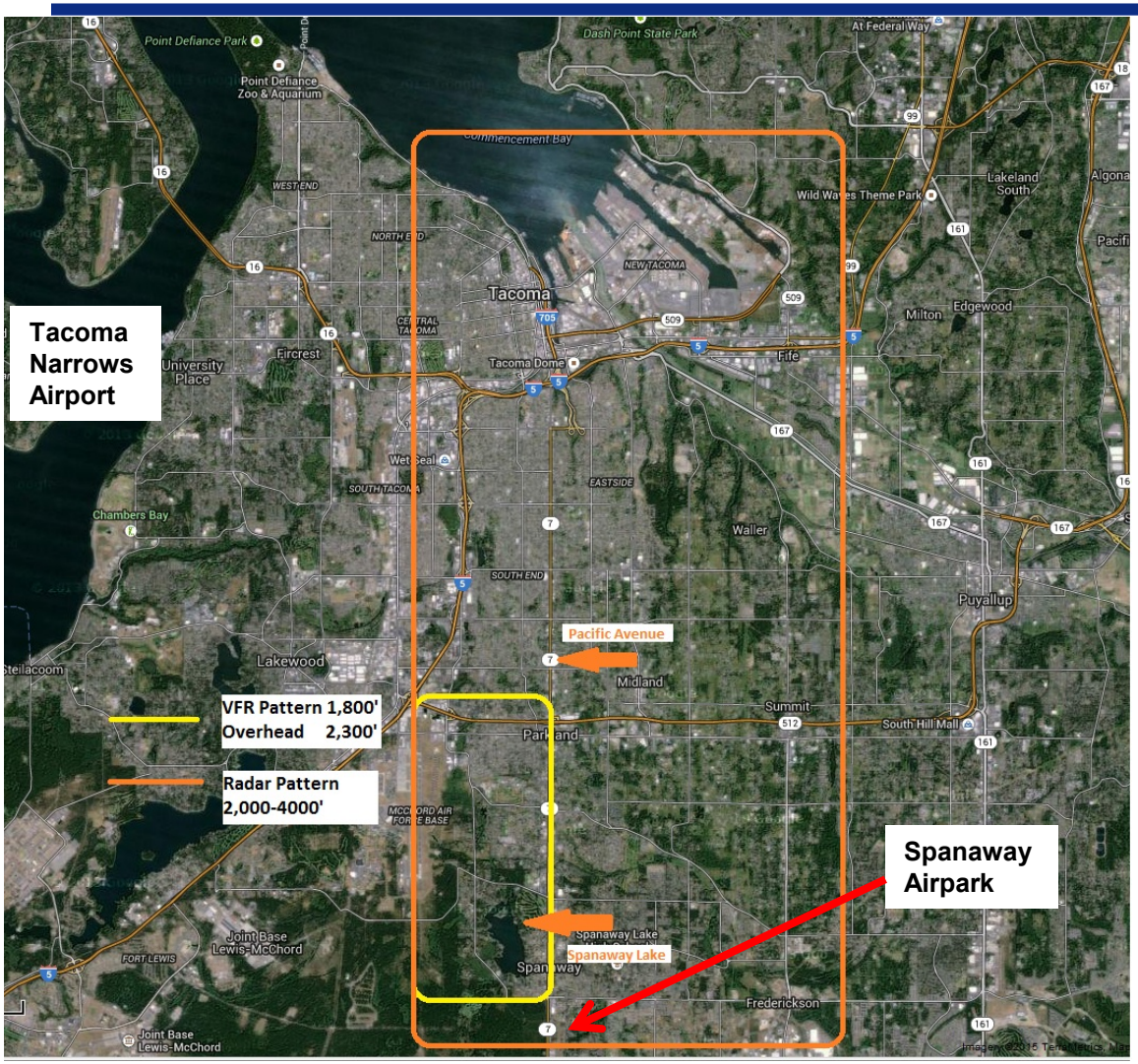

- Military aircraft avoid overflying Spanaway Lake, Brown's Point and Point Defiance
- Circling airspace is at 940' to the West of the field and East of I-5
- Consult FLIP for a depiction of TCM instrument approaches

NVG Operations

- Comprises most of our night training
- Multiple runway lighting schemes
  - Full runway lights (overt)
  - Infrared (covert)
  - 500 or 1000 ft “box”
- Aircraft lights
  - Position/anti-collision lights always on
  - Infrared landing lights
- What you should know
  - Aircraft lights may look different
  - Runway lights may look different
  - NVG training is a large SA drain

