McChord AFB

Team McChord

C-17 Local Flying Operations and the Civilian Aviator

Capt Jake Pruitt

62 AW & 446 AW
Safety Office
Joint Base Lewis-McChord, WA

OVERVIEW

Team McChord

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

Introduction

Team McChord

- 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!
  - 65% occur near airports
  - 15% on low-level training routes
  - 10% in military operating areas

- The “big sky” theory is not the best approach in our saturated airspace.
  - 25 HATRs involving military aircraft reported in the local area in past 4 years

C-17A Overview

Team McChord

C-17A Overview

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Wingspan: 170 feet
Length: 166 feet
Max Takeoff Weight: 585,000 Lbs
Max Cruise Speed: 350 kts/.825M
Approach Speed: 100 - 140 kts
Low Level Speed: 300 kts
VHF radio: Yes
Color: Dark Grey

Various Missions

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Combat Airlift

Air Refueling (AR)

Supporting Scientists in Antarctica

Aeromedical Evacuation (AE)

Presidential Support

HALO Airdrop

Innovative Airmen…Airlift Excellence…Respect For All!

McChord Airfield (KTCM)

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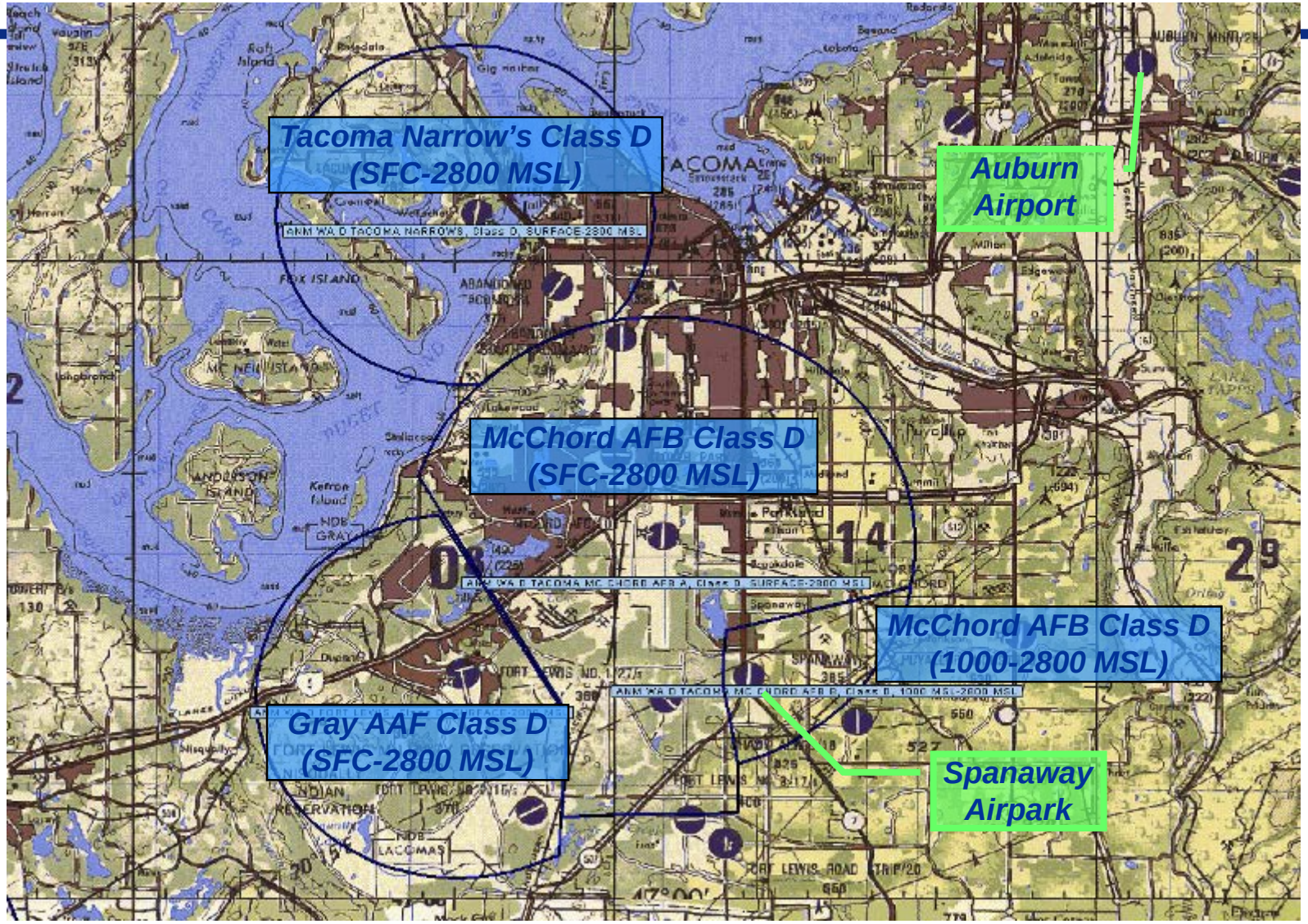
McChord Field has a 10,100’ Rwy (34/16)

ILS, RNAV, TACAN approaches; overt and covert Assault Landing Zone (ALZ)

Tower is operational 24 hours per day (Freq. 124.8)

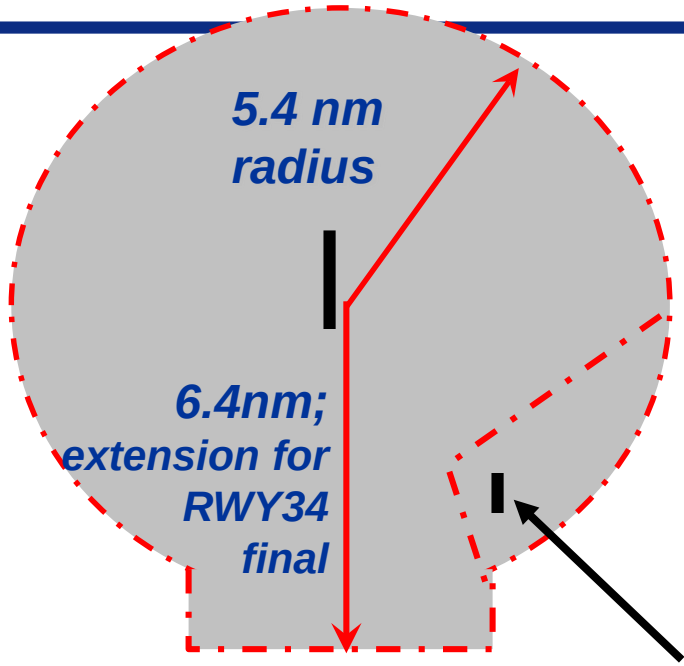
Home to 62 AW, 446 AW, 48 C-17A aircraft

Our Location



McChord's Airspace

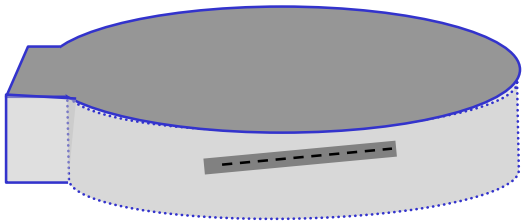
- Class "D" airspace
- 24 hours/day
- VFR transitions are not a problem
- Two-way radio communications required to enter class D



