



McChord AFB C-17 Local Flying Operations and the Civilian Aviator



***Lt Col Dan DeYoung
Maj Phil Sakamoto
Capt Dan Siemen***

***62 AW Safety Office
Joint Base Lewis-
McChord, WA***



OVERVIEW



-
- 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



- 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.
 - 20 HATRs involving military aircraft reported in the local area in past 4 years





C-17A Overview



Innovative Airmen...Airlift Excellence...Respect For All!



C-17A Overview



Wingspan: 170 feet
Length: 166 feet
Max Takeoff Weight: 585,000 Lbs
Max Cruise Speed: 350 kts/.825M
Approach Speed: 105 - 135 kts
Low Level Speed: avg. 300 kts
VHF radio: yes
Color: Dark Grey



Various Missions



Combat Airlift



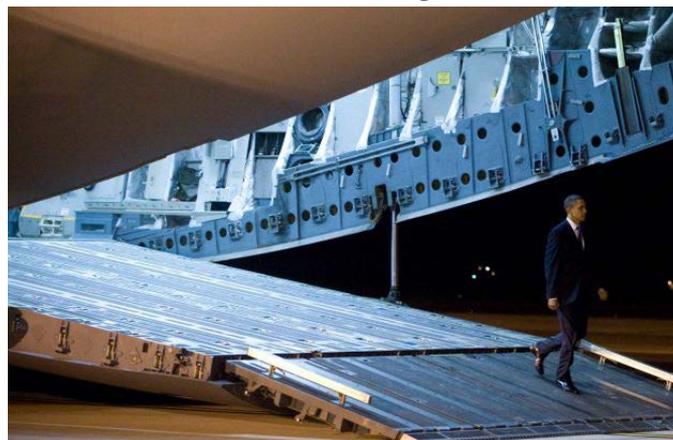
Air Refueling



Supporting Scientists in Antarctica



Medevac from OEF to Germany



Presidential Support



HALO Airdrop

Innovative Airmen...Airlift Excellence...Respect For All!



McChord Airfield (KTCM)



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, 49 C-17A aircraft



Our Location

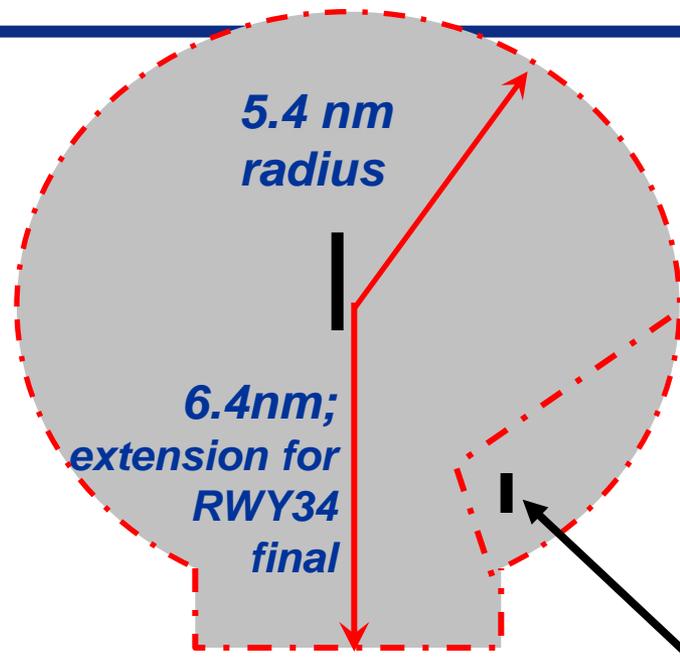




McChord's Airspace



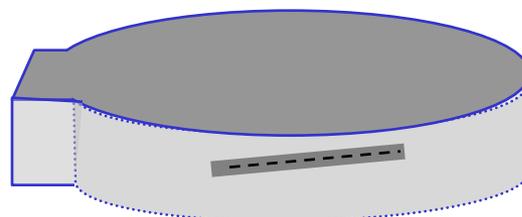
- Class "D" airspace
- 24 hours/day
- VFR transitions are not a problem
- Two-way radio communications required to enter class D