Low Level Routes on Sectional Charts

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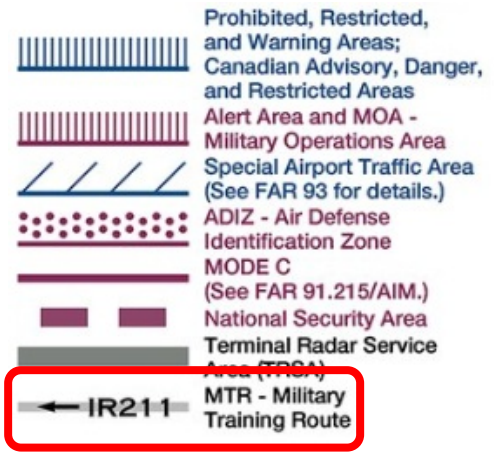
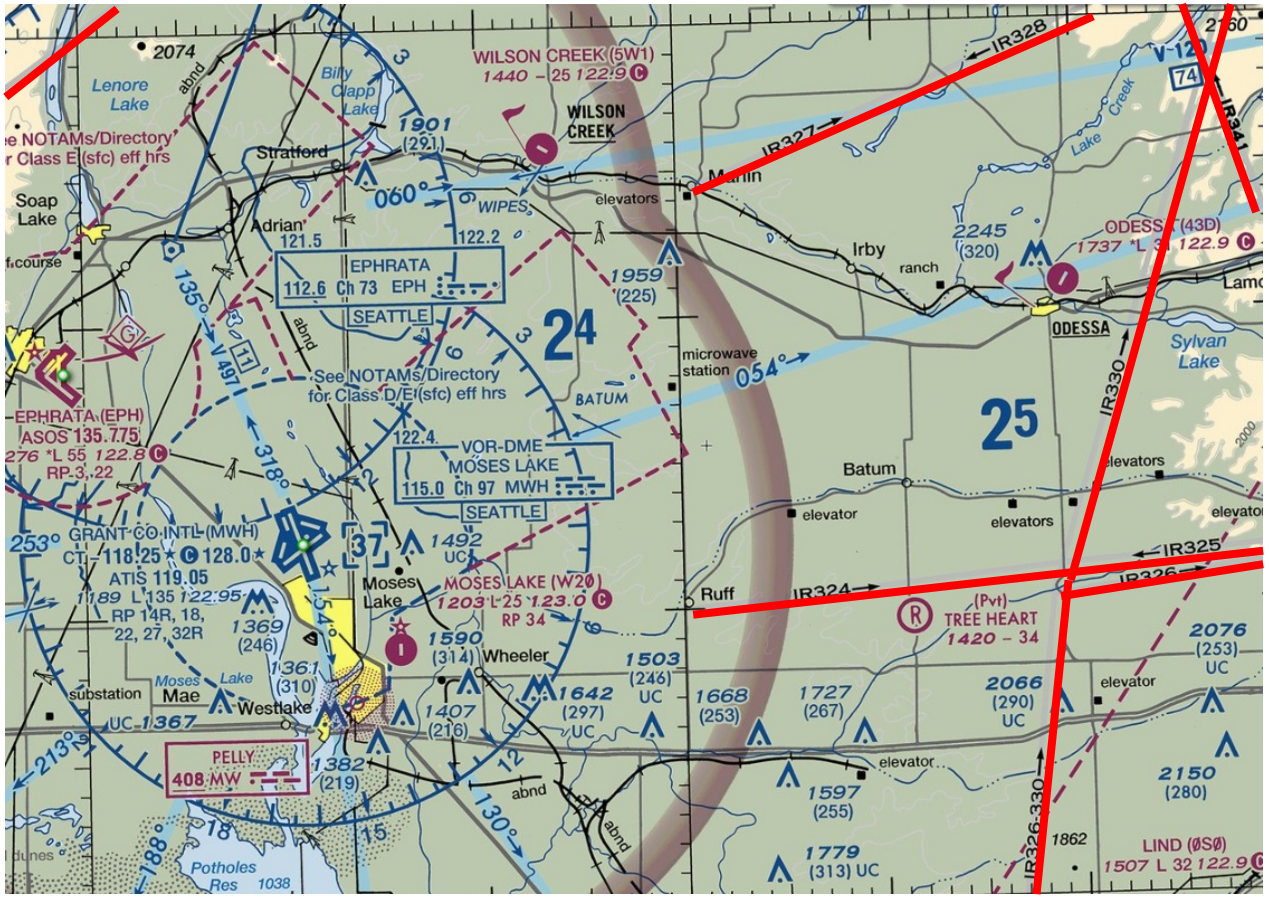


- Three types: *IR, VR* or *SR*
- 3 or 4 numbers
  - 4 numbers ≤ 1500’ AGL



TRAINING ROUTES

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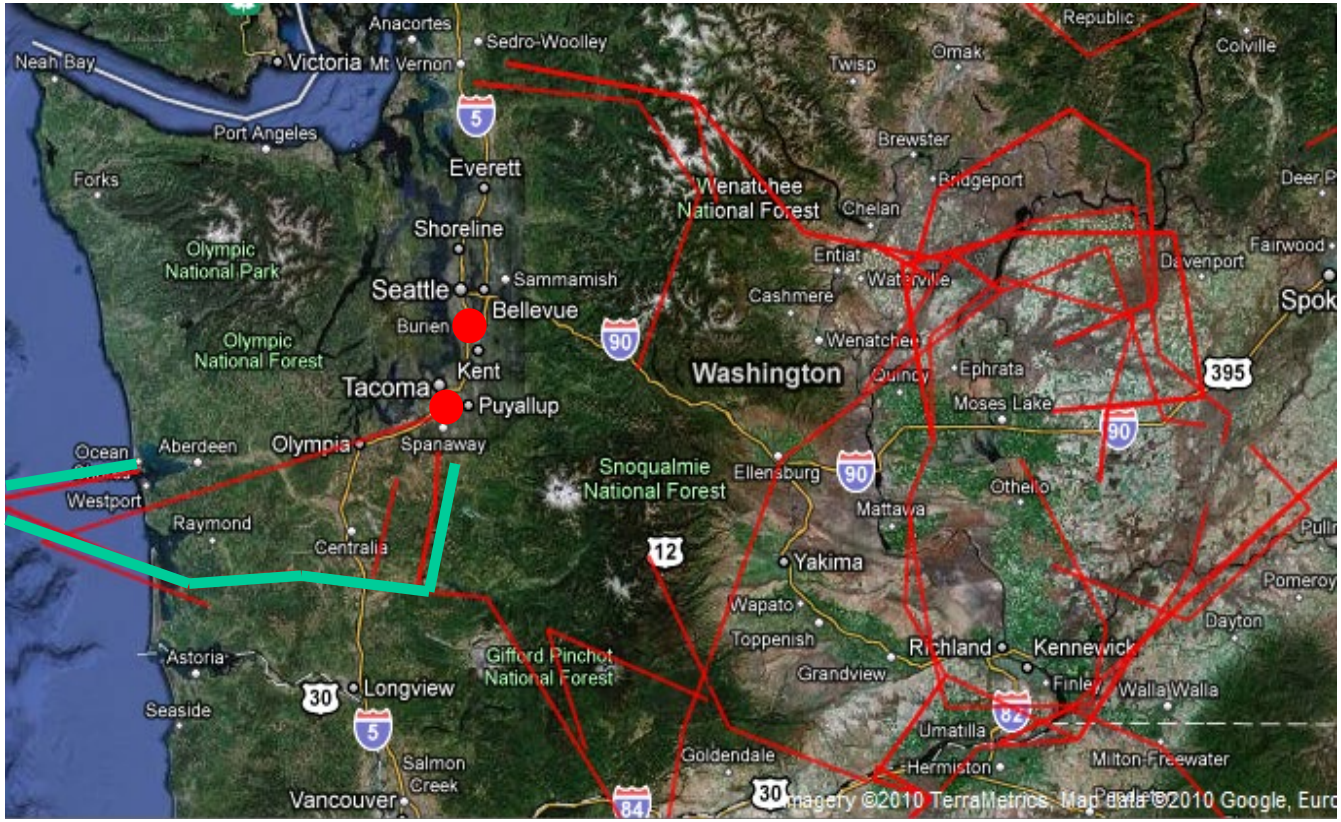
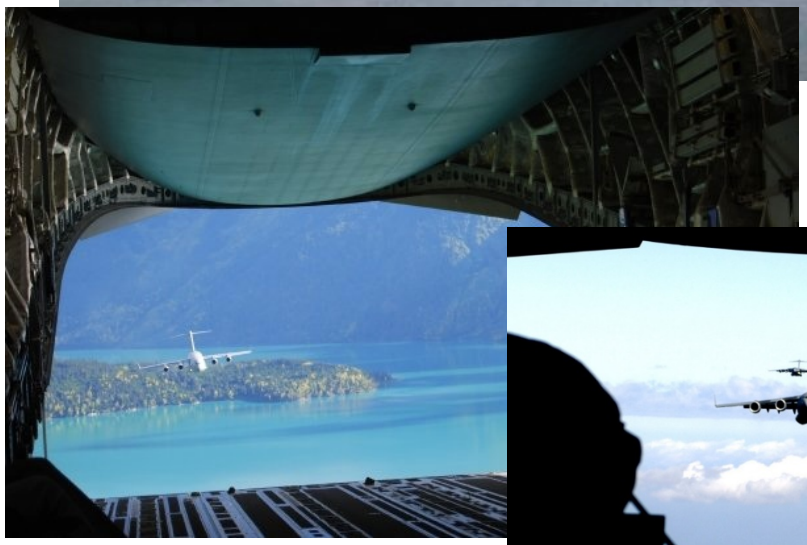