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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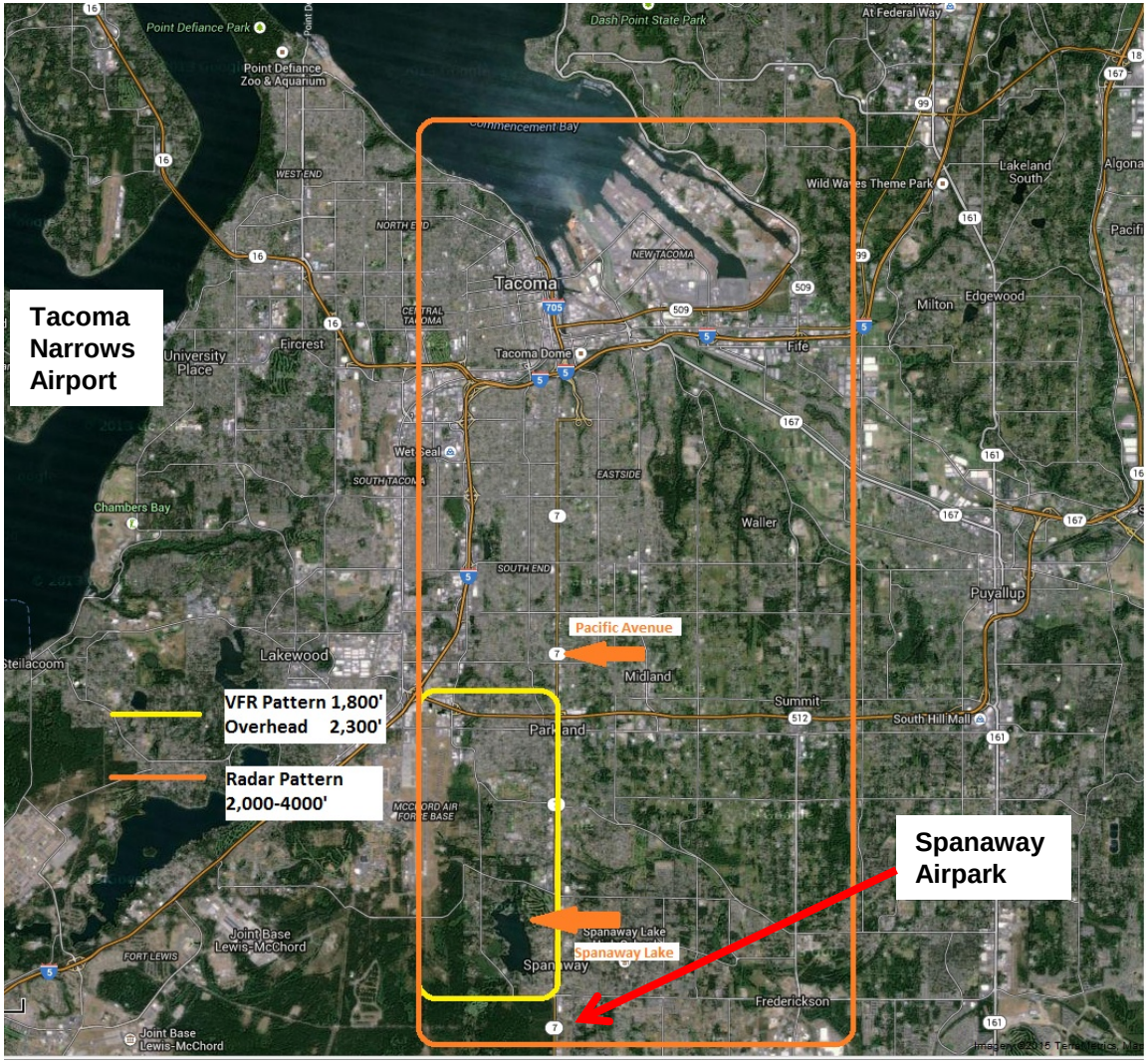

- Military aircraft avoid overflying Spanaway Lake, Brown's Point and Point Defiance
- Circling airspace is at 940' to the West of the field
- Consult FLIP for a depiction of TCM instrument approaches

Grant County Ops

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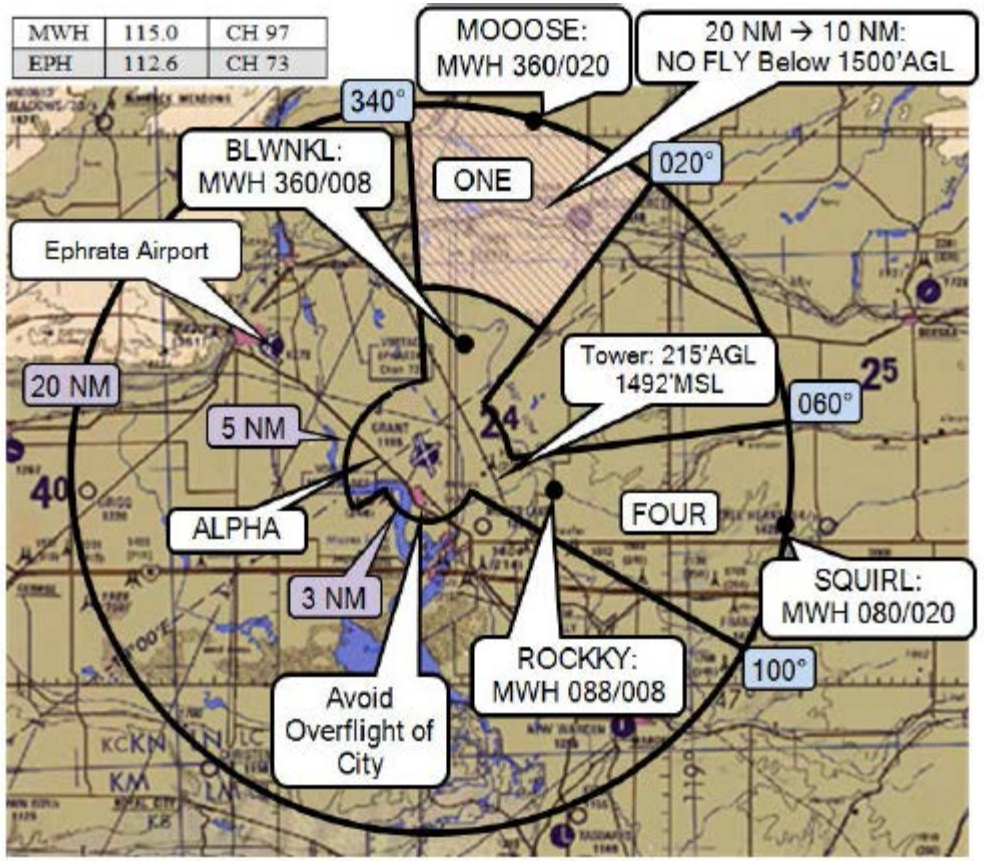

- **All maneuvering below 5000' MSL during tactical arrivals will be made EAST of the main runway (32R/14L) unless coordinated otherwise with ATC**

- **Cancel IFR prior to commencing random approaches.**
- **"Moose" and "Squirrel" arrivals are not considered random approaches**

- **Regular VFR holding at hemispheric altitudes to cool brakes at ROCKKY and BLWNKL**

<u>VFR/OVHD Pattern</u>

- **14L/32R 3000' MSL**
- **9/27 3500' MSL (north pattern)**
- **OVHD: 4000' MSL**