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



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



CH-47

Photo taken by: Munnaf H. Joarder



F-16



C-130



P-3

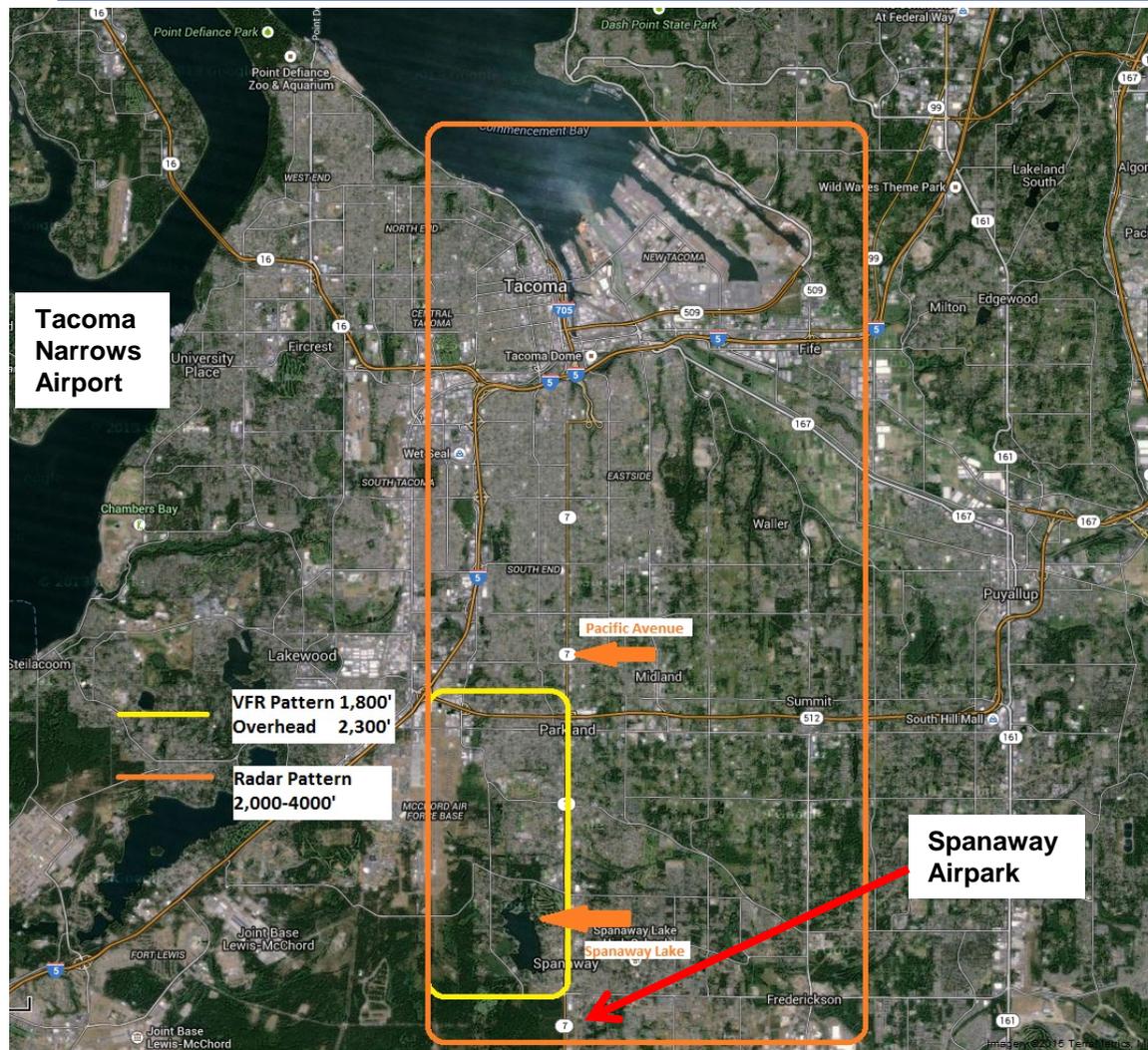


KC-135

Innovative Airmen...Airlift Excellence...Respect For All!



