



McChord AFB



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



***Maj Doc Schumacher
62d AW Flight Safety
Joint Base Lewis-McChord, WA***



OVERVIEW



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



MACA Introduction



- **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



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C-17A Overview



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



Combat Airlift



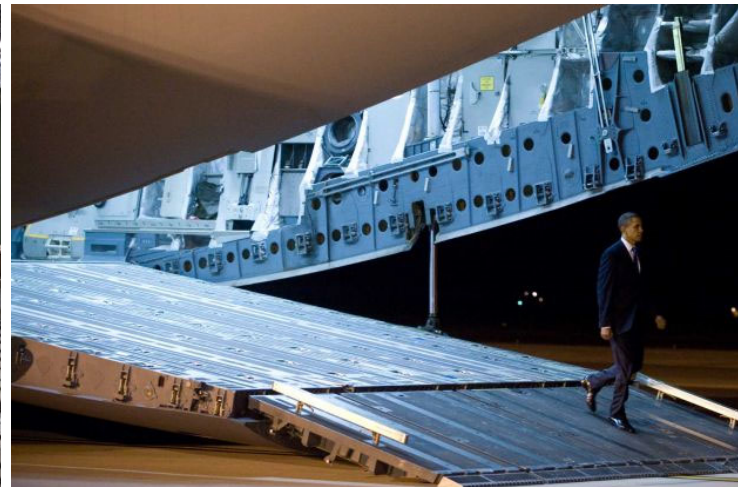
Air Refueling (AR)



Supporting Scientists in Antarctica



Aeromedical Evacuation (AE)



Presidential Support



HALO Airdrop

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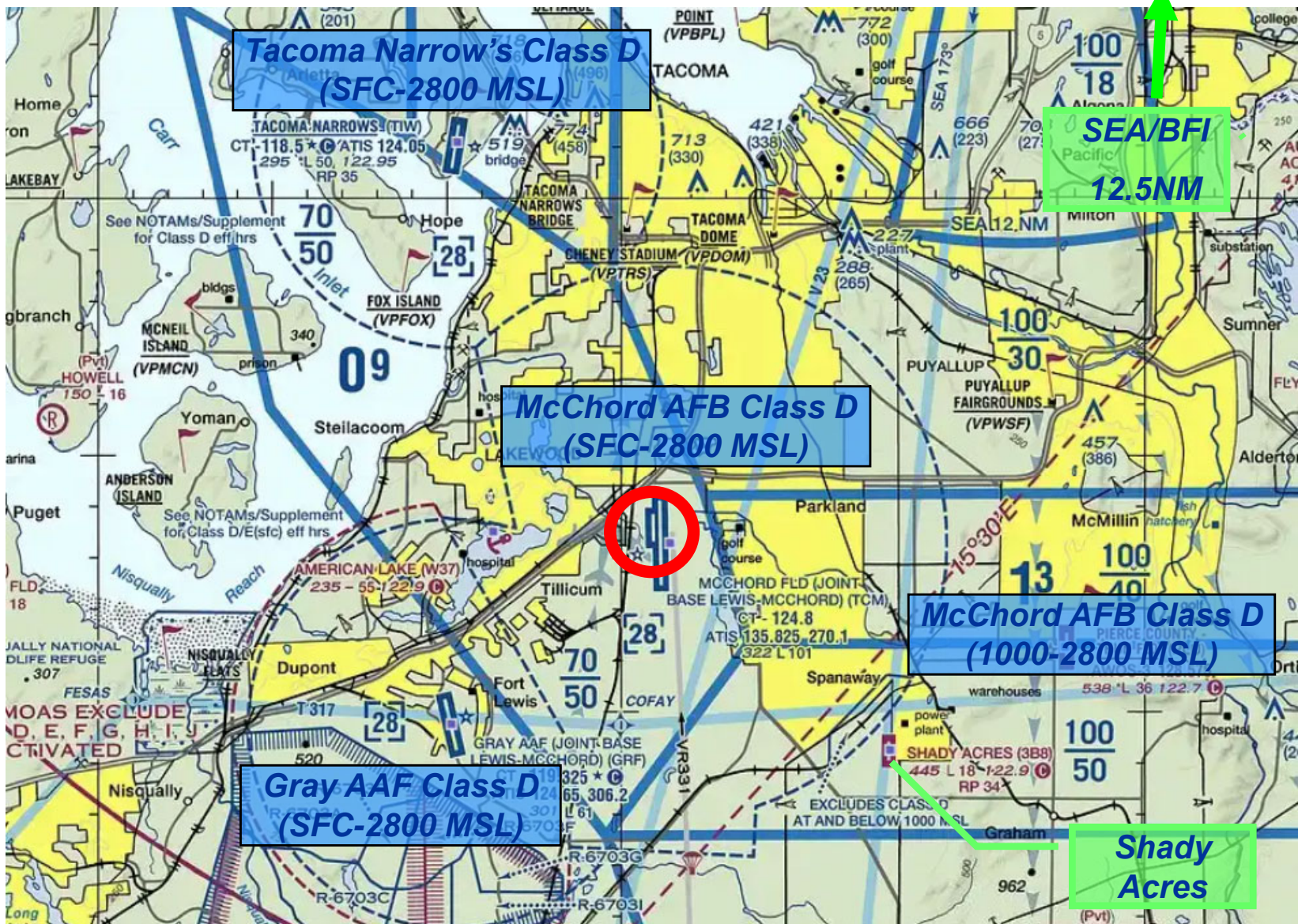
McChord Airfield (KTCM)