Grant County Pattern

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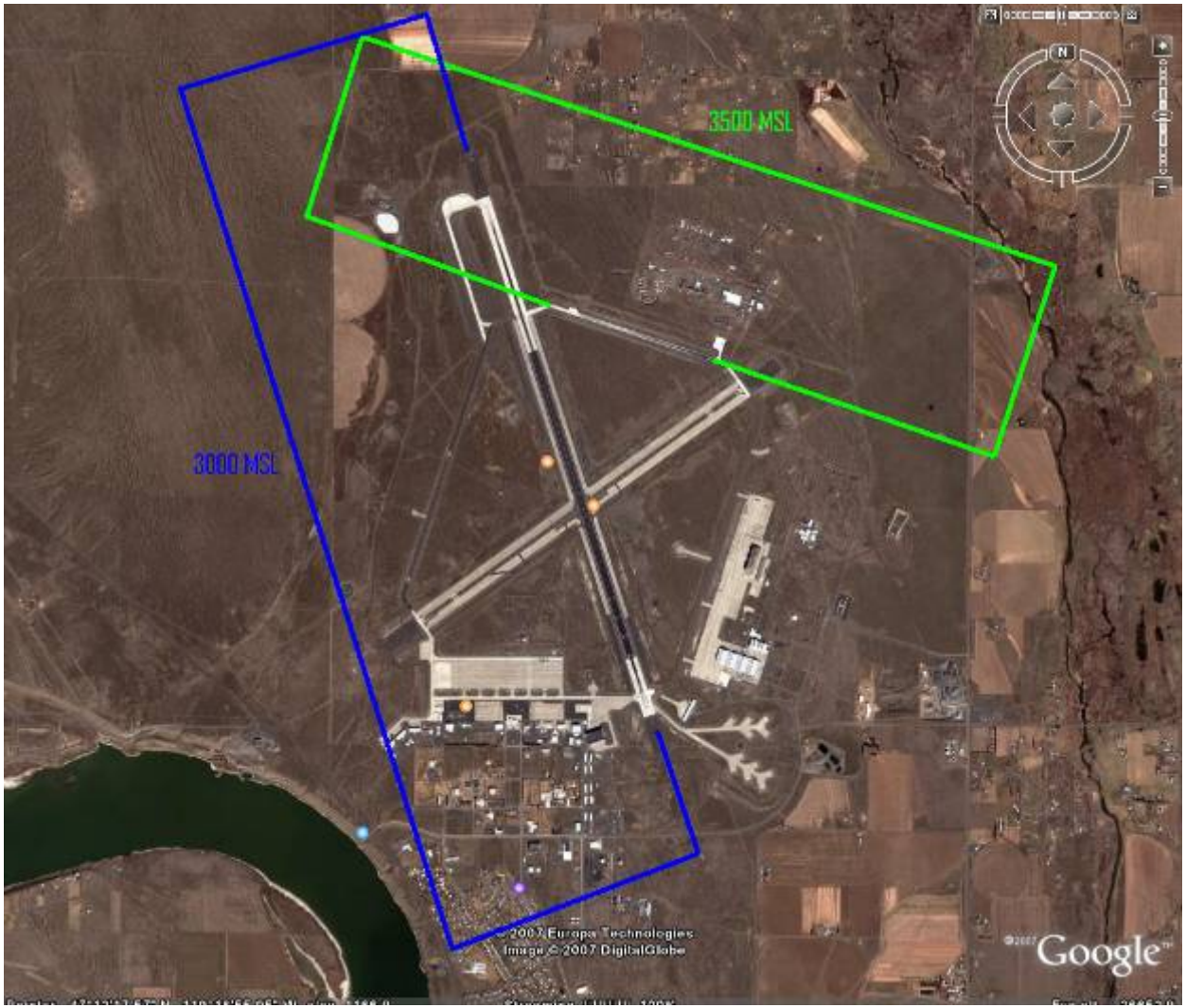
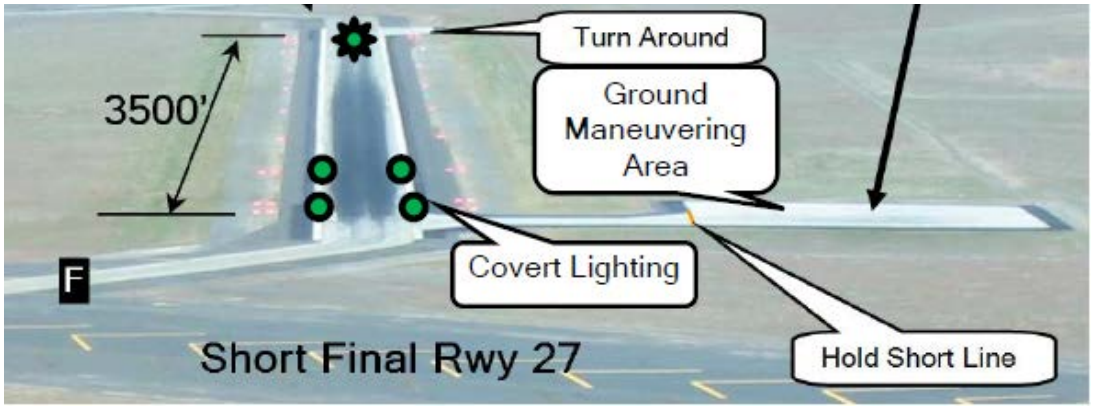
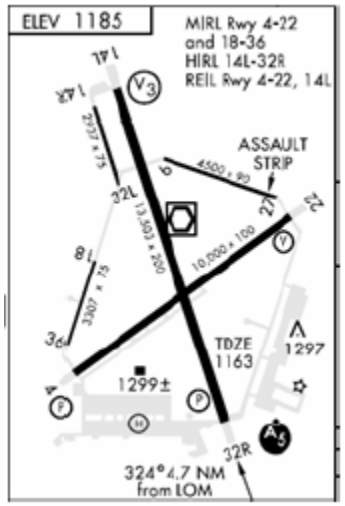
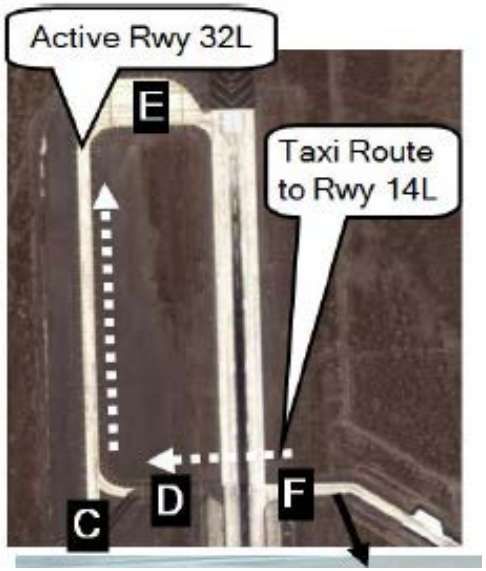