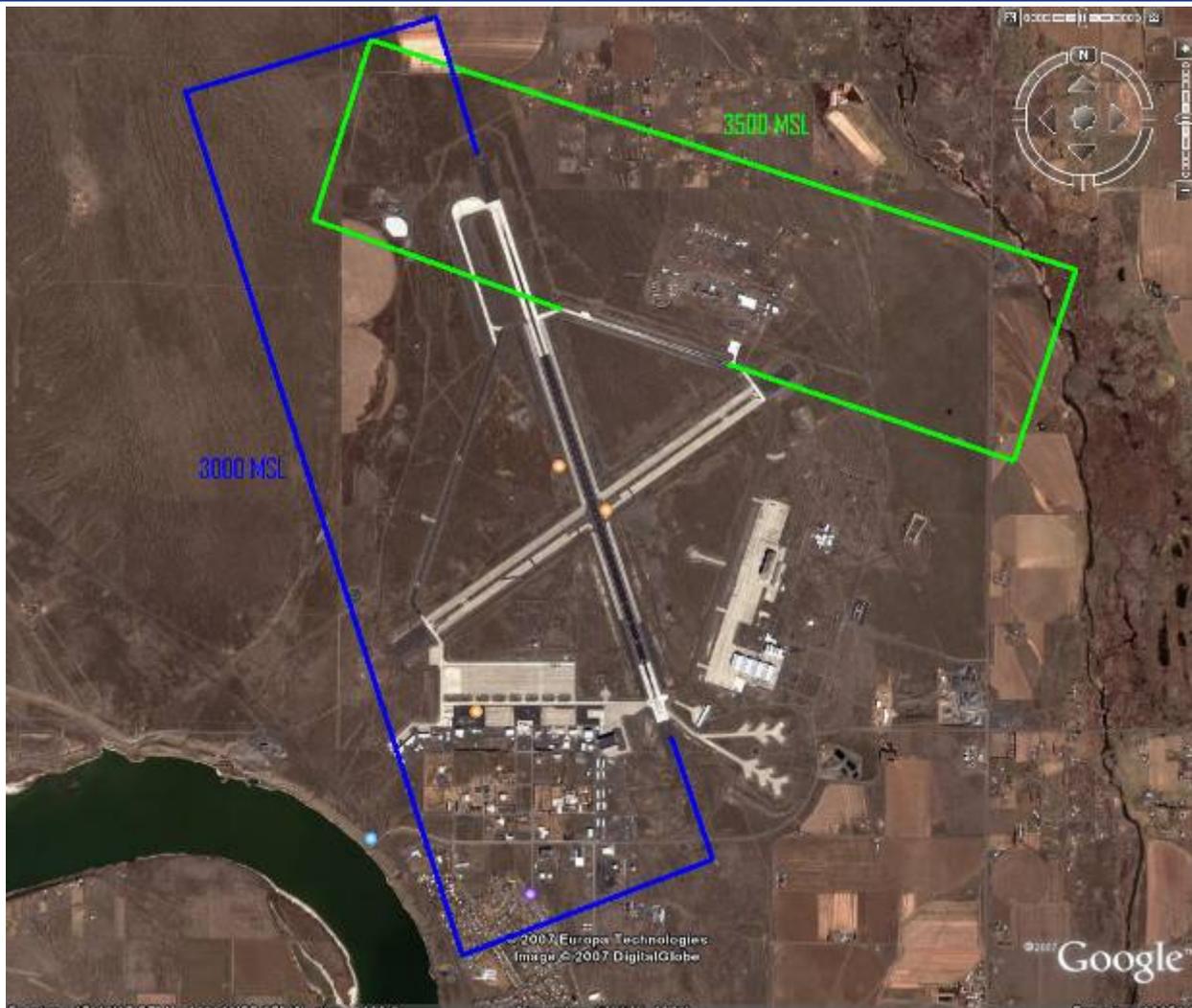
McChord Patterns



- 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



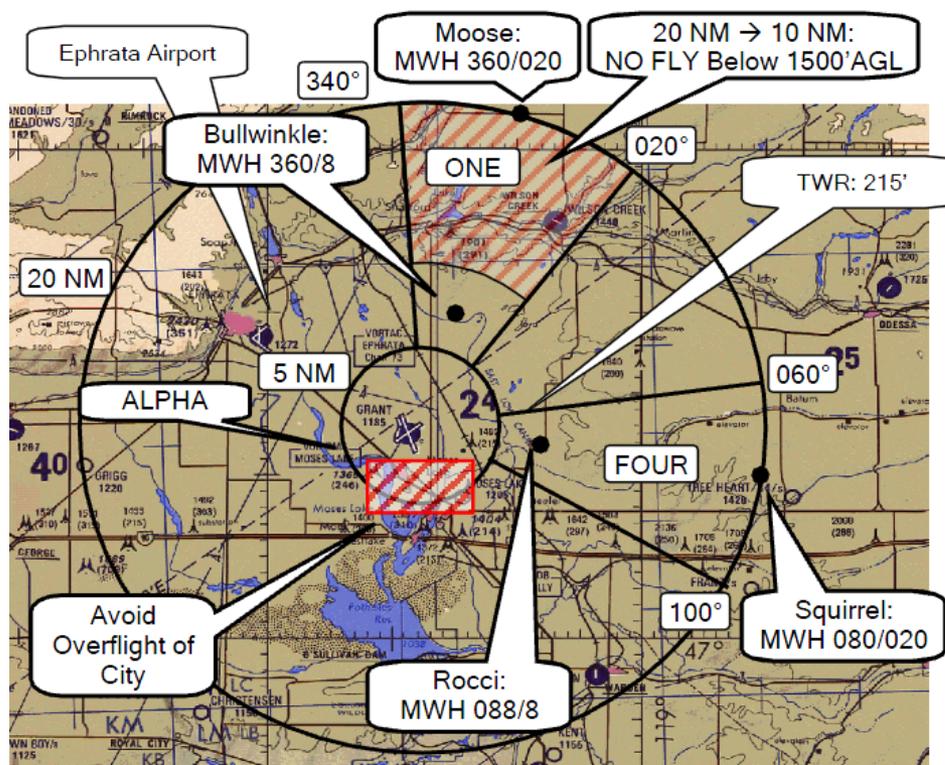
Grant County Ops



Innovative Airmen...Airlift Excellence...Respect For All!



Grant County Ops



- 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.