- 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, 48 C-17A aircraft



Our Location

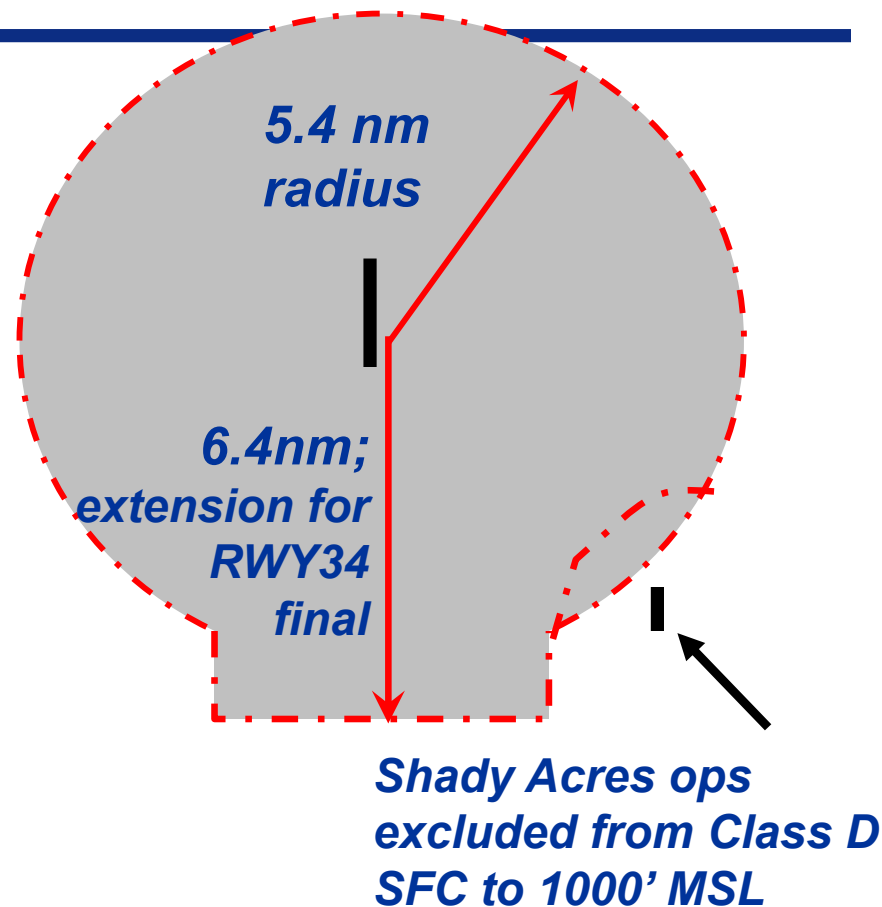




McChord's Airspace

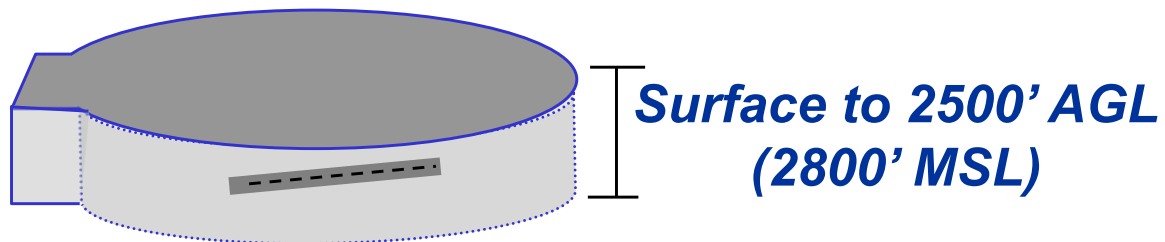


- Class "D" airspace
- 24 hours/day
- VFR transitions are not a problem
- Two-way radio communications required to enter class D



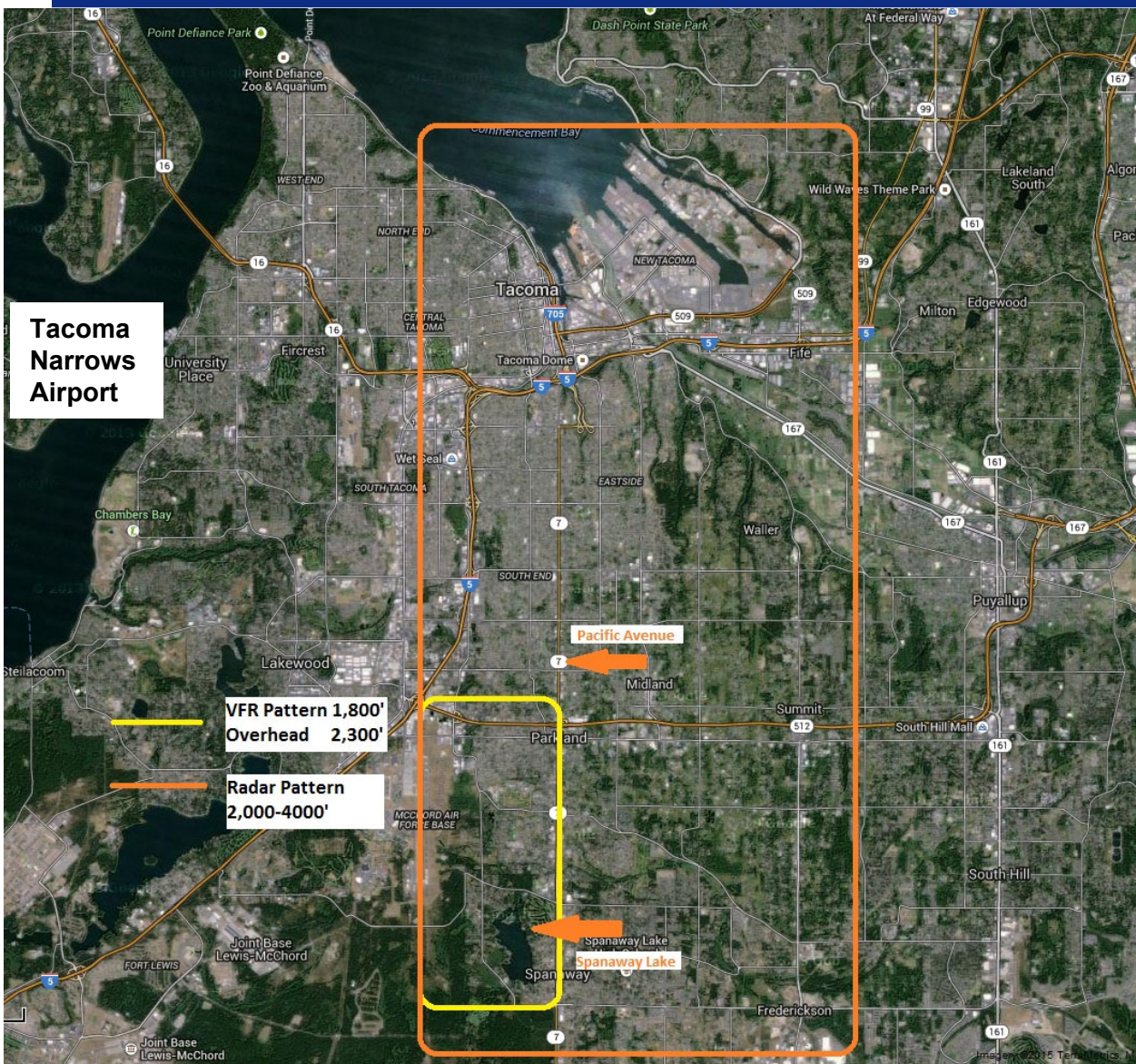
Contact McChord Tower on

124.8





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 and East of I-5
- Consult FLIP for a depiction of TCM instrument approaches



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:



