



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

Portland Air National Guard Base, Portland OR 97218

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

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 kts
- ♦ Size: ~ 1 ft x 1 ft
- ♦ 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)



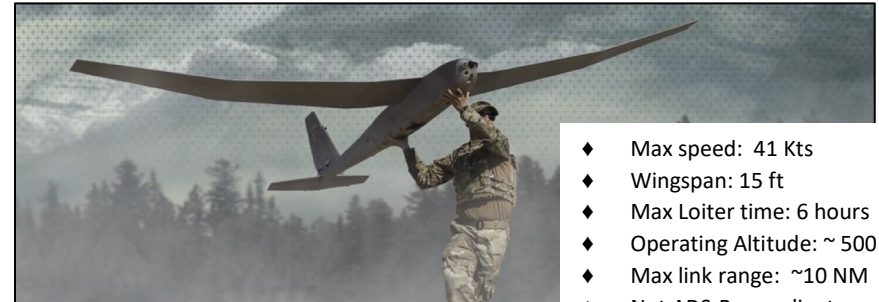
- ♦ Max speed: 26 Kts
- ♦ Size: ~3 ft x 3 ft
- ♦ Max Loiter time: ~40 minutes
- ♦ Operating Altitude: 20 ft – 500 ft
- ♦ Max link range: ~5 NM
- ♦ Not ADS-B compliant
- ♦ Not radar controlled

Northrop Grumman Stalker XE (Group 2)



- ♦ Max speed: 39 Kts
- ♦ Wingspan: 12 ft
- ♦ Max Loiter time: 8 hours
- ♦ Maximum Altitude: 12,000 ft
- ♦ Max link range: ~10 NM
- ♦ Not ADS-B compliant
- ♦ Not radar controlled

AeroVironment PUMA LE (Group 2)



- ♦ Max speed: 41 Kts
- ♦ Wingspan: 15 ft
- ♦ Max Loiter time: 6 hours
- ♦ Operating Altitude: ~ 500 ft
- ♦ Max link range: ~10 NM
- ♦ Not ADS-B compliant
- ♦ Not radar controlled

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.

Questions? Call 142d Wing Safety, (503) 335-4024