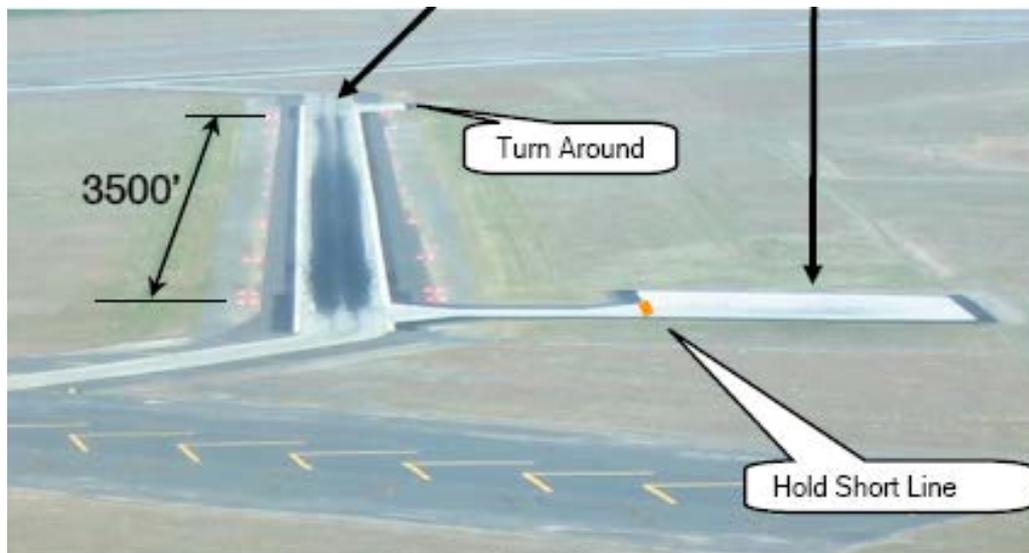
- "Moose" and "Squirrel" arrivals are not considered random approaches

VFR/OVHD Pattern

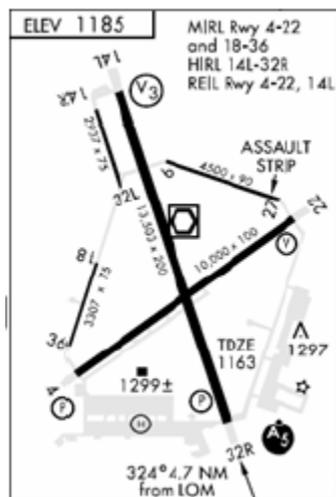
- 14L/32R 3000' MSL
- 9/27 3500' MSL (north pattern)
- OVHD: 4000' MSL



Assault Landings



Short Final Rwy 27



- 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, “Iron Cross”: (CTAF) 118.25
- NVG operations
- Max C-17s in the traffic pattern simultaneously:
 - 2 single ships or
 - 1 single ship and a formation flight (max 3 acft)





NVG Operations

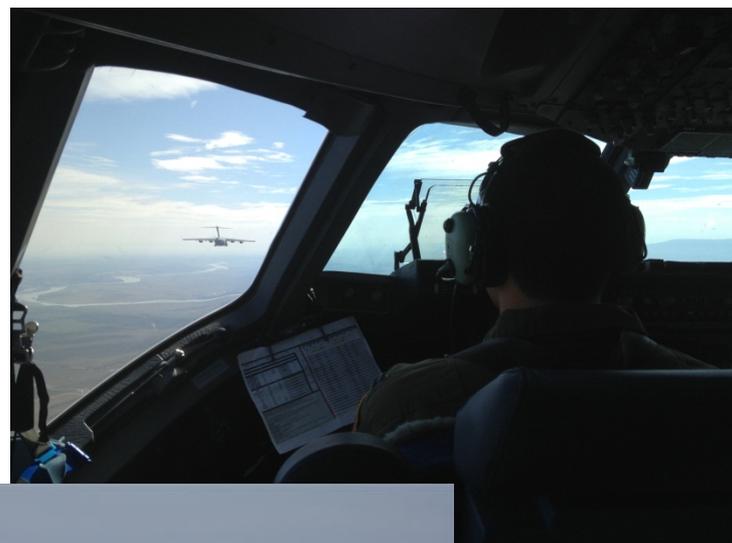


- Comprises most of our night training
- Multiple runway lighting schemes
 - Full runway lights (overt)
 - Infrared (covert)
 - 500 or 1000 ft “box”
- Aircraft lights
 - Position/anti-collision lights always on
 - Infrared landing lights
- What you should know
 - Aircraft lights may look different
 -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





Airdrop!



Innovative Airmen...Airlift Excellence...Respect For All!



Watch out for the COHO!