Photo taken by: Munnaf H. Joarder



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NVG Operations

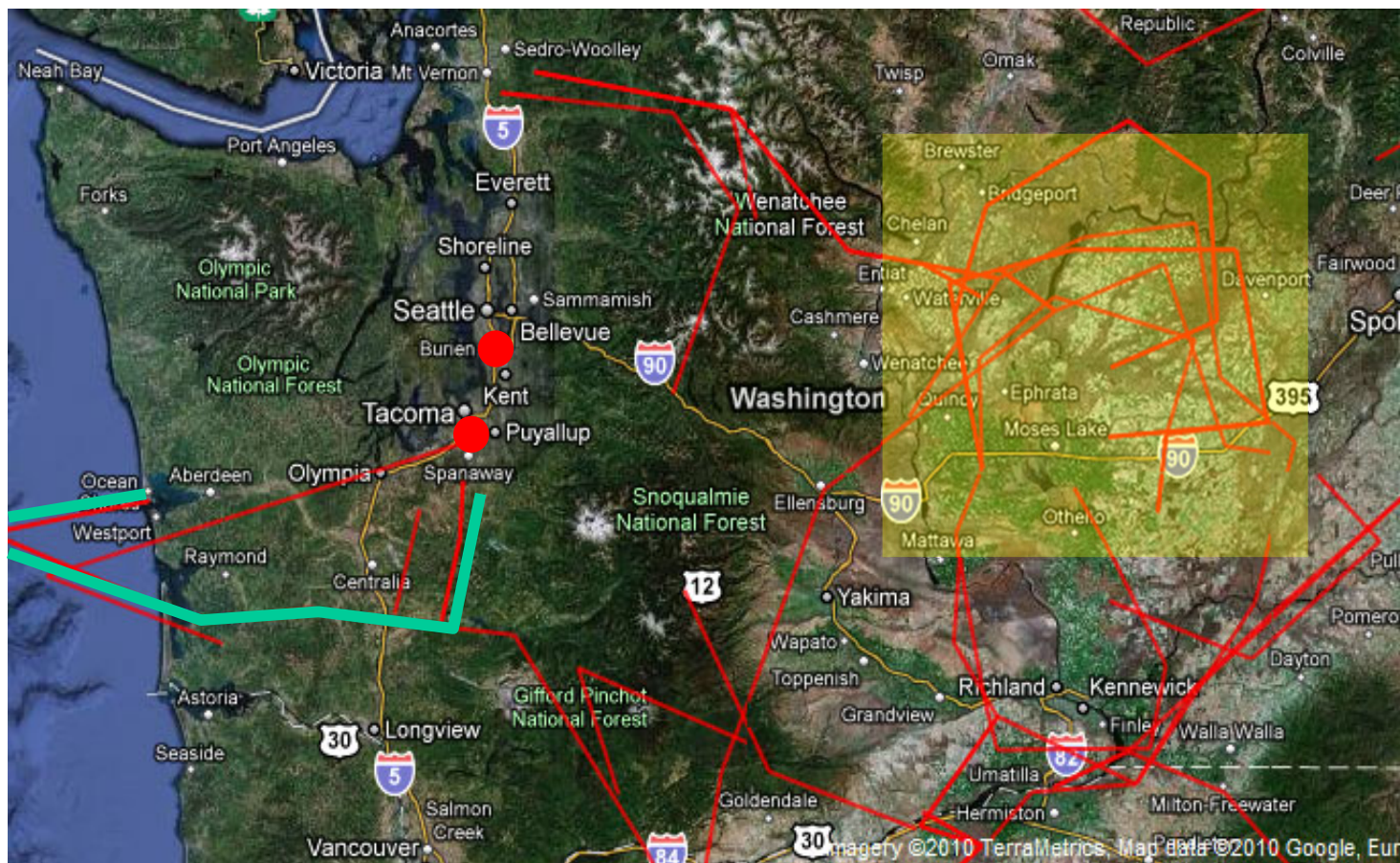


- Multiple runway lighting schemes
 - Full runway lights (overt)
 - Infrared (covert)
 - 500 or 1000 ft “box”
- Aircraft lights
 - Infrared landing lights
 - Position/anti-collision lights always on
- **What you should know**
 - Aircraft lights may look different
 - Runway lights may look different
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





TRAINING ROUTES



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

Common Routes

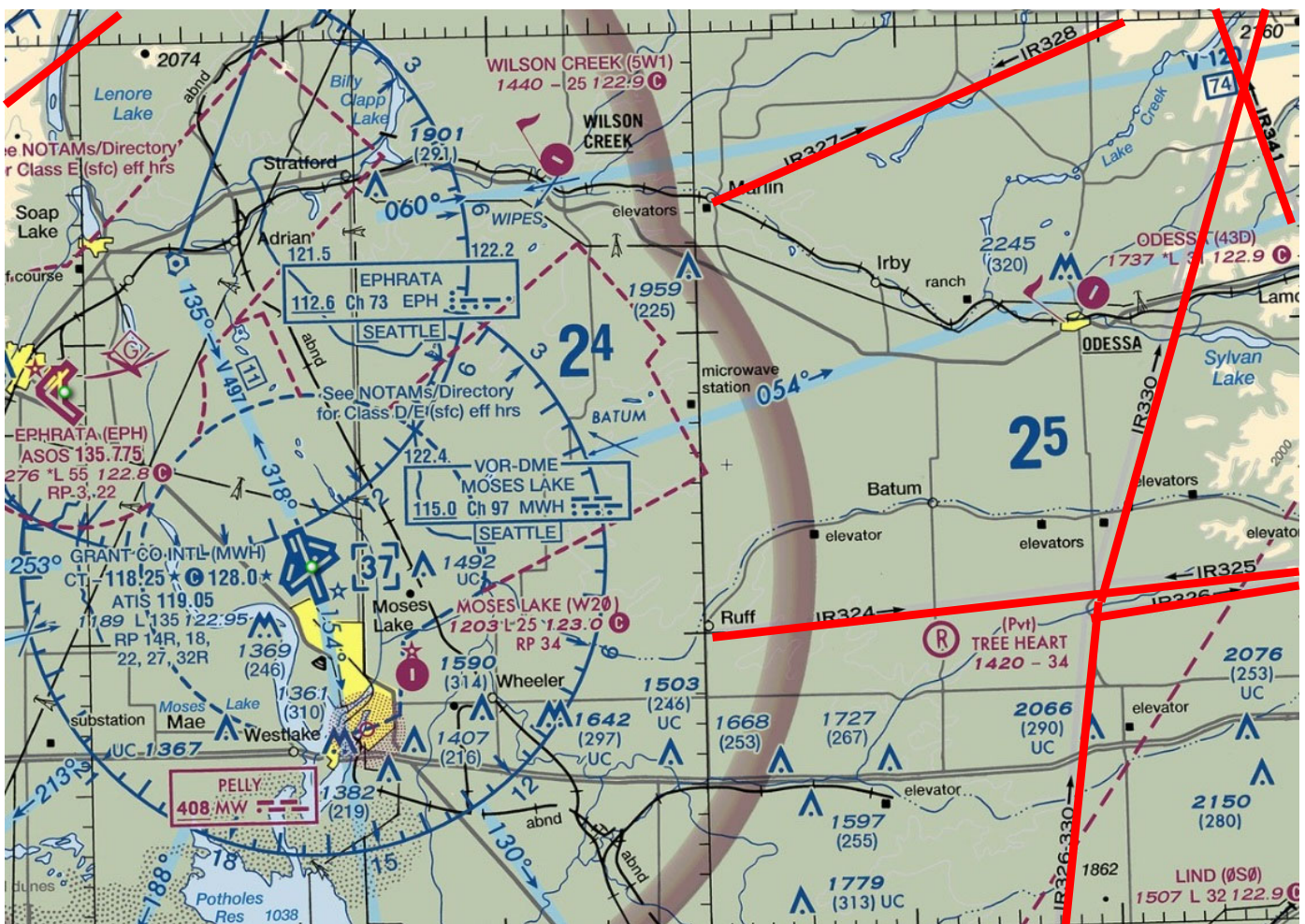
- IR 324, 325, 326, 327 (near MWH)
- VR 331