- Route Width: 5NM left/right of centerline
- Altitudes: 300’ AGL – 5000’ MSL
- Airspeeds in excess of 250 kts

Common Routes

- IR 324 (near MWH)
- IR 330 (near MWH)
- VR 331

Airdrop



- "Flock" of C-17s
- Could be 3 or more in non-standard formation
- Difficult to maneuver formation
- Wingmen often not squawking

Rogers DZ

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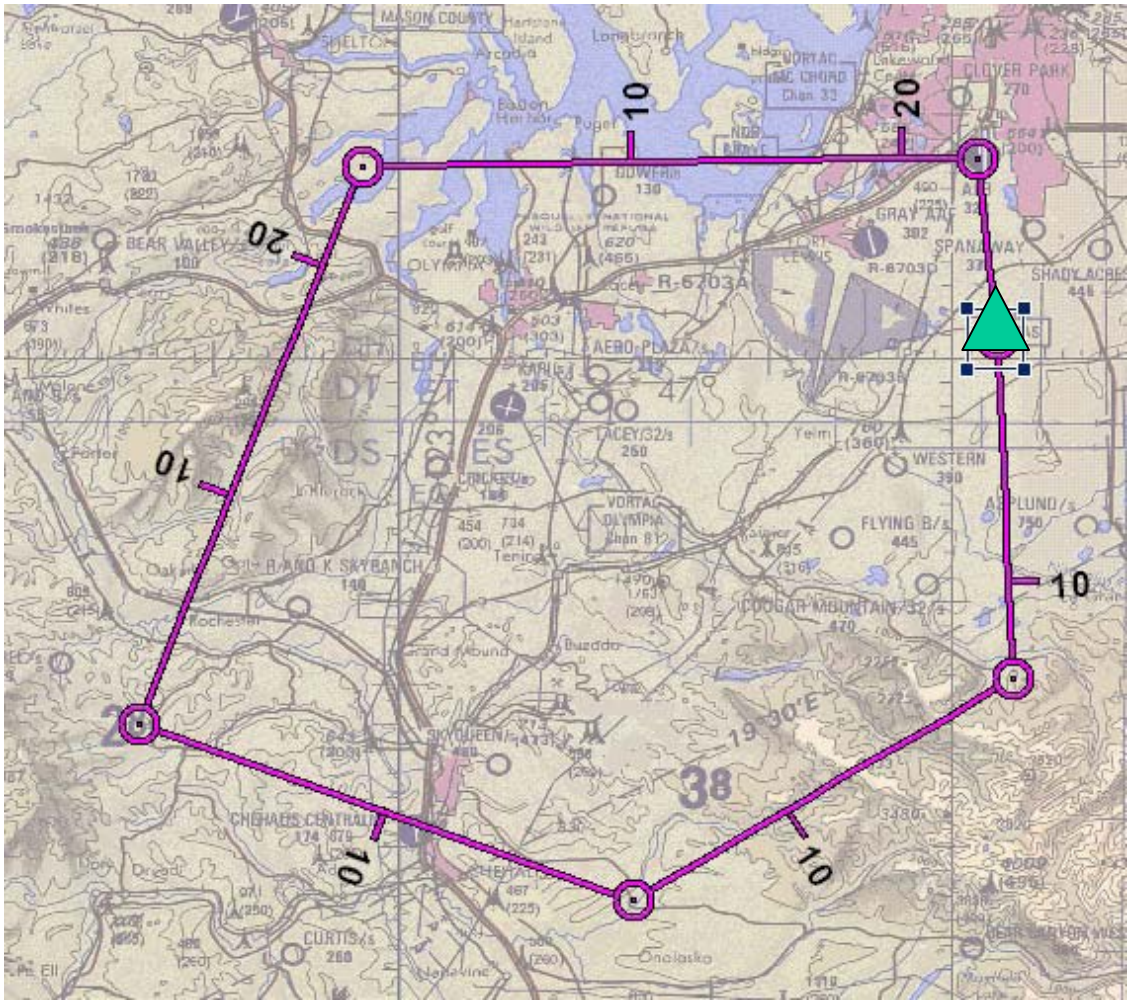
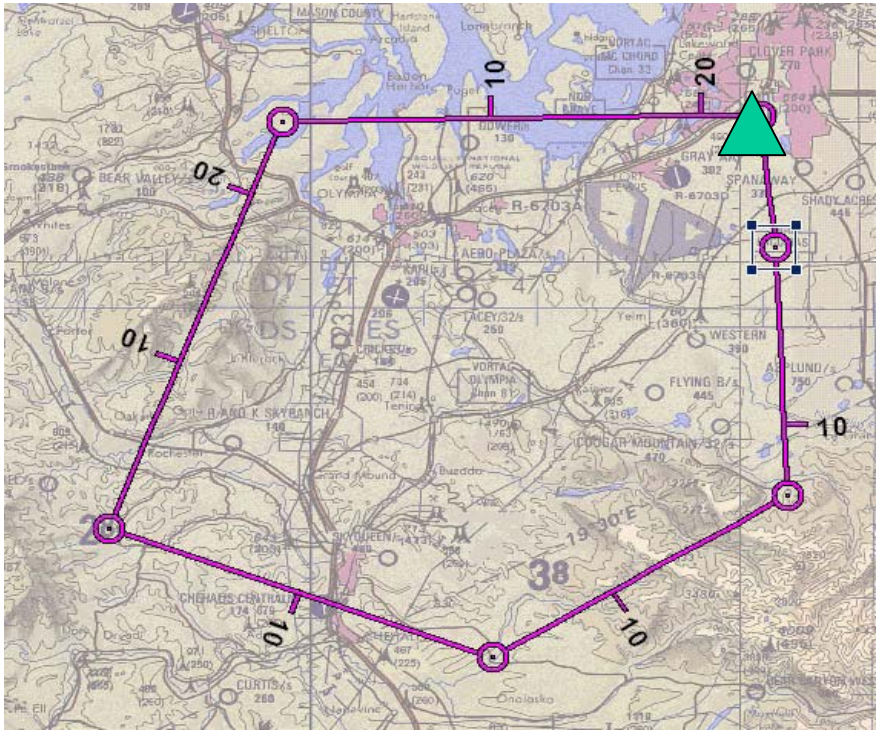
Route is VFR (can be IFR)