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

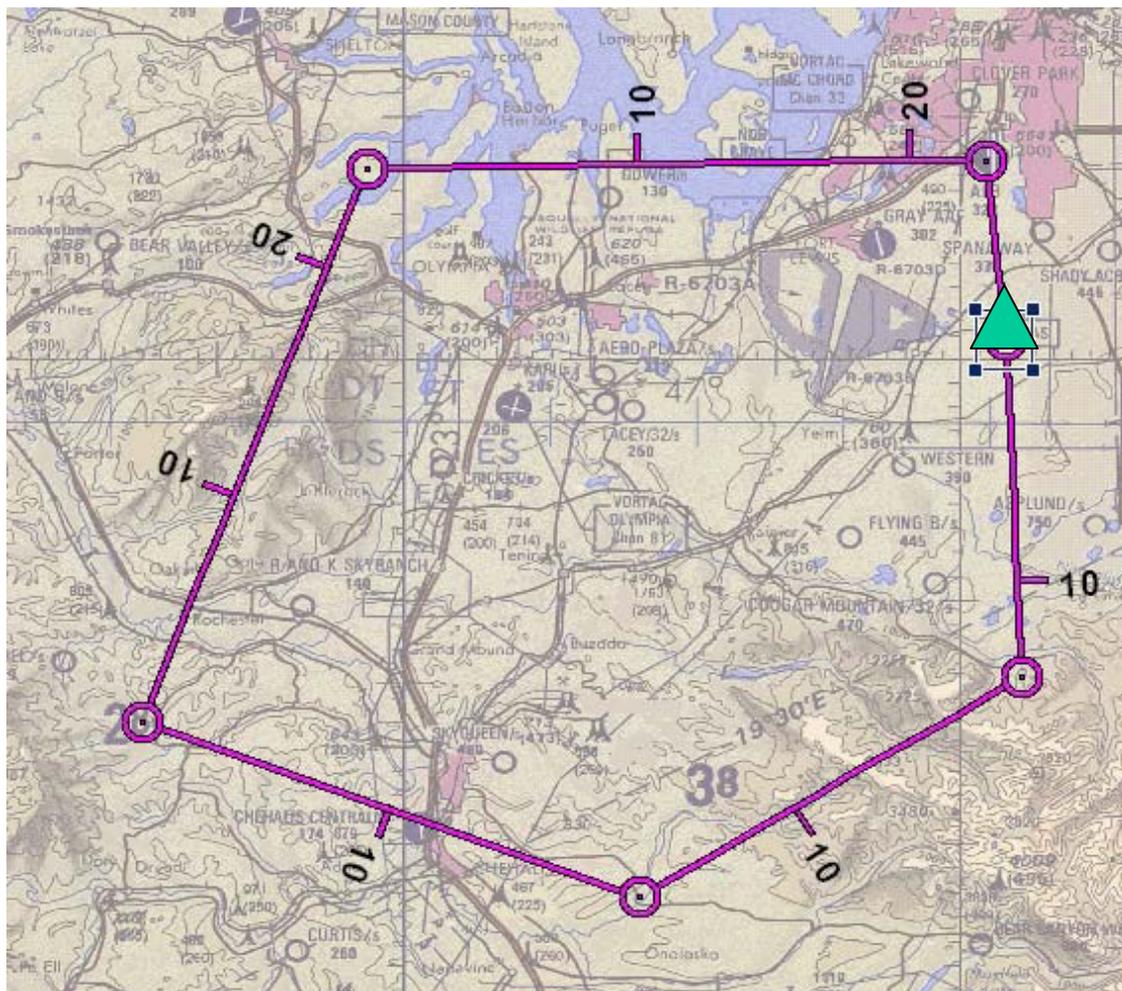




Rogers DZ



Route is VFR (can be IFR)