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



- 3 types: IR, VR or SR
- 3 or 4 number IDs
- 4 numbers ≤ 1500' AGL



Airdrop Operations – Watch out for “COHO”!



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

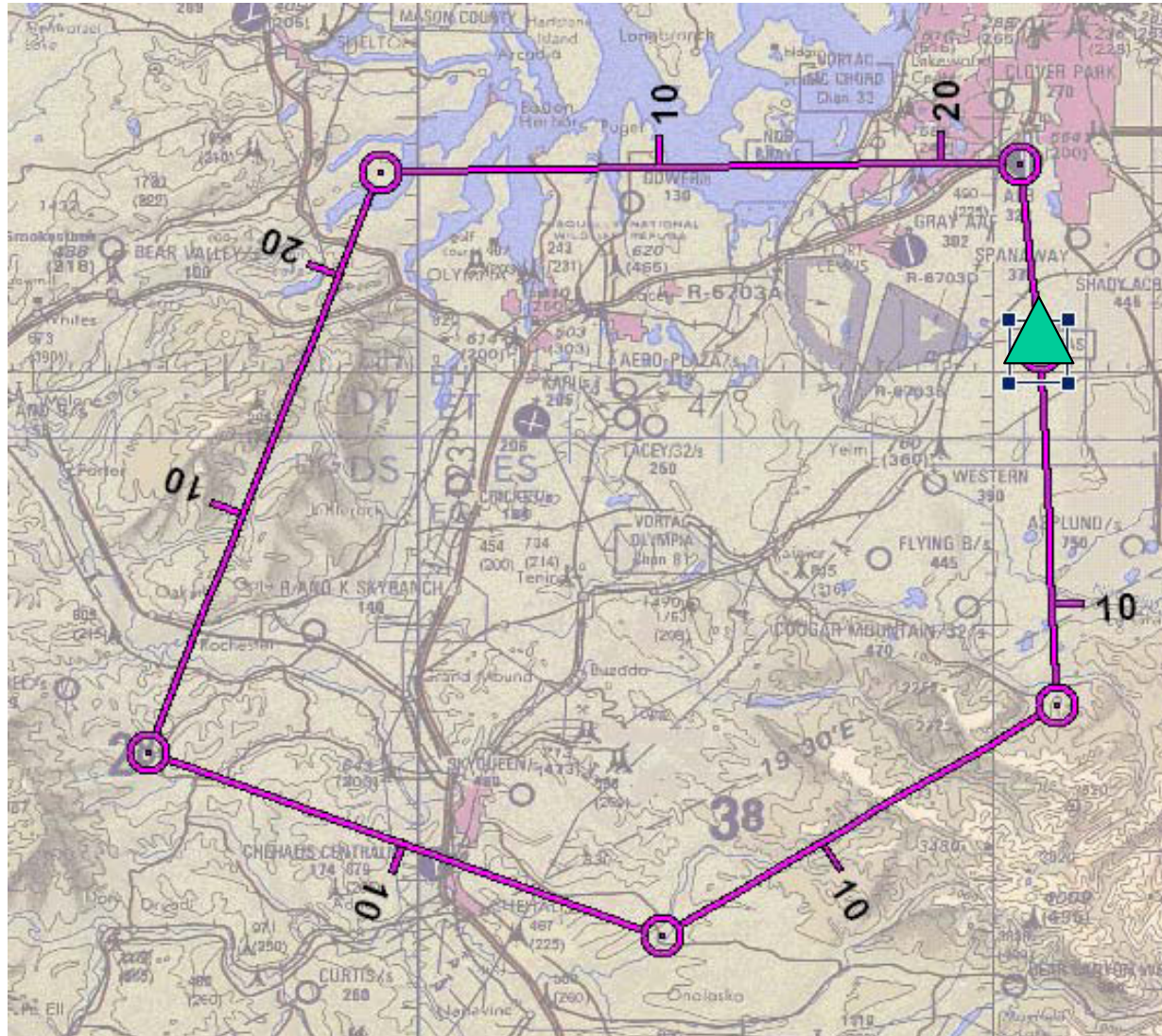




Rogers DZ



Route is
VFR (can
be IFR)