Just South of Spanaway

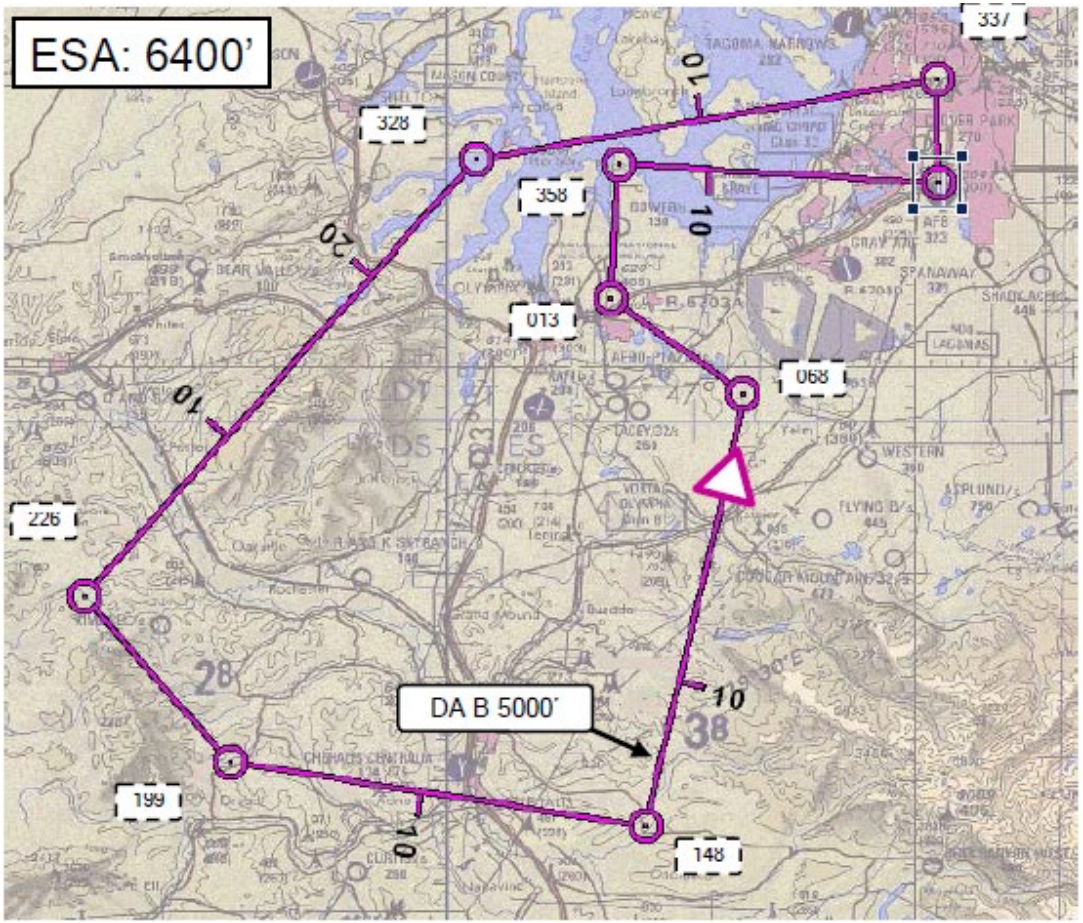
TCM 153/8

Crate/Farmers DZ



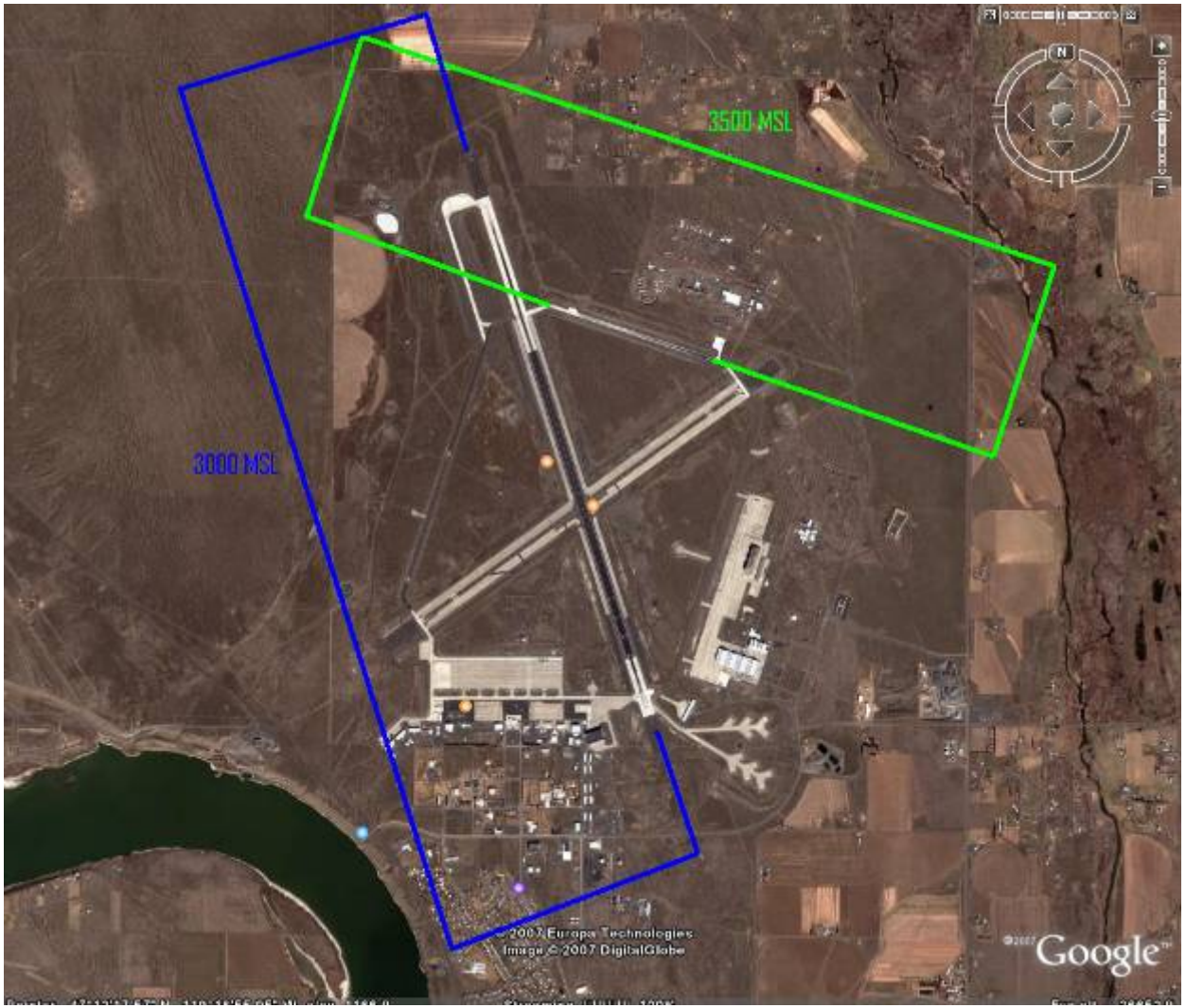
On McChord Field – drop static line or freefall jumpers between 1,000-18,000 feet with ATC coordination

Merrill DZ



- VFR Only
- Typically drop static line troops

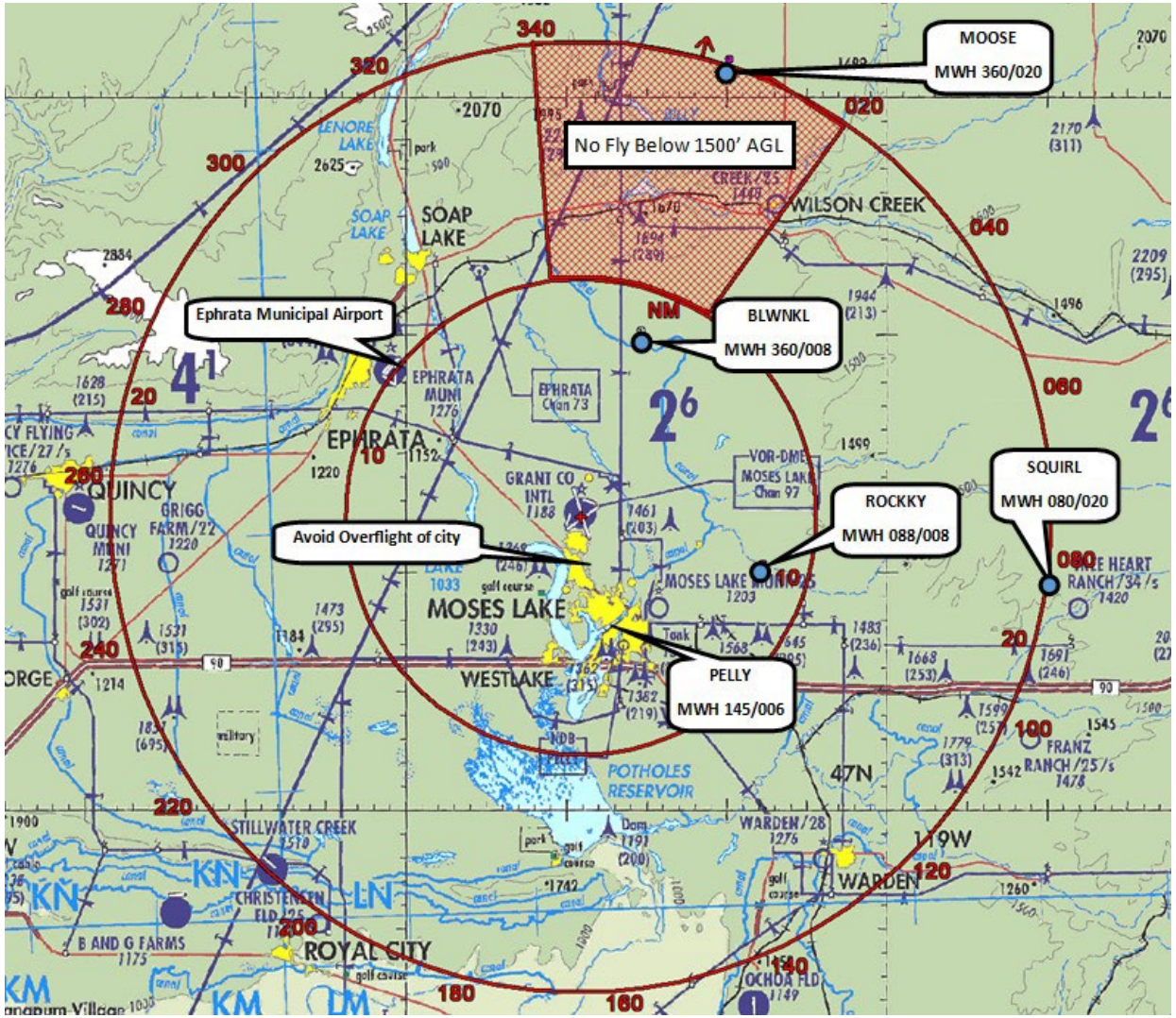
Grant County Operations Pattern



VFR/OVHD Pattern

- 14L/32R 3000’ MSL
- 9/27 3500’ MSL
- OVHD: 4000’ MSL

Grant County Operations Airspace



- All maneuvering below 5000' MSL during tactical arrivals will be made EAST of the main runway (32R/14L) unless coordinated otherwise with ATC
- Cancel IFR prior to commencing random approaches.
- "Moose" and "Squirl" arrivals are not considered random approaches
- Generally, we'll establish a VFR hold pattern at "Rockky" while the brakes cool before proceeding inbound to RWY 27