Assault Landings







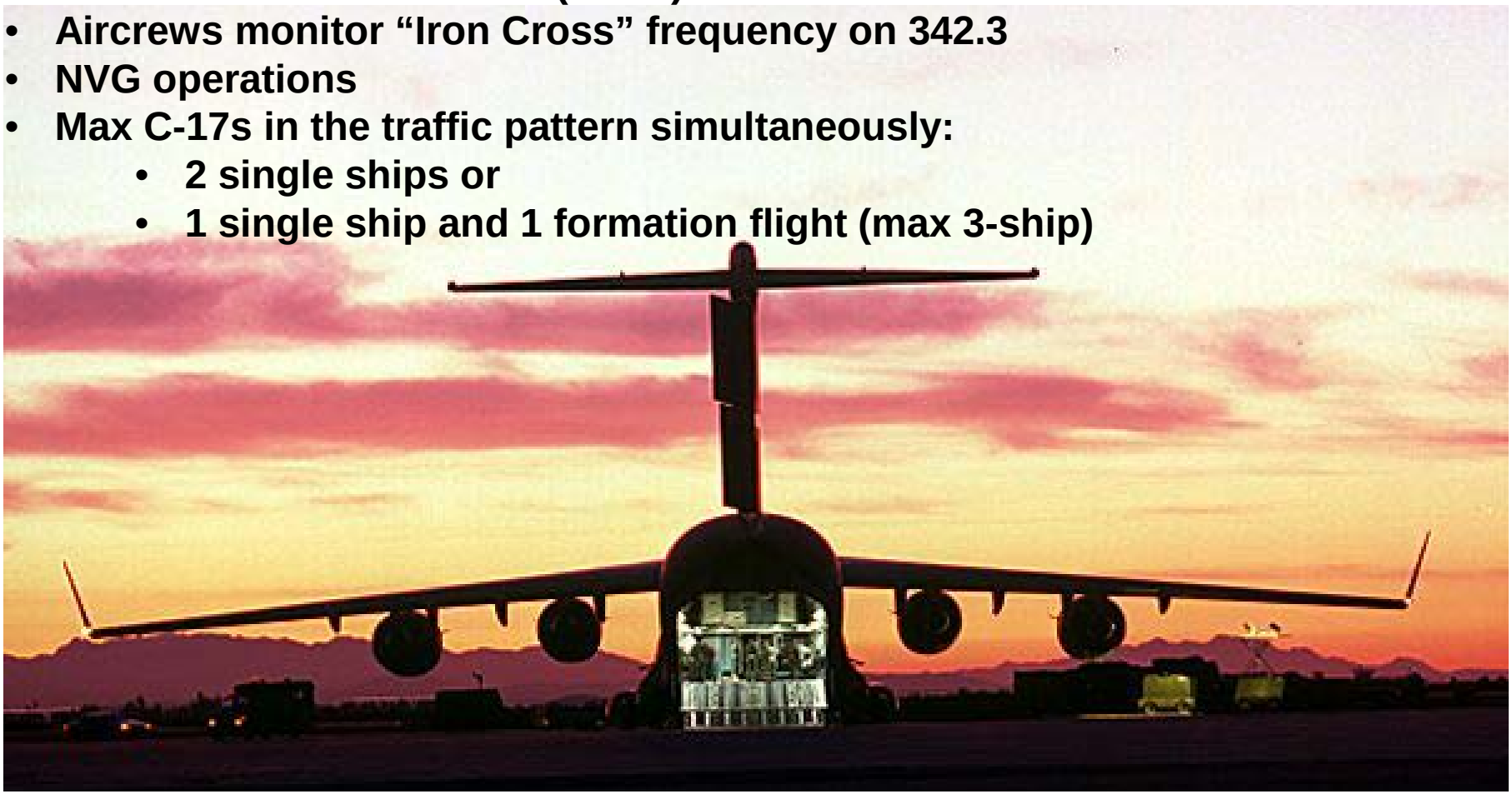
What are they?

- Spot landing (as short as 3500 ft runway)
- Crews aim for 500 ft zone
- Max braking/reverse thrust
- Go around @300 ft if unstable
- Frequent "GOATs" (Go Around at Touchdown) to maximize training

- What you should know
  - Fast-paced ops on 9/27
  - Demanding on crew SA
  - Possible conflicts w/crossing runways

After Hours

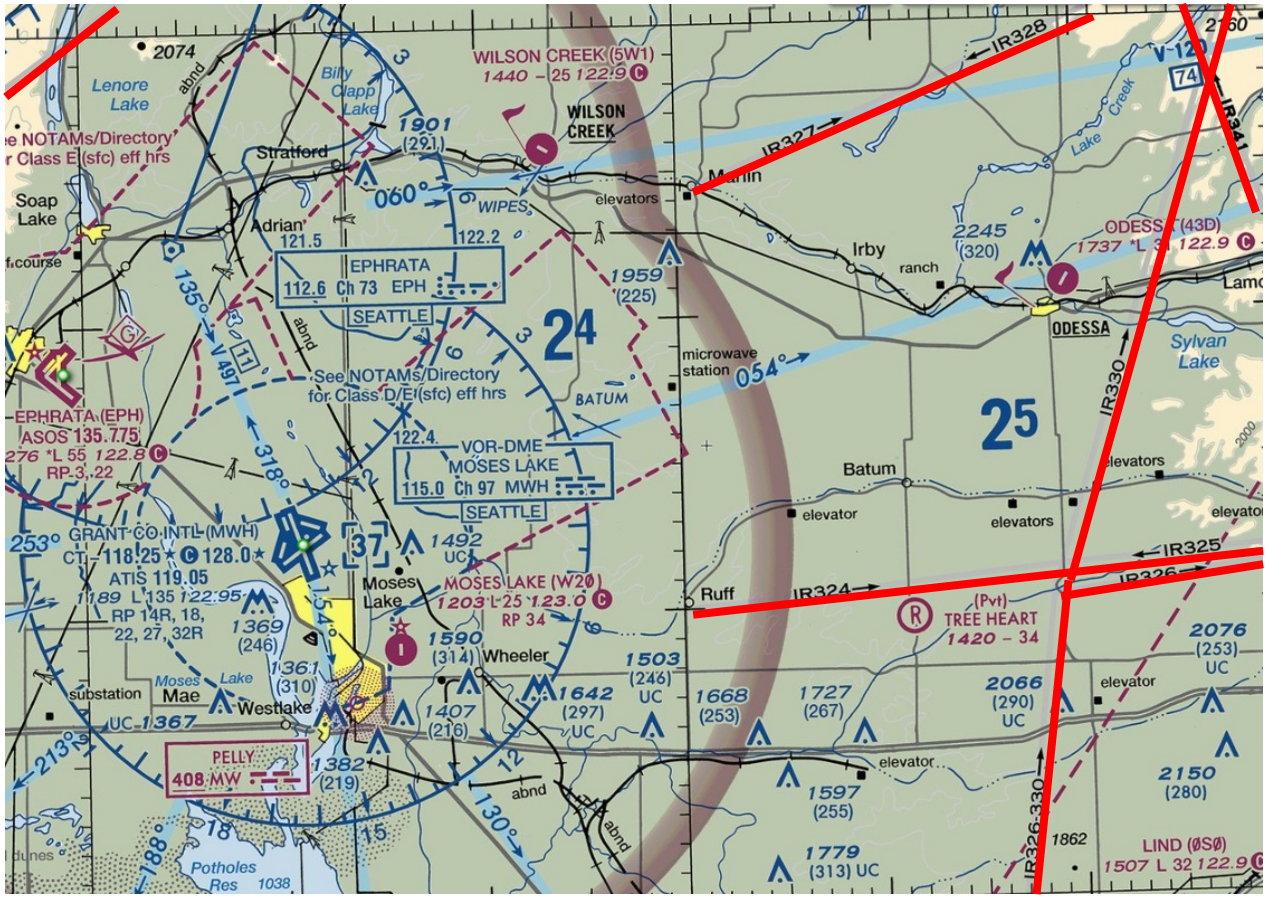
- 2200L – 0200L, airfield is uncontrolled
- Aircraft and “Iron Cross”: (CTAF) 118.25
- Aircrews monitor “Iron Cross” frequency on 342.3
- NVG operations
- Max C-17s in the traffic pattern simultaneously:
  - 2 single ships or
  - 1 single ship and 1 formation flight (max 3-ship)