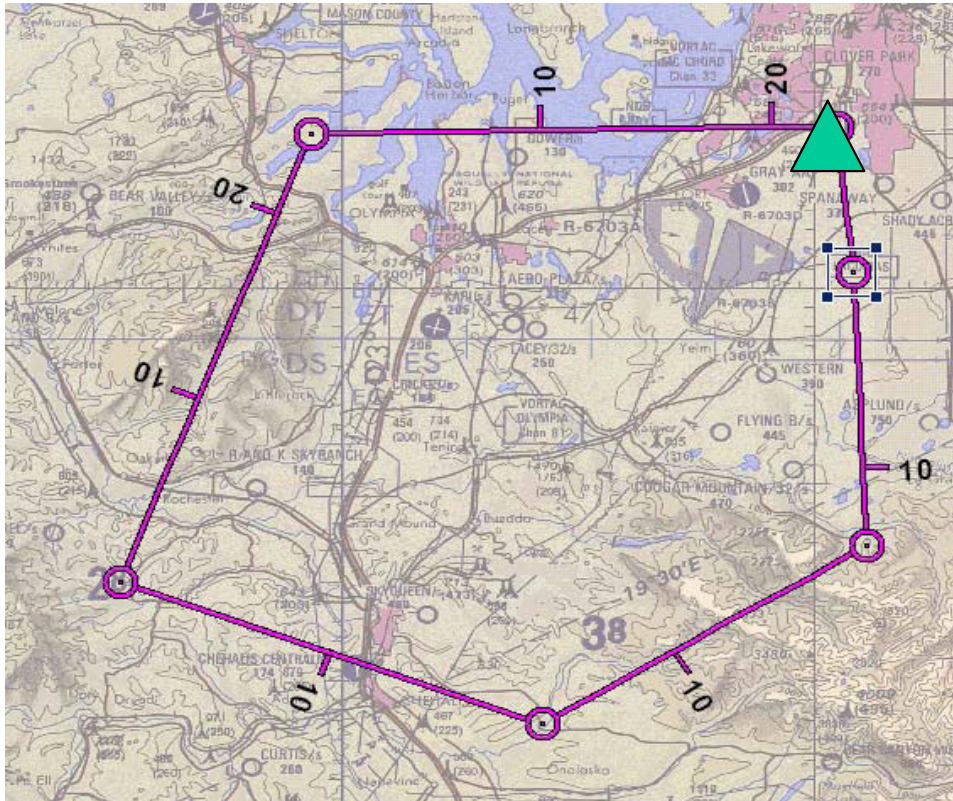


Just South of
Spanaway

TCM
153/8



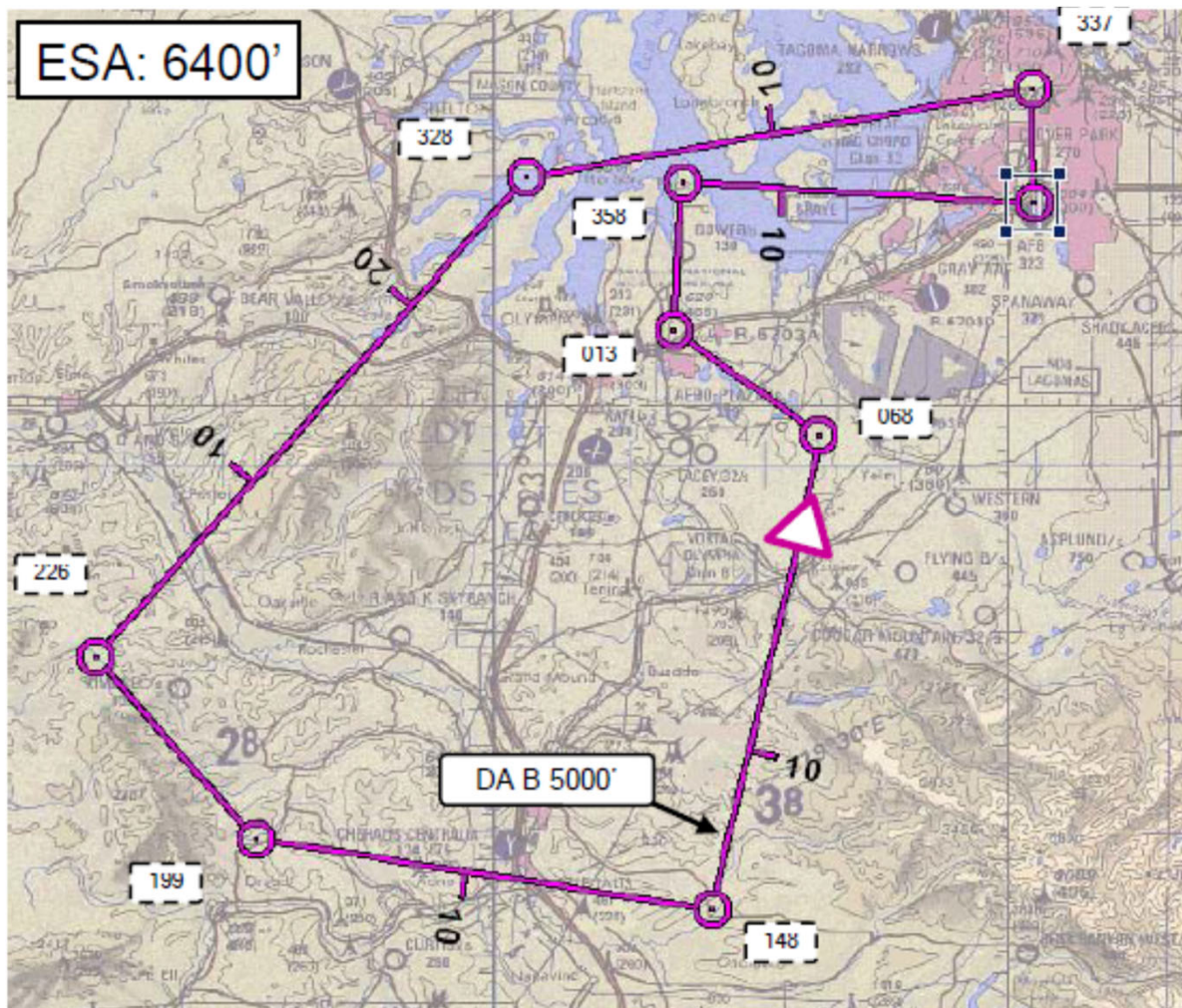
Crate/Farmers DZ



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



Merrill DZ

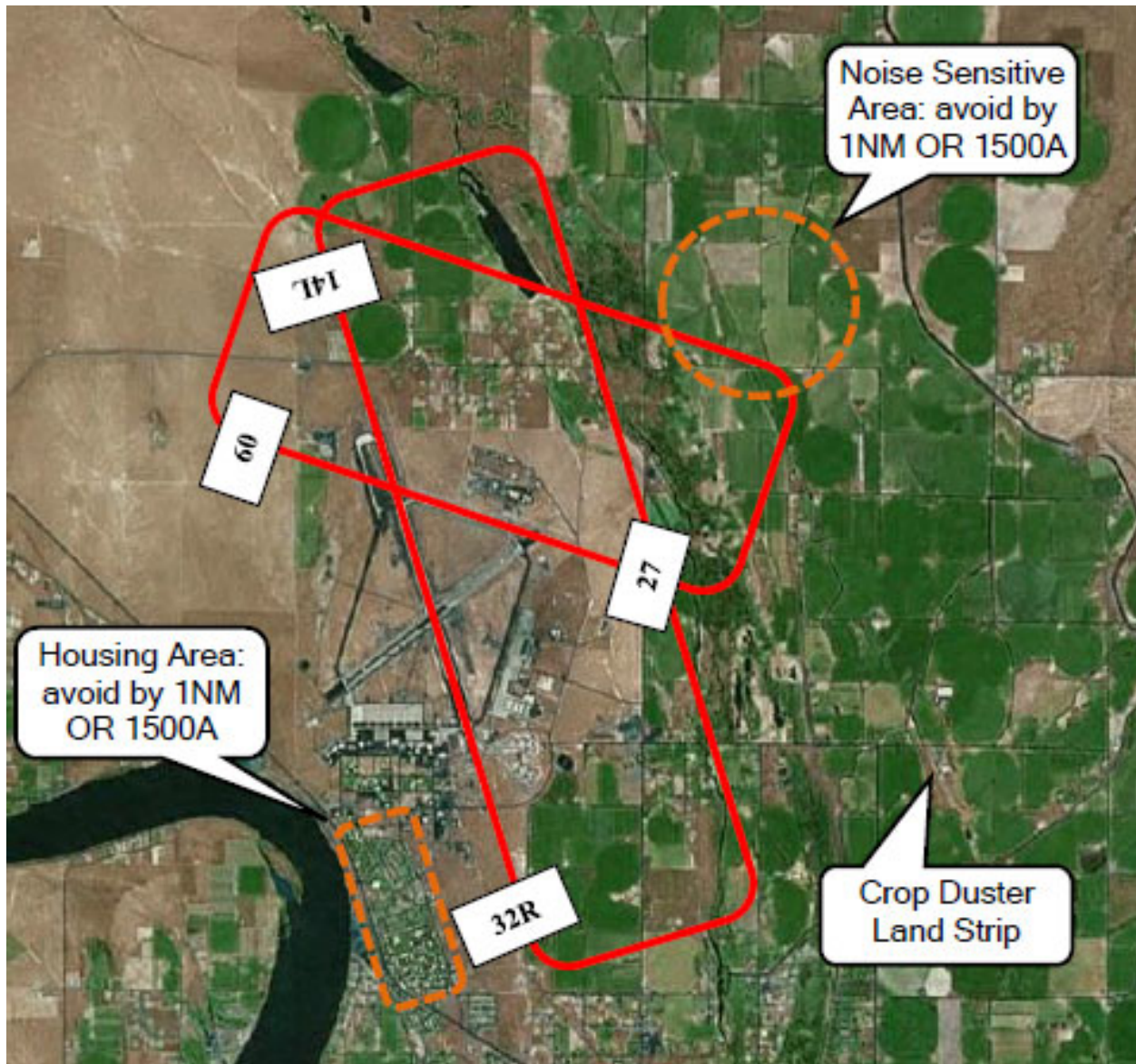


- VFR Only
- Typically drop static line troops





Grant County Ops



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

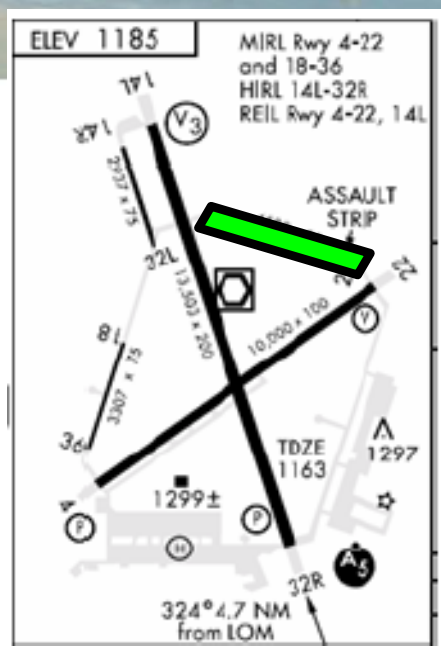
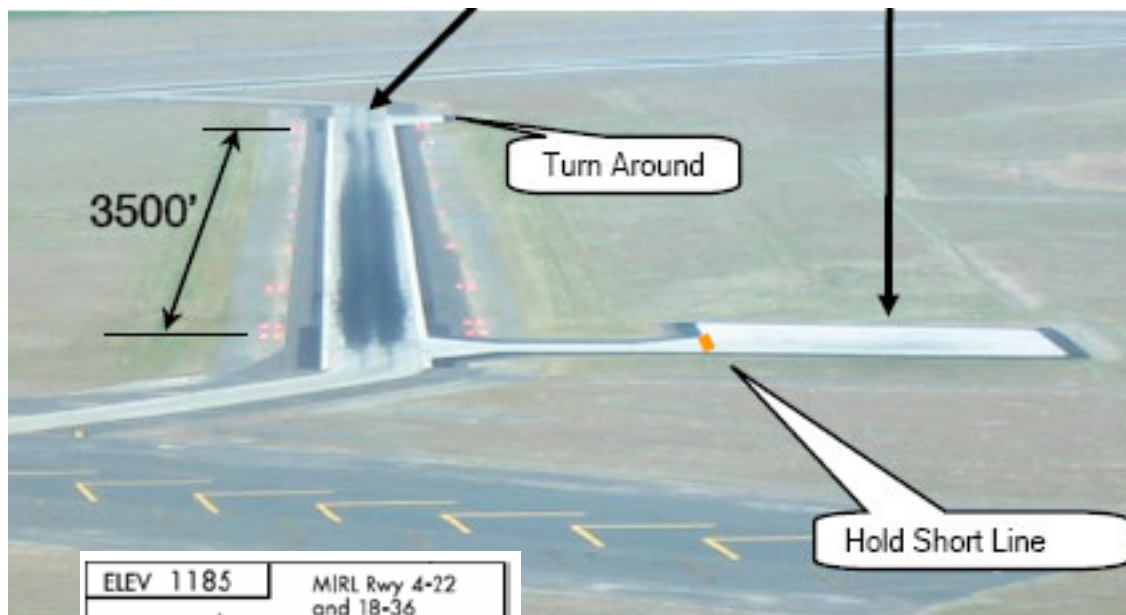
- Cancel IFR prior to commencing random approaches.

- "Moose" and "Squirrel" 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 Ops - Assault Landings



- What are they?
 - Spot landing (as short as 3500 ft long runway)
 - 500 ft landing zone
 - Max braking/reverse thrust
 - Frequent “GOATs” (Go Around After Touchdown) to maximize training
- What you should know
 - Fast-paced ops on rwy 9/27
 - Demanding on crew SA
 - Possible conflicts w/crossing runways



Grant County Operations Night/After Hours



- 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)