Grant County Operations Assault Landings

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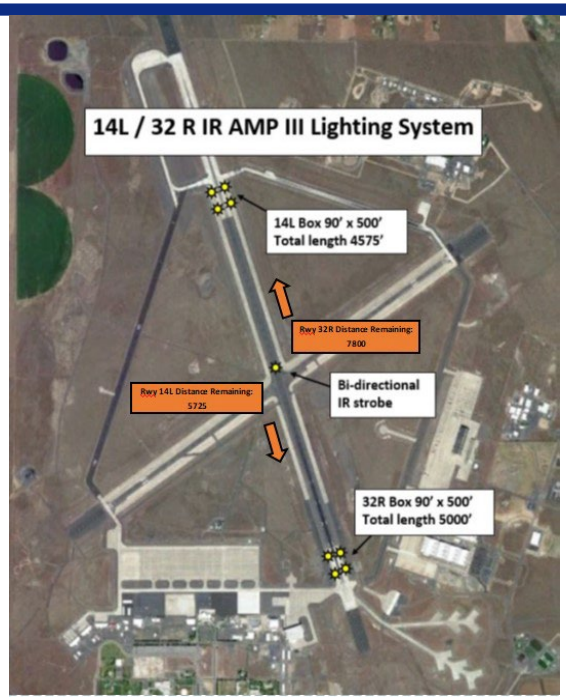
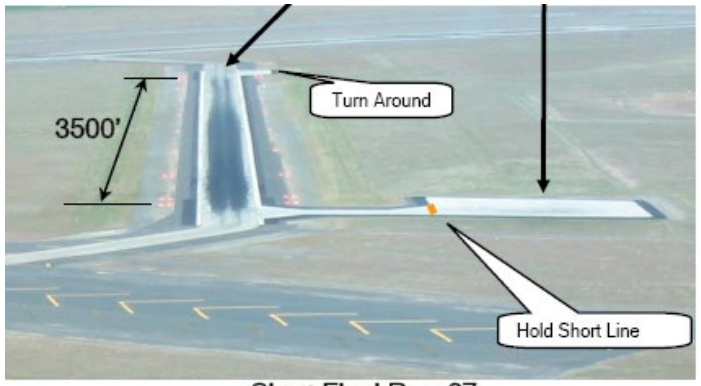
- What are they?
  - Spot landing (as short as 3500 ft long runway) to Rwy 9/27 & 14L/32R
  - 500 ft landing zone
  - Max braking/reverse thrust
  - Frequent "GOATs" (Go Around at Touchdown) to maximize training
- What you should know
  - Fast-paced ops
  - Demanding on crew SA
  - Possible conflicts w/crossing runways





Short Final Rwy 27

Grant County Operations Night/After Hours

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- 2200L – 0200L, airfield is uncontrolled
- Aircraft in contact with “Iron Cross”: (CTAF) 118.25
- NVG operations
- Max C-17s in the traffic pattern simultaneously:
  - 2 single ships or
  - 1 single ship and 1 formation flight (max 3 acft)

Mid-Air Collisions –Why Do They Happen?

Human Error: People make mistakes

- Pilots
- Controllers

Communication

- Miscommunication
- No Communication

Environment

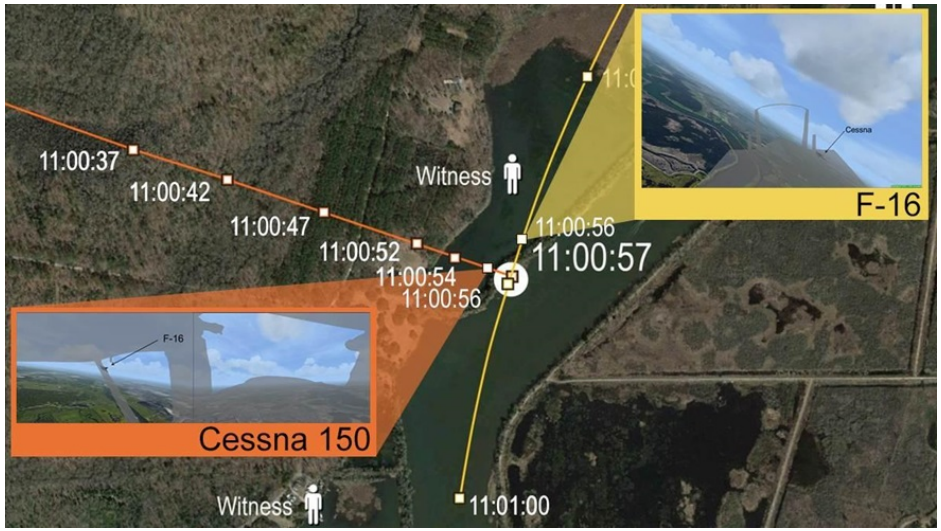
- Anywhere
- Anytime

PSA Flt 182 after colliding with a Cessna 172.
All aboard both aircraft and seven on the ground were killed.

Where Do They Happen?

Team McChord

- We all have responsibility to be aware of potential conflicts and AVOID them!
  - 49% occur in the traffic pattern
  - Of the other 51%...
    - ½ occurred during en route climb, cruise, descent
    - The rest were formation flights or other hazardous activities
  - 80% of collisions happened w/in 10 nm of an airport



Simulated views from within the Cessna 150 and F-16 a second before collision. Composite image by AOPA staff. Images courtesy of NTSB.

Our goal: To educate civilian pilots on the midair potential in the Grant County area and foster a safety oriented airspace in which we operate.