NVG Operations

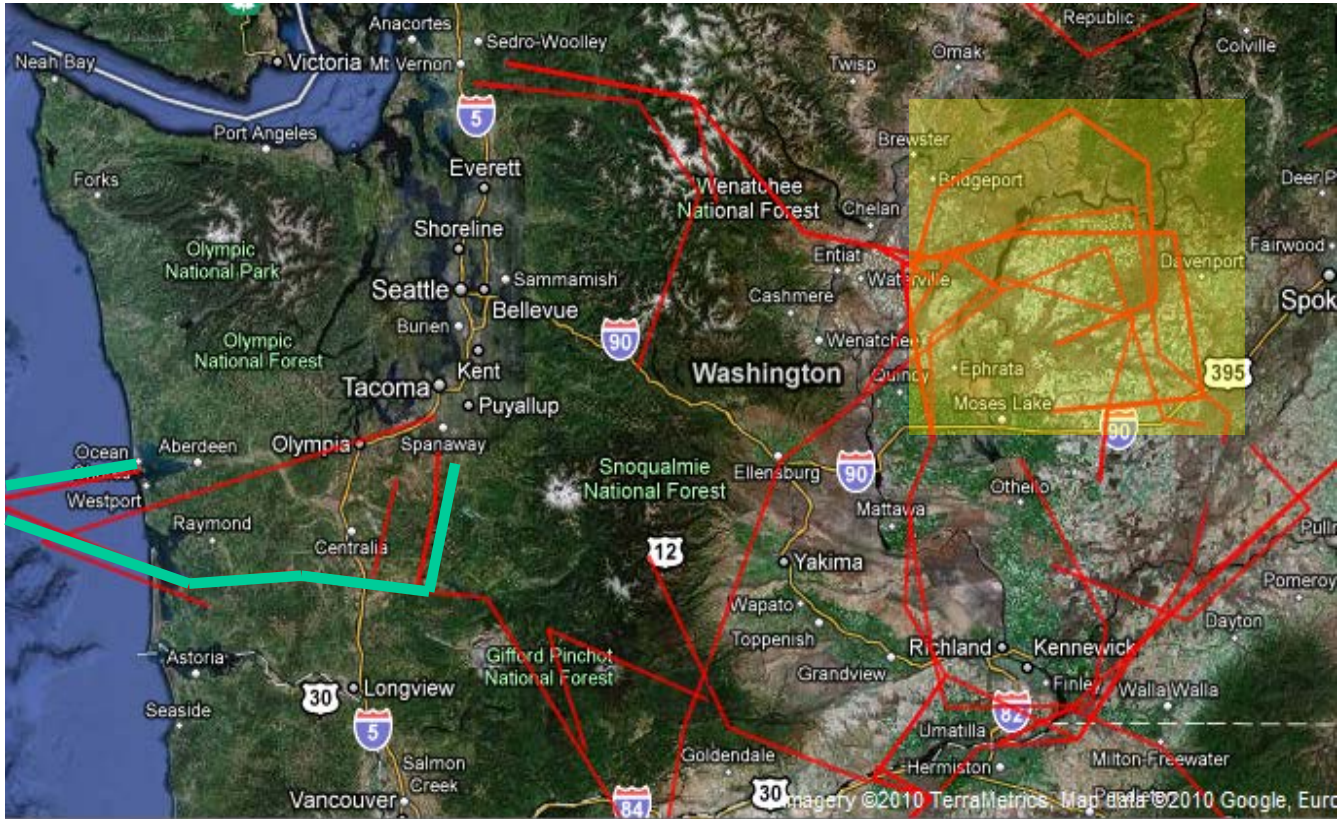
- Comprises most of our night training
- Multiple runway lighting schemes
  - Full runway lights (overt)
  - Infrared (covert)
  - 500 or 1000 ft “box”
- Aircraft lights
  - Position/anti-collision lights always on
  - Infrared landing lights
- What you should know
  - Aircraft lights may look different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

Low Level Routes on Sectional Charts



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

TRAINING ROUTES



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

Common Routes

•IR 324 - IR 330

•VR 331

Big Bend Training Areas

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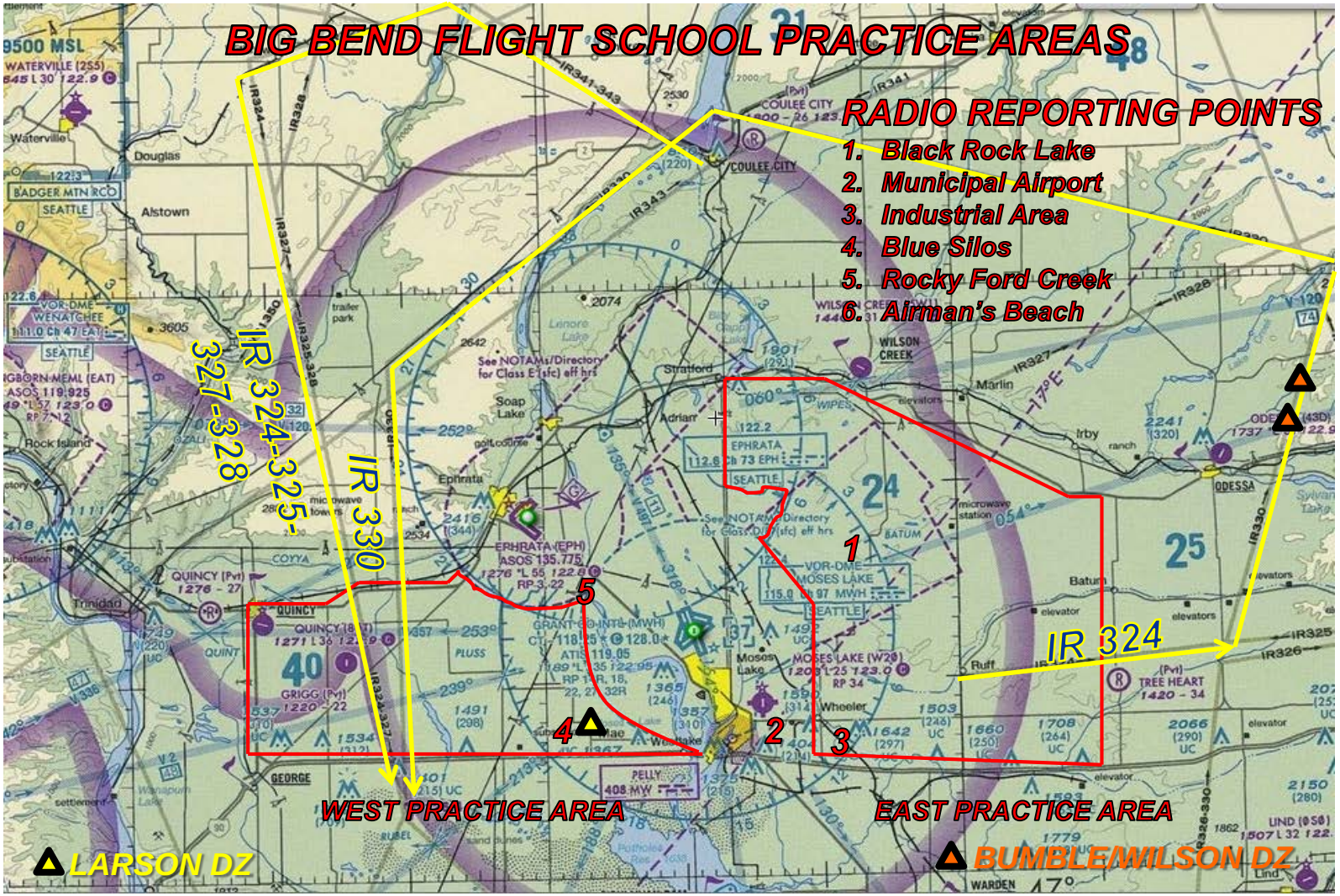

Innovative Airmen…Airlift Excellence…Respect For All!