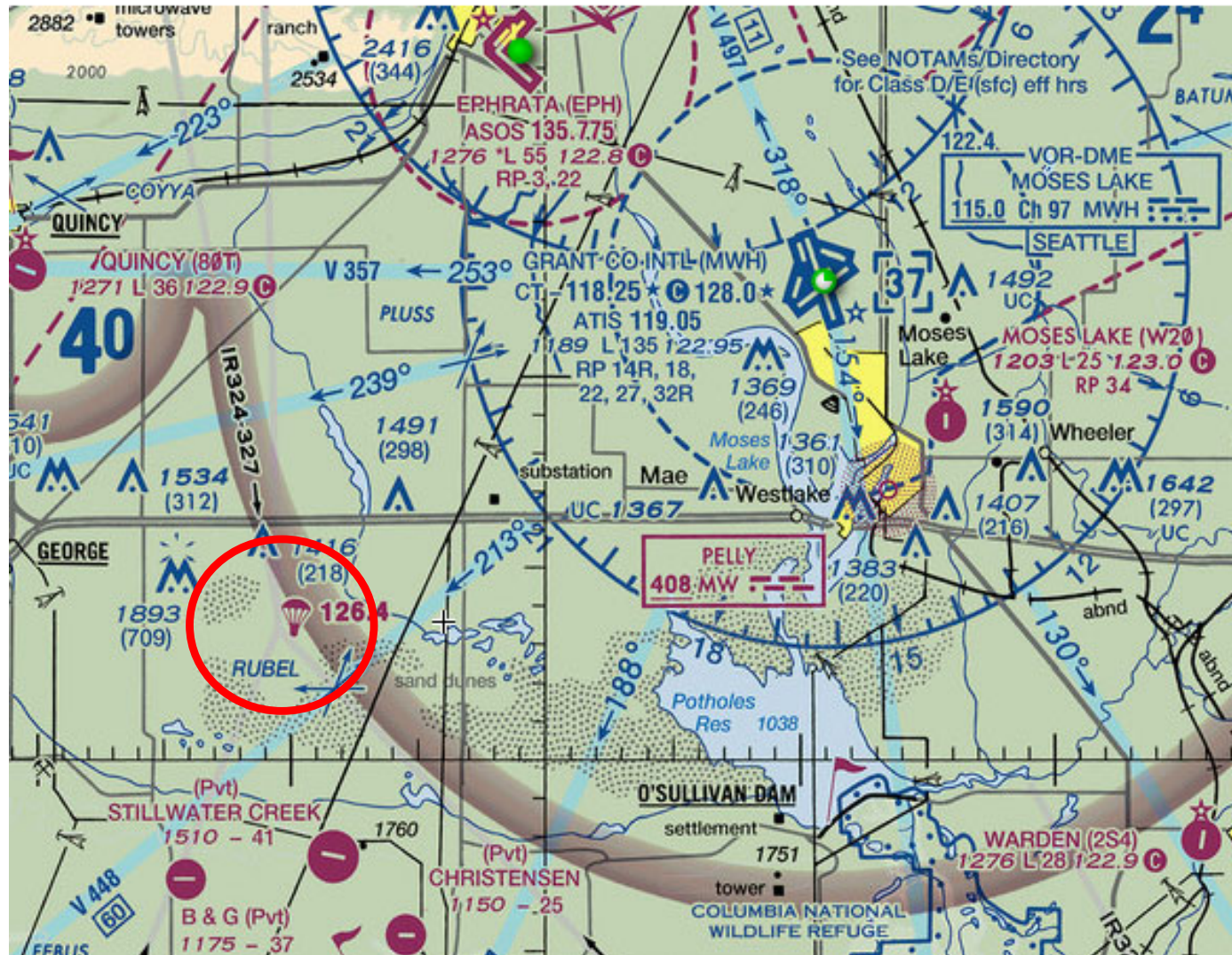
Airdrop Operations – Larson DZ



- Most Airdrop routes terminate at 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



Airdrop Operations – Larson DZ





Mid-Air Collisions – Why Do They Happen?



Human Error:

- Pilots & Controllers

Communications:

- Miscommunication – or none

Environment:

- 49% occur in the traffic pattern
- Of the other 51%...
 - ½ occur during climb, cruise, descent
 - rest are formation flights or other hazardous activities
 - 80% of collisions happened w/in 10 nm of an airport



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



What C-17 Crews Do To Prevent Mid-Airs

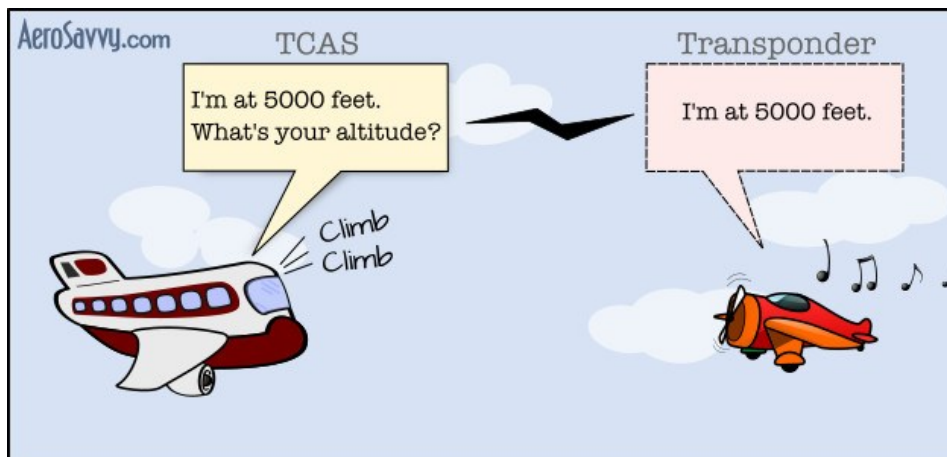
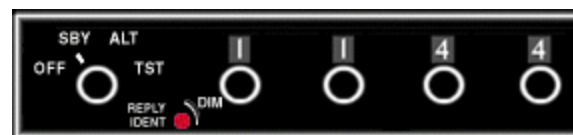


- Tools at our disposal
 - See & Avoid
 - Preflight planning
 - Air Movement Table (AMT)
 - Traffic Collision Avoidance System (TCAS)
 - ADS-B (using ForeFlight)
 - Radios
 - Crew concept
 - Hemispheric cruising altitudes
 - Operating procedures