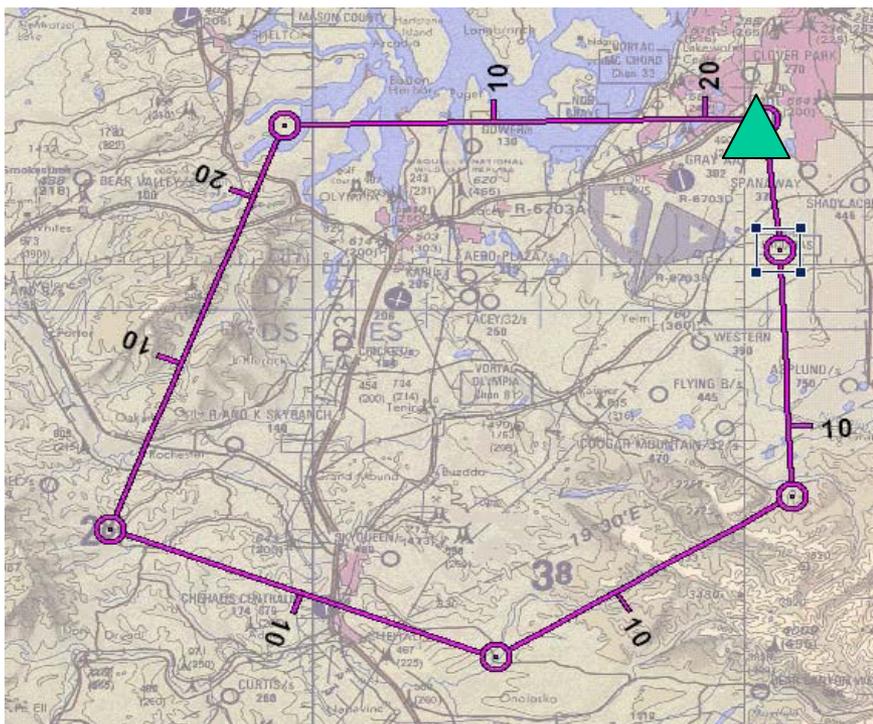


Just South of Spanaway

TCM 153/8



Crate/Farmers DZ

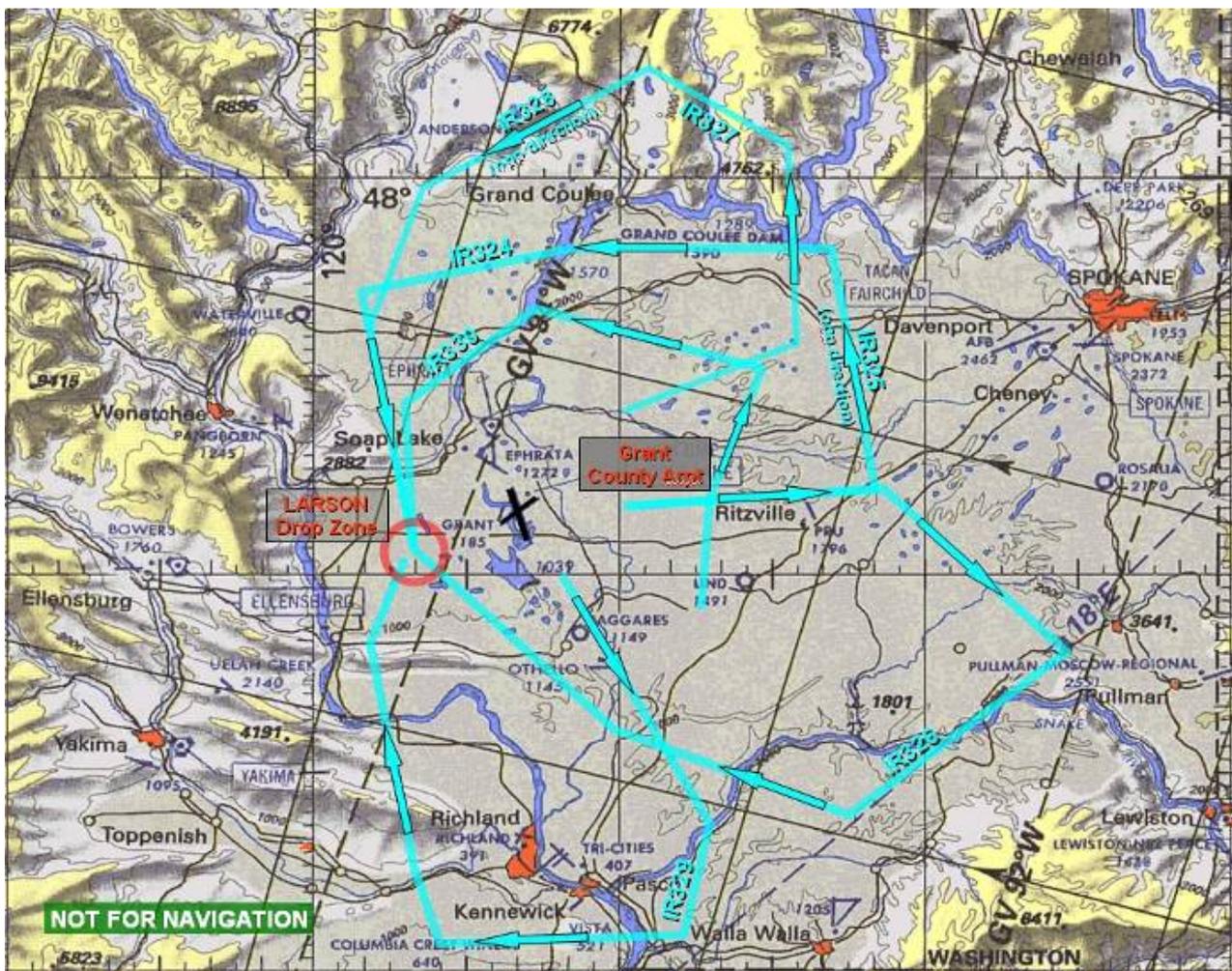


On McChord Field – drop static line or freefall jumpers between 1,000-18,000 feet with ATC coordination