Airdrop!

Watch out for the COHO!

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

Rogers DZ

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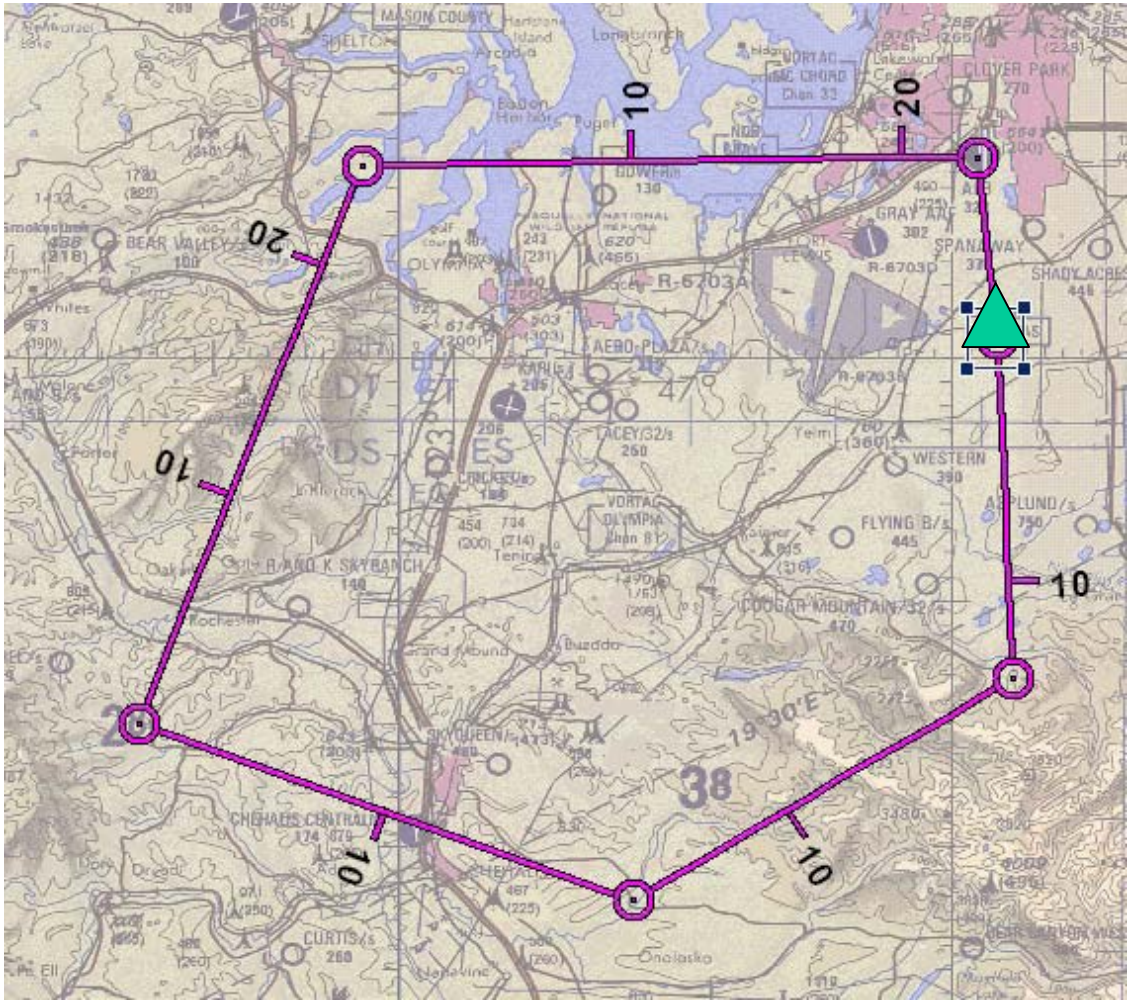
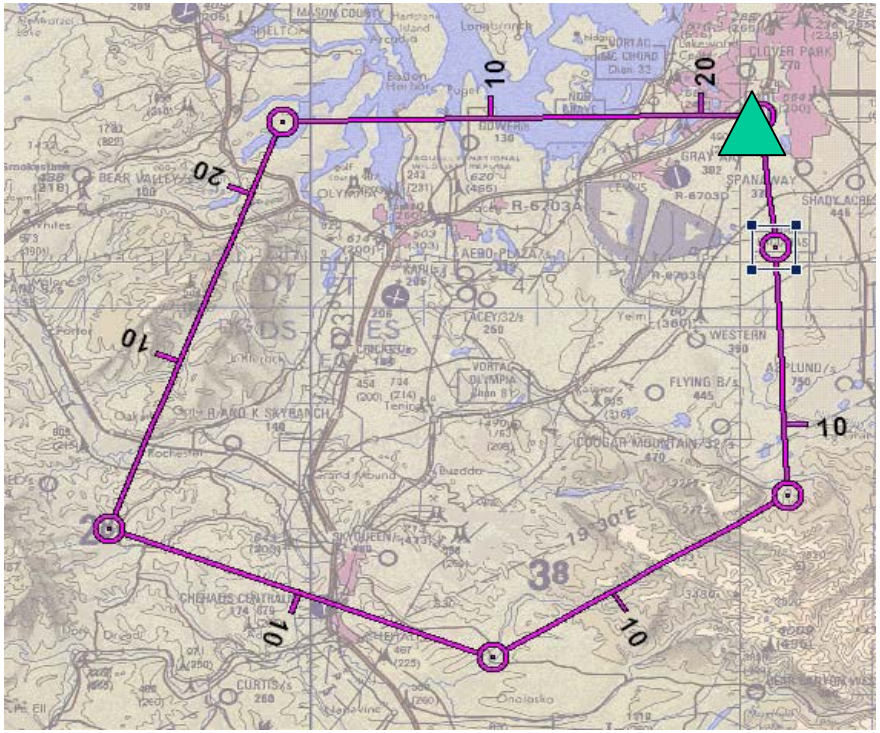
Route is VFR (can be IFR)