What You Can Do To Prevent Mid-Airs

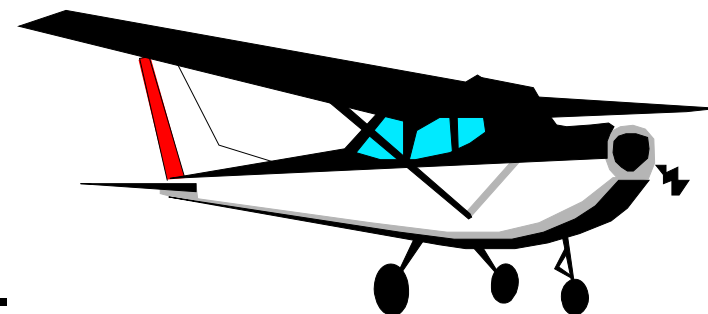




What You Can Do To Prevent Mid-Airs

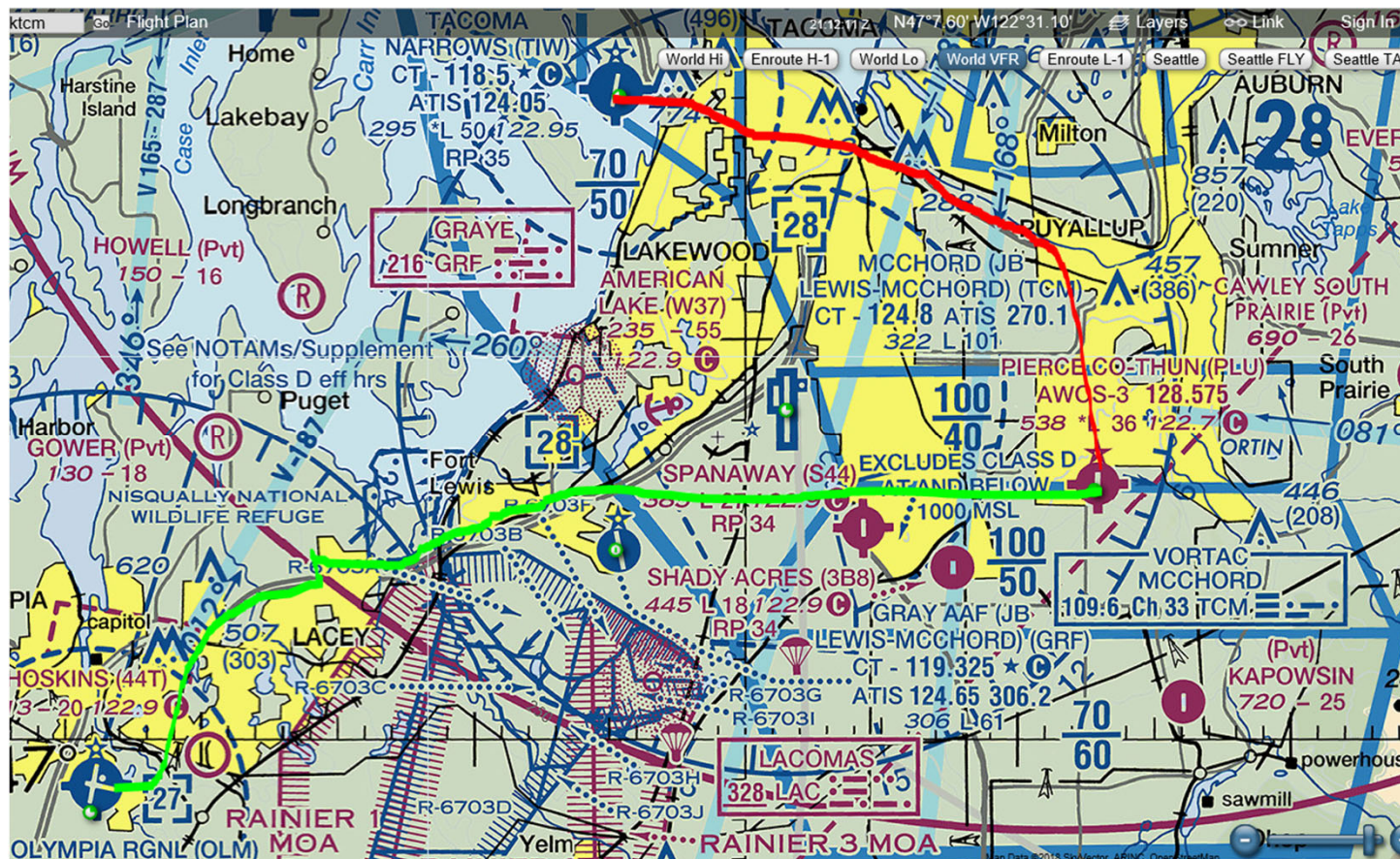


- Check status of MTRs
 - Call FSS
 - <http://sua.faa.gov>
- Avoid areas of greatest activity
 - **Cross perpendicular to MTRs**
- If able, fly at higher altitudes. Get flight following. Fly at proper VFR hemispheric altitudes.
- Make your position known
 - External lights
 - Radios
 - **Transponder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





VFR Traffic conflicts





MACA Products



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

(OR Google "McChord MACA")



Public Website
MACA Brochure
MACA Poster

McChord Field, WA



With a scenic view of Mount Rainier in the backdrop, Joint Base Lewis-McChord, McChord Field, WA, displays the beauty of the Pacific Northwest. McChord Field is part of the Air Mobility Command; a worldwide network of bases transporting people and equipment at a moment's notice in support of peacetime and wartime taskings. The base is located 10 miles south of Tacoma, Washington.

McChord Field is home to the 62d Airlift Wing (AW) and the 446th Airlift Wing (USAF Reserve). These are strategic airlift units with 48 assigned C-17A Globemaster III aircraft.

McChord's Class D airspace lies beneath Seattle Tacoma International Airport's Class B airspace veil. Additionally, there are multiple civilian airfields in the immediate area. Commercial air carriers, executive aircraft, and general aviation aircraft extensively use the airspace around McChord. The aircraft found in the local airspace range from ultra-light aircraft to supersonic fighters to heavy airlifters. The McChord Flight Safety Office solicits your help in making the skies over this region a safer place to fly! Please contact us at (253) 982-3105.



MID-AIR COLLISION AVOIDANCE

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

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



COLLISION AVOIDANCE TIPS

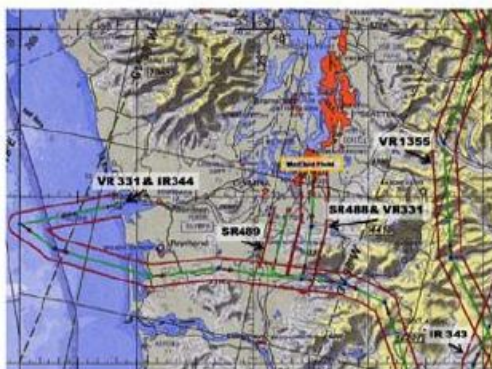
- 1) Clear constantly for other aircraft – both visually and over the radio
- 2) Participate in flight following and always use your Mode C transponder
- 3) Use aircraft external lighting to the max extent possible
- 4) BE AWARE OF WAKE TURBULANCE – especially around the McChord Pattern
- 5) Don't get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



- 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.

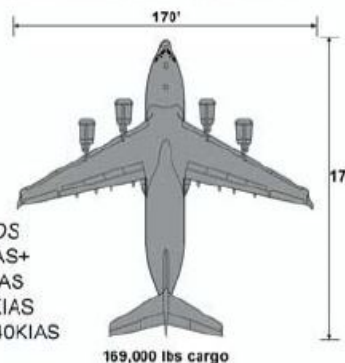
SEE AND BE SEEN!



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'

Boeing C-17 Globemaster III



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

169,000 lbs cargo

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

Poster distributed to Local civilian Airfields:

-Tacoma Narrows

-Olympia Regional

-Thun Field

-Boeing Field

-Auburn Muni



***THANK YOU
&
FLY SAFE!***

62AW Safety Contact Info

253-982-3105

62.AW.SEF@us.af.mil