KMWH Airdrop Routes





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



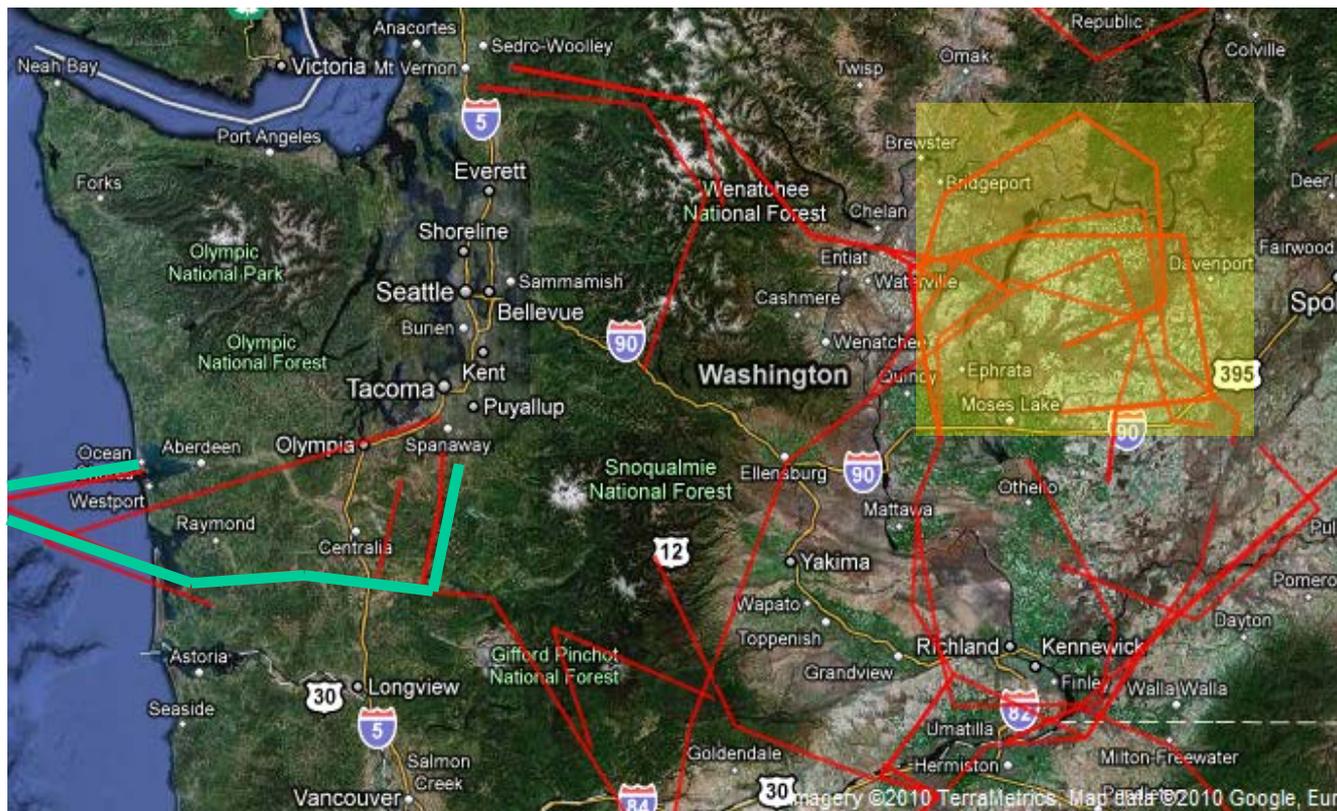
29 Nov 2011

“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



TRAINING ROUTES



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

Common Routes

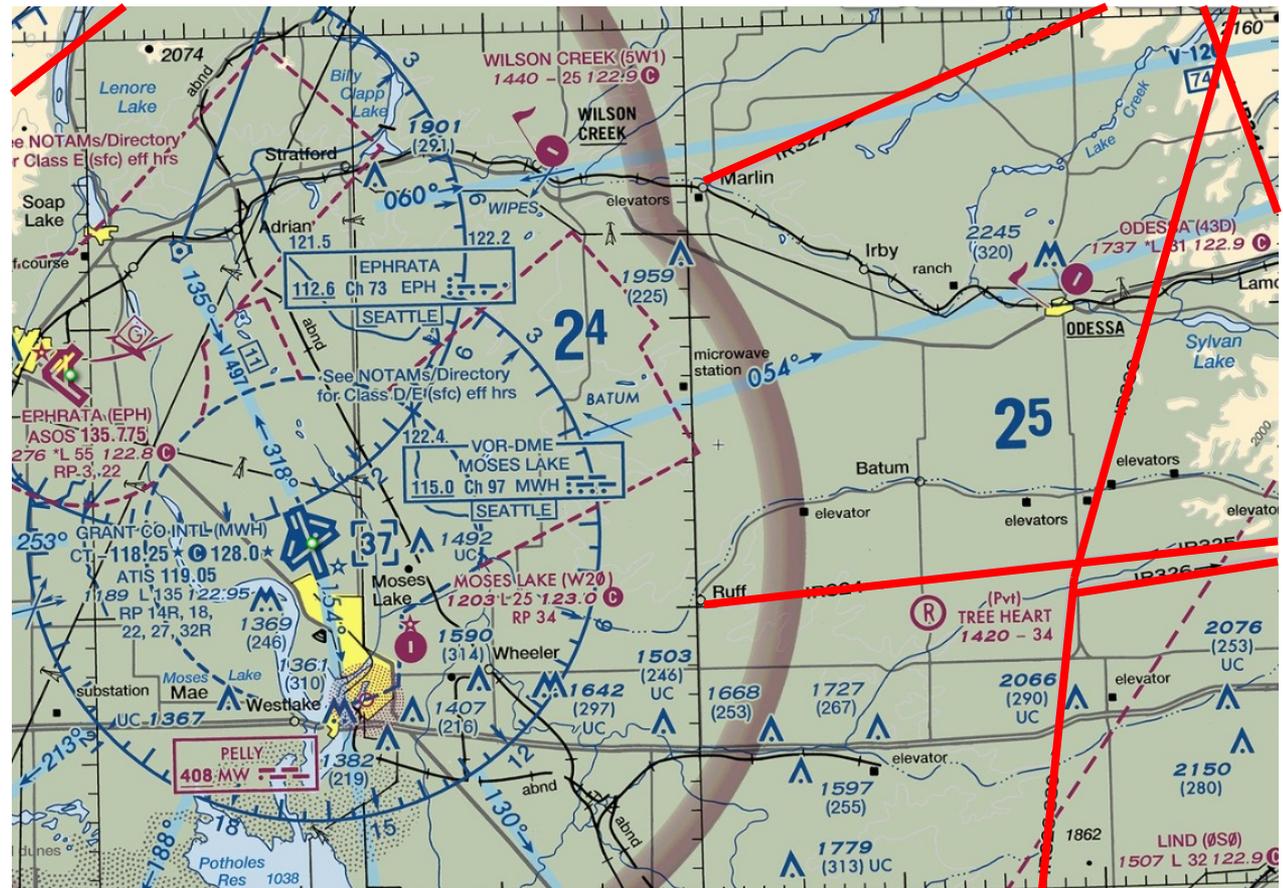
- **IR 324 - IR 330**
- **VR 331**



Low Level Routes on Sectional Charts



- Prohibited, Restricted, and Warning Areas; Canadian Advisory, Danger, and Restricted Areas
- Alert Area and MOA - Military Operations Area
- Special Airport Traffic Area (See FAR 93 for details.)
- ADIZ - Air Defense Identification Zone
- MODE C (See FAR 91.215/AIM.)
- National Security Area
- Terminal Radar Service Area (TRSA)
- MTR - Military Training Route





Mid-Air Collisions –why do they happen?



Human Error: People make mistakes

- Pilots
- Controllers

Communication

- Miscommunication
- No Communication

Environment

- Anywhere
- Anytime



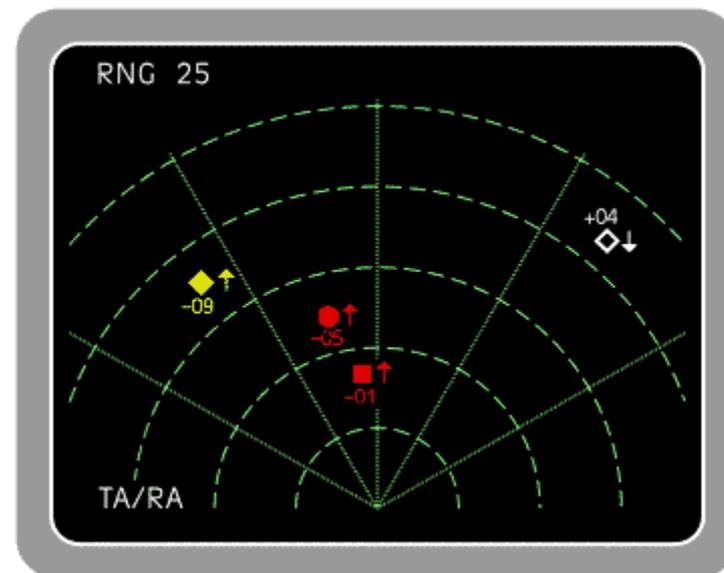