Larson DZ HATR

Team McChord

29 Nov 2011

"During Airdrop Run-In – VFR traffic flew between 2-ship formation"

- **2-ship formation of C-17s flying at 145 knots, 1000' AGL, on IFR clearance**
- **C-17s have doors open, stabilized, ready for drop**
- **Co-altitude VFR traffic (Cessna) doesn't see formation until lead flies by**
- **VFR traffic makes right turn towards wingman, then spots wingman, and dives**
- **Formation lead contacted Grant County Approach and filed HATR**
- **FORMATIONS DO NOT FLY IN TCAS TA/RA MODE**
- **Wingmen TCAS in standby, unless greater than a mile in trail**

What C-17 Crews Do To Prevent Mid-Airs

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- Tools at our disposal
  - See and avoid
  - Preflight planning
  - Air Movement Table (AMT)
  - Traffic Collision Avoidance System (TCAS)
  - ADS-B
  - Radios
  - Crew concept
  - Hemispheric cruising altitudes
  - Operating procedures

What You Can Do To Prevent Mid-Airs

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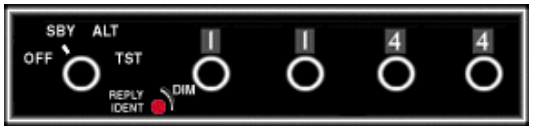

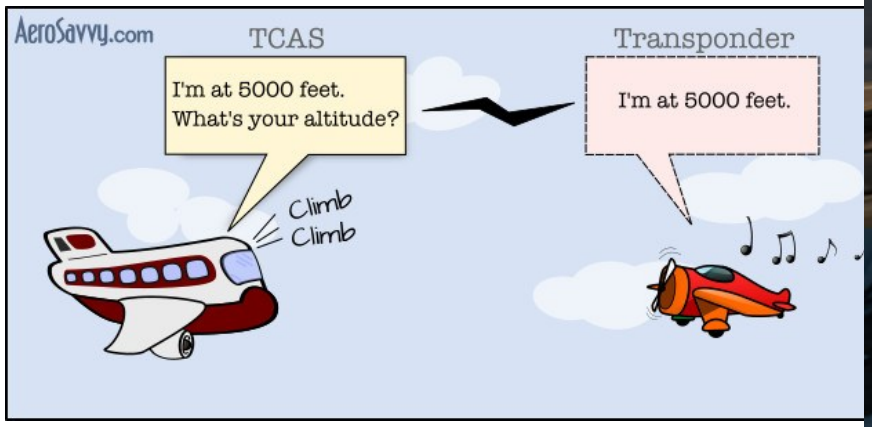

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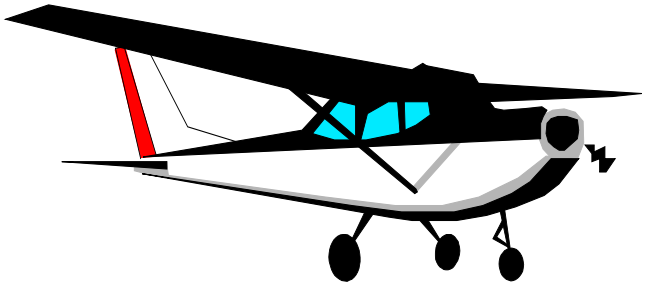
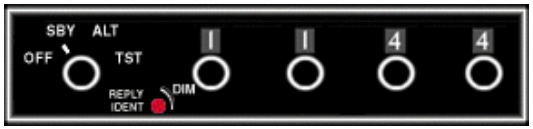
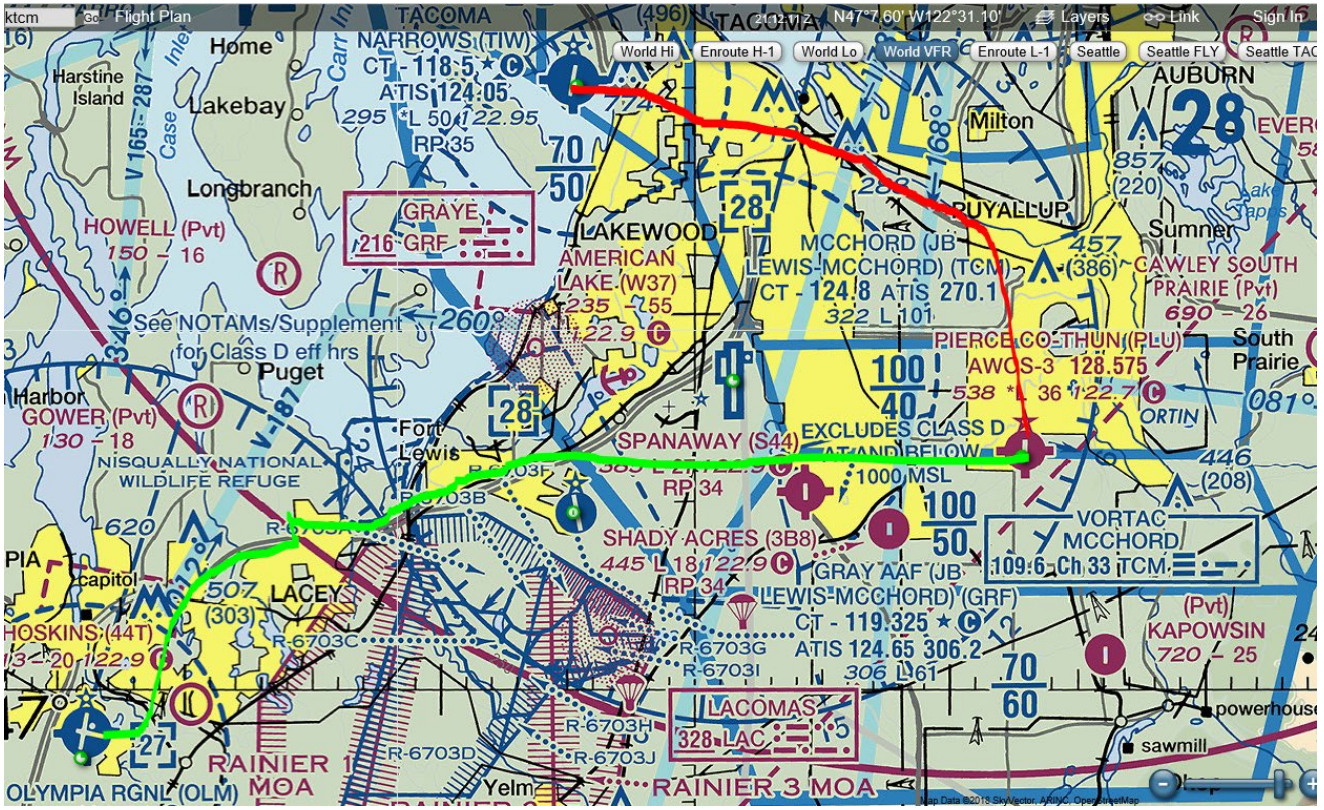
What You Can Do To Prevent Mid-Airs

