

# 142d Wing Mid-Air Collision Avoidance (MACA) Program

Portland Air National Guard Base, Portland OR 97218

# F-15C EAGLE



#### **OUR NUMBERS**

Portland international Airport is a high volume airport with over 330,000 aircraft operations per year with military aircraft accounting for approximately 4,000 of the operations.

#### WHEN WE FLY

F-15 operations at PDX occur during both day and night. Day operation takeoff times are typically 0845 and 1245. Night operations are conducted so that we can takeoff  $\frac{1}{2}$  hour after sunset, complete a mission and land by 10pm local. This limits summer night flying due to sunset times.

## WHERE WE FLY

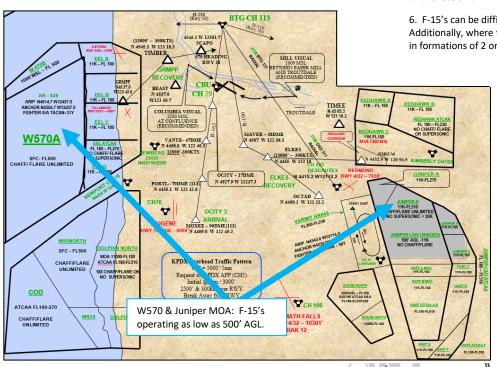
The Oregon ANG primarily conducts it training operations in the warning area off the coast and the Juniper/Hart MOA located 160 NM southeast of KPDX.

F-15 operations in the EEL, DOLPHIN, REDHAWK, and HART MOAs are
11,000 ft MSL and up. Operations in the W570 complex and Juniper MOA (shaded region) are 500 ft AGL and up!

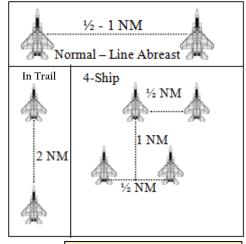
#### WHAT YOU CAN DO TO HELP

Midair collisions are of vital concern to everyone in the aviation community. Simple awareness to the threat as well as adherence to some basic safety precautions can significantly reduce the risk for a potential midair collision. Below are some simple steps to take to ensure that every pilot can use to avoid conflict and stay safe.

- 1. Familiarize yourself with your aircrafts blind spots and ensure all windows are clean and not obstructed.
- 2. Try not to fly through MOAs during expected operating times, ~0900 to 1100L and 1300 to 1400L during the day, and 30 minutes after sunset for the next 2 hours.
- 3. Brief everyone traveling with you on proper scanning procedures and how to report aircraft.
- 4. Obey all flight rules and maintain your altitude and assigned route.
- 5. Monitor ATC frequency. Use your radio to help gain situational awareness on arriving and departing traffic.
- 6. F-15's can be difficult to see due to their subdued grey paint scheme. Additionally, where there is one, there is likely more. F-15s typically fly in formations of 2 or 4 aircraft.



## Questions? 142d Wing Safety: (503) 335-4024



#### **DEPARTURES**

- ✓ All departures are under IFR
- Military Aircraft follow published noise abatement departure procedures which track runway heading to 6,000 feet, then Radar Vectors to training areas

#### **RECOVERIES**

#### **VORTAC or ILS Approach:**

✓ Wx or Training Requirements

#### **VFR Patterns**

- ✓ Mill or Columbia Visual (rarely used)
- ✓ Vectors to Visual or Overhead,
  - o 3500 ft MSL until w/in 5 NM KPDX

Typical Airspeeds/Altitudes: <10,000 ft: 220 – 300 kts >10,000 ft: 300 – 400 kts

"Columbia Visual" (Rwy 10L/R)

"Mill Visual" (Rwy 28L/R)

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Vectors to visual/overhead

KPDX



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# **Small Unmanned Aerial Systems**



#### Department of Defense Unmanned Aerial System (UAS) Groups

UAS Group	Max Take- Off Weight (lbs)	Nominal Operating Altitude (ft)	Speed (kts)	Example UAS
Group 1	0 - 20	< 1200 AGL	< 100	Mavic Pro, FLIR Skyraider, AeroVironment PUMA AE, RQ-11 Raven, WASP
Group 2	21 - 55	< 3500 AGL	< 250	Northrop Grumman Stalker XE, AeroVironment PUMA LE, ScanEagle
Group 3	< 1320	< FL 180		RQ-7B Shadow, RQ-21 Blackjack
Group 4	> 1320		Any airspeed	MQ-8B Fire Scout, MQ-1A/B Predator, MQ-1C Gray Eagle
Group 5		> FL 180		MQ-9 Reaper, RQ-4 Global Hawk, MQ-4C Triton

The 142d Wing employs *Small* **Unmanned Aerial Systems** (sUAS), which consist of only Groups 1 and 2 (groups 3-5 are not utilized). The specific SUAS's employed are depicted below for familiarization.

# **DJI Mavic Pro (Group 1)**



Max Speed: 39 ktsSize: ~1 ft x 1 ft

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Max Loiter time: ~30 minutes
 Operating altitude: 20 ft – 500 ft

Max link range from controller: 3-5 NM

♦ Not ADS-B compliant

♦ Not radar controlled

# FLIR R80 SkyRaider (Group 1)



♦ Max speed: 26 Kts

♦ Size: ~3 ft x 3 ft

♦ Max Loiter time: ~40 minutes

Operating Altitude: 20 ft – 500 ft

Max link range: ~5 NM
 Not ADS-B compliant

Not radar controlled

#### Northrop Grumman Stalker XE (Group 2)



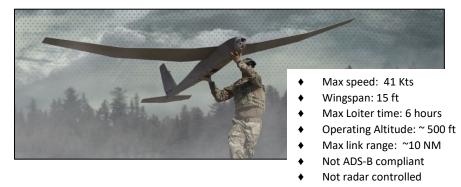
Max speed: 39 KtsWingspan: 12 ft

Max Loiter time: 8 hoursMaximum Altitude: 12,000 ft

Max link range: ~10 NMNot ADS-B compliant

Not radar controlled

### <u>AeroVironment PUMA LE (Group 2)</u>



# What you need to know:

sUAS activity will be listed in the airfield NOTAMs (typically (D) series NOTAMS), so please review these. sUAS's operate under a "Certificate of Waiver or Authorization" (COA), which is an authorization issued by the Air Traffic Organization to a public operator for a specific UA activity. After a complete COA application is submitted, the FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users. It is basically a waiver to Part 91's requirement to see and avoid.

When sUAS operations are planned, the 142d Wing will assist the local airport in publishing a NOTAM. Do not expect to be able to talk to the sUAS operator as they will likely not be on the radio. The sUAS must always remain in visual contact with a ground observer, so expect the sUAS's to operate close to the airport, from 50-1000 ft, but the actual altitudes will be published via NOTAM.