*PSA Flt 182 after colliding with a Cessna 172.
All aboard both aircraft and seven on the ground were killed.*



What C-17 pilots do to prevent mid-air



- 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

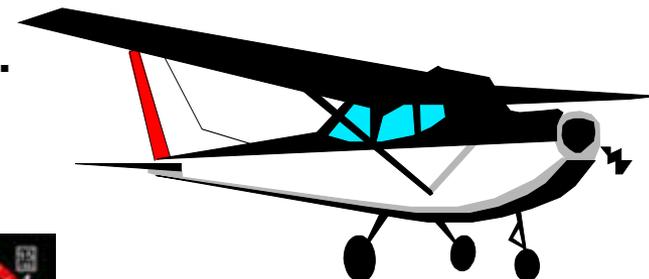




What you can do to prevent mid-air



- 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 (especially at Moses Lake)
 - Transponder (mode C)
- **Don't get complacent!** Many midairs occur during periods of instruction and supervision. Instructors make mistakes too.
- Squawk!





MACA Products



<http://www.62aw.af.mil/library/maca/>

OR Google "McChord MACA"



Public Website
MACA Brochure
MACA Poster

62d Airlift Wing
McChord Field,
Washington

MID-AIR COLLISION
AVOIDANCE

Team McChord

February 2013

62 AW Flight Safety Office, Joint Base Lewis-McChord, McChord Field,
Washington
Tel: (253) 982-3106 Fax: (253) 982-6553
E-mail: 62_aw_sf@mcchord.af.mil

DEPARTMENT OF THE AIR FORCE
Airlift Excellence...Right Here...Right Now!

U.S. AIR FORCE



THANK YOU!!!