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

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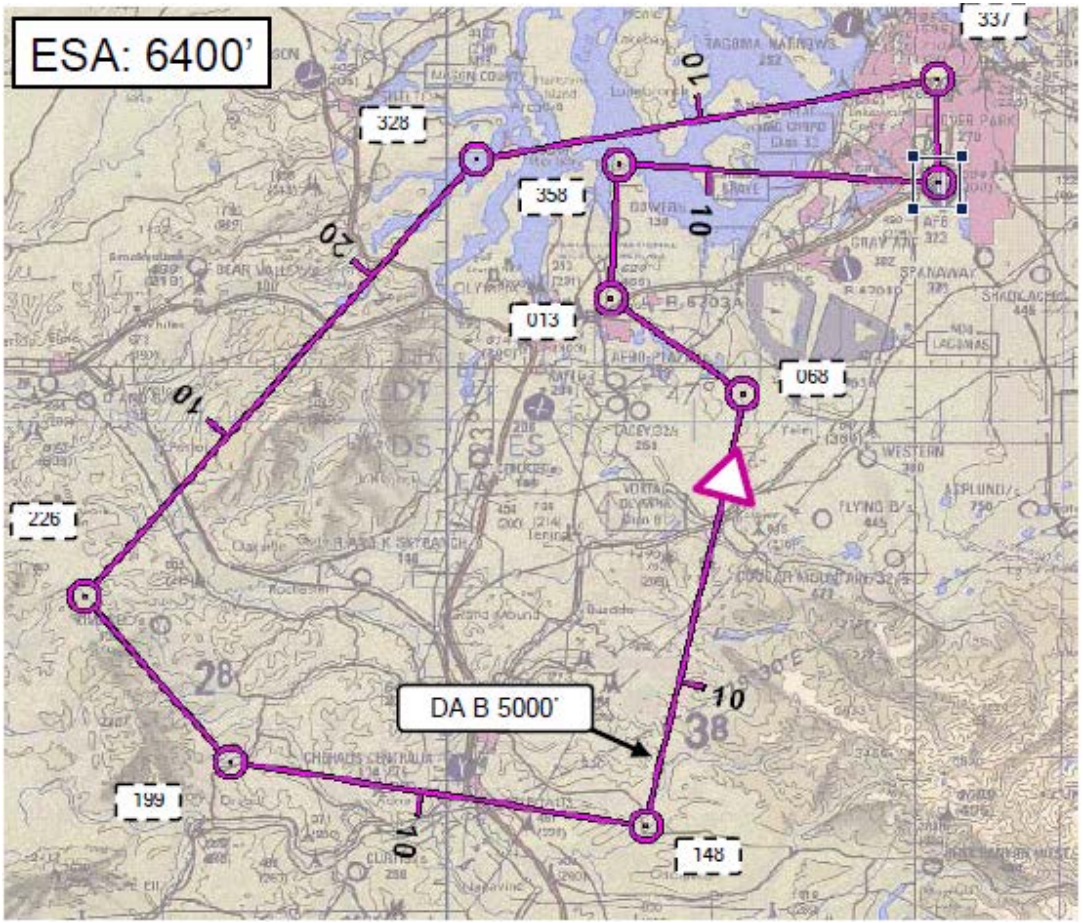
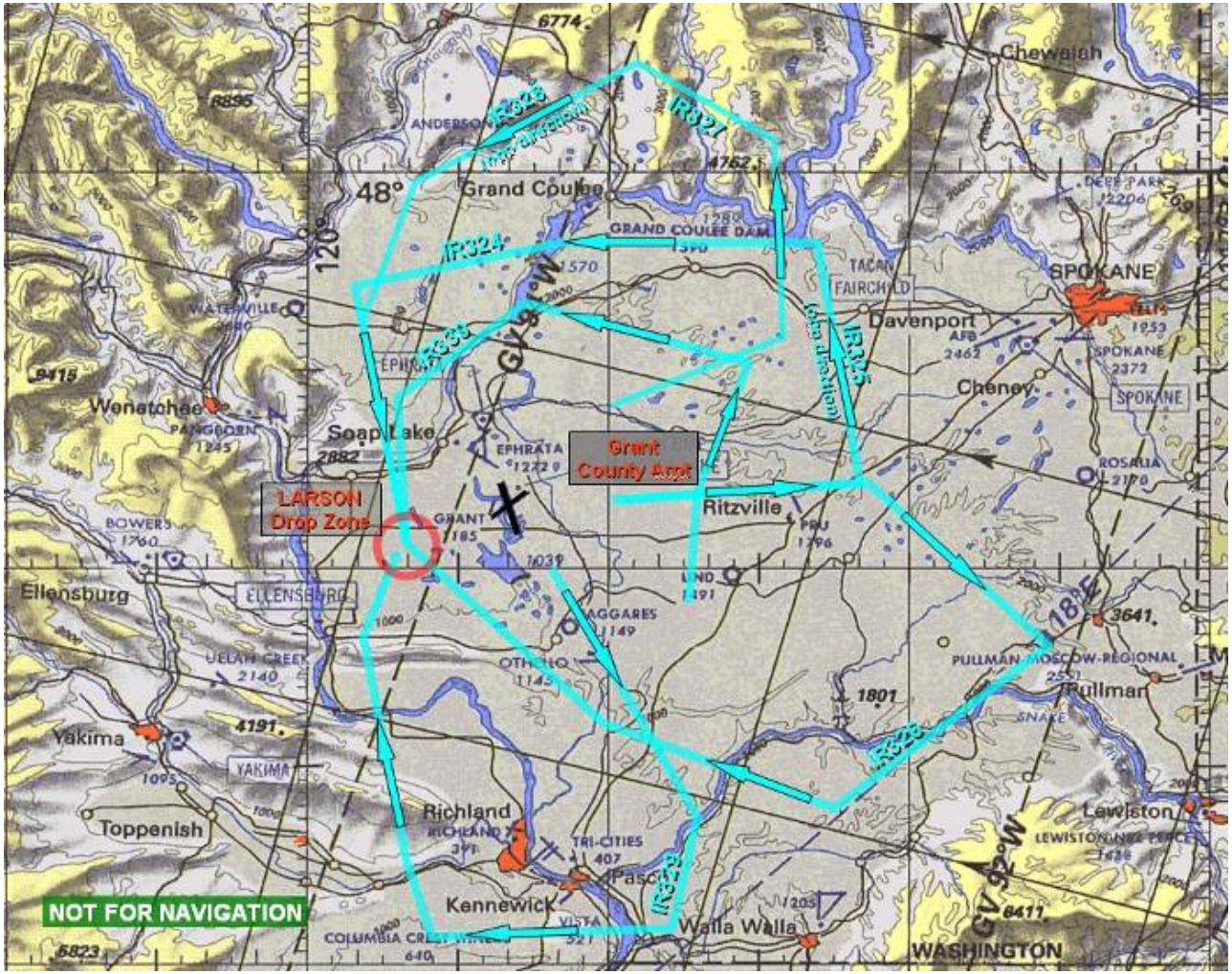