- Check status of MTRs
  - Call FSS
  - http://sua.faa.gov
- Avoid areas of greatest activity
  - Cross perpendicular to MTRs
- If able, fly at higher altitudes. Get flight following. Fly at proper VFR hemispheric altitudes.
- Make your position known
  - External lights
  - Radios
  - Transponder (Mode C)
- Don't get complacent! Many mid-airs occur during periods of instruction and supervision. Instructors make mistakes too.
- ***Squawk!***





VFR Traffic conflicts



McChord Tower asks:

- Be alert!
- Fly at 500 foot altitudes.
- Monitor KTCM tower (124.8) if you are within 10nm from TCM (109.6)

MACA Products

Team McChord

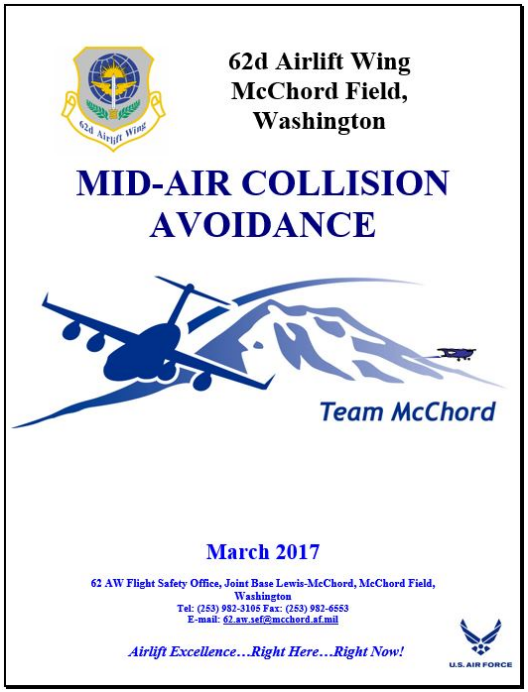
http://www.mcchord.af.mil/About-Us/Mid-Air-Collision-Avoidance

(OR Google "McChord MACA")

Public Website

MACA Brochure

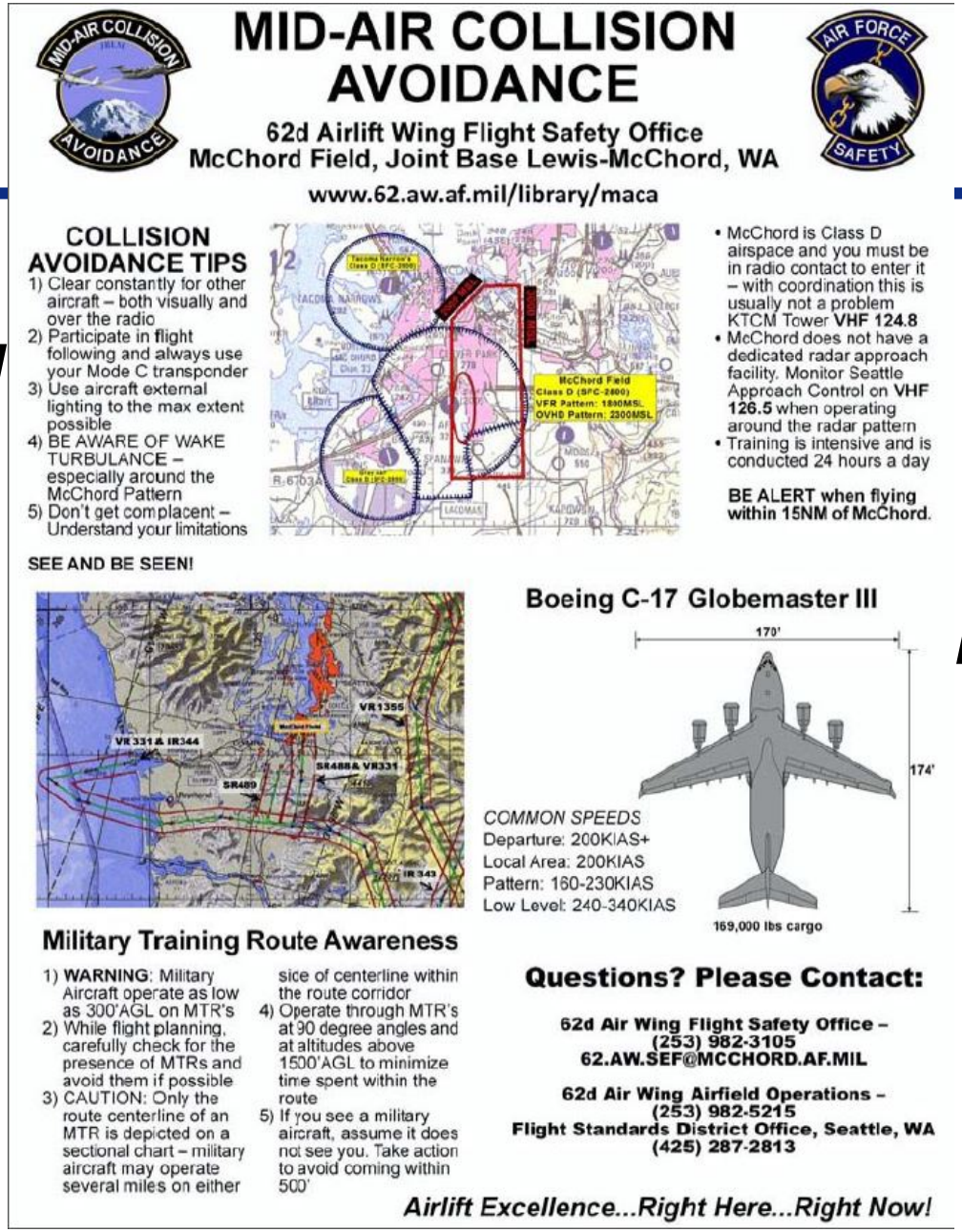
MACA Poster



Team McChord

Poster distributed to Local civilian Airfields:

- *Tacoma Narrows*
- *Spanaway Airpark*
- *Thun Field*
- *Boeing Field*
- *Auburn Muni*



Includes:

- *Local airspace*
- *KTCM airfield information*
- *Low level routes and busy areas*
- *C-17 ops and info*
- *Collision avoidance tips*
- *Safety contact numbers*

62AW Safety Contact Info

- 253-982-3105
- 62.AW.SEF@us.af.mil

THANK YOU!!!