- VFR Only
- Typically drop static line troops

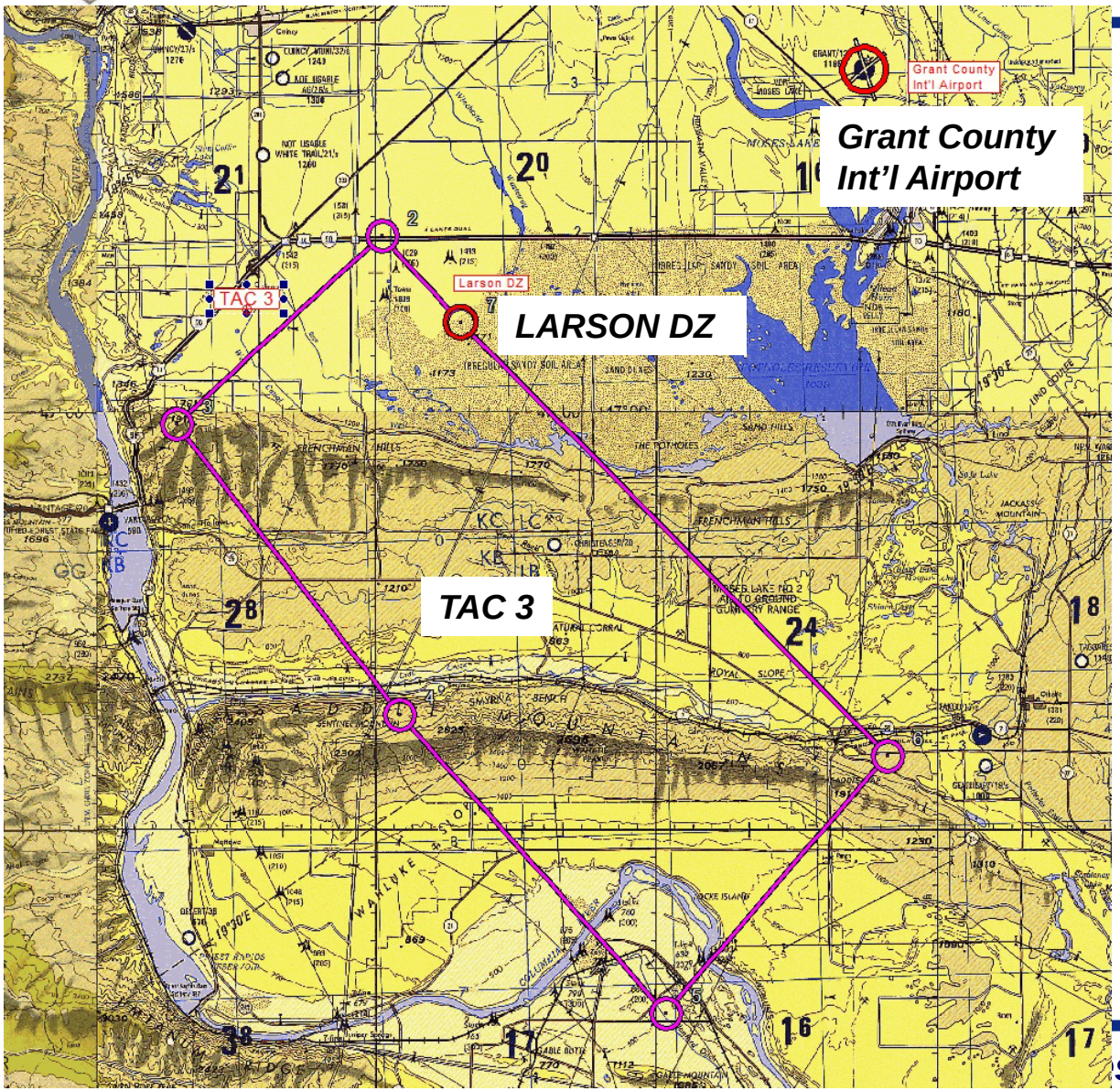
KMWH Airdrop Routes



Larson DZ

Almost all of the low-levels converge on the same point. This is the Larson Drop Zone.

Larson DZ



- Most Airdrop routes terminate at the Larson DZ
- Sortie profiles typically include multiple 22-min "TAC 3" routes
- Highest risk exists within 20 NM N/S corridor surrounding Larson DZ.
- Crews are task saturated during and immediately after "run in" to Larson

Larson DZ HATR

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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**

Mid-Air Collisions –why do they happen?

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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.

What C-17 pilots do to prevent mid-airs

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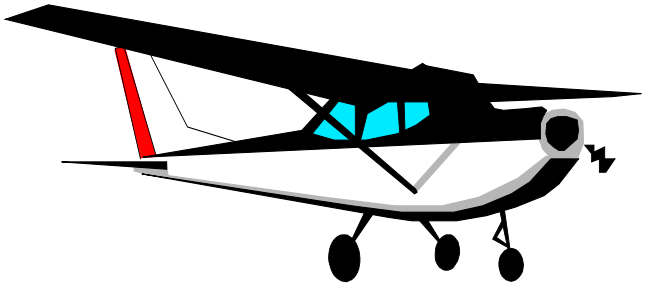
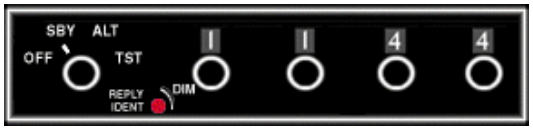
- Tools at our disposal
  - See and avoid
  - Preflight planning
  - Air Movement Table (AMT)
  - Traffic Collision Avoidance System (TCAS)
  - Radios
  - Crew concept
  - Hemispheric cruising altitudes
  - Operating procedures

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
  - <u>Radios (especially at Moses Lake)</u>
  - Transponder (Mode C)
- Don't get complacent! Many mid-airs occur during periods of instruction and supervision. <u>Instructors make mistakes too.</u>
- ***<u>Squawk!</u>***





MACA Products

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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*

MID-AIR COLLISION AVOIDANCE

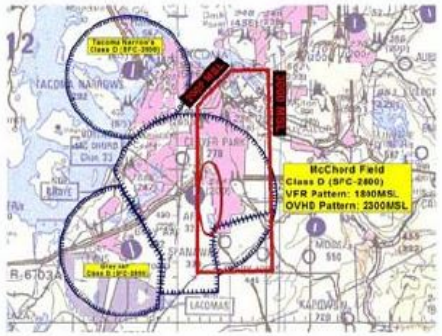
62d Airlift Wing Flight Safety Office
McChord Field, Joint Base Lewis-McChord, WA

www.62.aw.af.mil/library/maca

COLLISION AVOIDANCE TIPS

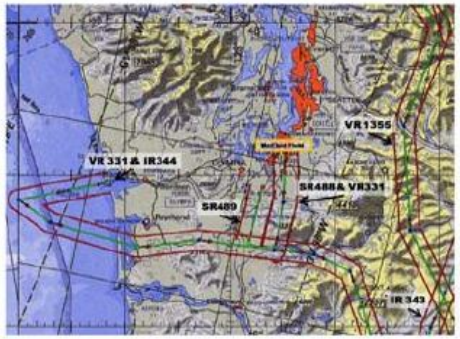
1) Clear constantly for other aircraft – both visually and over the radio
2) Participate in flight following and always use your Mode C transponder
3) Use aircraft external lighting to the max extent possible
4) BE AWARE OF WAKE TURBULANCE – especially around the McChord Pattern
5) Don't get complacent – Understand your limitations

SEE AND BE SEEN!

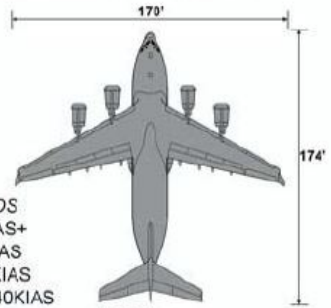


- McChord is Class D airspace and you must be in radio contact to enter it – with coordination this is usually not a problem KTCM Tower **VHF 124.8**
- McChord does not have a dedicated radar approach facility. Monitor Seattle Approach Control on **VHF 126.5** when operating around the radar pattern
- Training is intensive and is conducted 24 hours a day

BE ALERT when flying within 15NM of McChord.



Boeing C-17 Globemaster III



COMMON SPEEDS
Departure: 200KIAS+
Local Area: 200KIAS
Pattern: 160-230KIAS
Low Level: 240-340KIAS

169,000 lbs cargo

Military Training Route Awareness

1) **WARNING**: Military Aircraft operate as low as 300'AGL on MTR's
2) While flight planning, carefully check for the presence of MTRs and avoid them if possible
3) CAUTION: Only the route centerline of an MTR is depicted on a sectional chart – military aircraft may operate several miles on either side of centerline within the route corridor
4) Operate through MTR's at 90 degree angles and at altitudes above 1500'AGL to minimize time spent within the route
5) If you see a military aircraft, assume it does not see you. Take action to avoid coming within 500'

Questions? Please Contact:

62d Air Wing Flight Safety Office –
(253) 982-3105
62.AW.SEF@MCCHORD.AF.MIL

62d Air Wing Airfield Operations –
(253) 982-5215
Flight Standards District Office, Seattle, WA
(425) 287-2813

Airlift Excellence...Right Here...Right Now!

Includes:

Local airspace

KTCM airfield information

Low level routes and busy areas

C-17 ops and info

Collision avoidance tips

Safety contact numbers

THANK YOU!!!