432d Wing “Hunters”

Collect—Target—Engage—Assess—Train

Remotely Piloted Aircraft In the NAS

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Overview

- UAS Basics
- MQ-1/9 Capabilities
- MQ-1/9 Missions
- Airspace Integration

Collect - Target - Engage - Assess - Train
Mission Areas

Penetrating
- **Group 5**
  - > 1320 lbs
  - > FL180

Persistent
- **Group 4**
  - > 1320 lbs
  - < FL180

Tactical
- **Group 3**
  - < 1320 lbs
  - < FL180
  - < 250 knots

Small Tactical
- **Group 2**
  - 21-55 lbs
  - < 3500 AGL
  - < 250 knots

Micro/Mini Tactical
- **Group 1**
  - 0-20 lbs
  - < 1200 AGL
  - < 100 knots
MQ-1/9 Capabilities

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MQ-1 Predator

Multi-spectral Targeting System

Laser Designator

EO & IR Camera

IR Marker

AGM-114P Hellfire

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MQ-9 Reaper

RPA Distribution

- RQ-4 14%
- RQ-170 3%
- MQ-9 83%

A-10 Size

- Wingspan: 66 FT
- Length: 36 FT
- Max Speed: 249 KT (230 MPH)
- Endurance: 16-20 hrs
- Max Altitude: 50,000 ft MSL
- Payload: 3,750 lbs (6 hard points)

Hobbyist UAV Size

- Freefly Alta
- DJI Phantom

Weapons:

- 4 x Hellfire
- 2 x 500lb LGB
MQ-1/9 Comparison

MQ-1

C-172 Size

Wingspan: 49 FT  Length: 26 FT
Max Speed: 120 KT  Endurance: 24 hrs
Max Altitude: 25,000 ft MSL
Payload: 300 lbs (2 hard points)

2 x Hellfire

MQ-9

A-10 Size

Wingspan: 64 FT  Length: 36 FT
Max Speed: 240 KT  Endurance: 18 hrs
Max Altitude: 50,000 ft MSL
Payload: 3000 lbs (6 hard points)

2x500 lb LGB  4xHellfire
MQ-9 Reaper Sensor Details

- **Day TV/ Low Light TV**
- **AN/DAS-1A MTS** (Multispectral Targeting System) ~$3 million per unit
- **LTM** (Laser Target Marker)
- **LRD** (Laser Rangefinder/Designation)
- **SAR** (Synthetic Aperture Radar)
  - **IR** (Infrared)
Day TV
Ultra Wide Field
6 NM

Powerline Transformer
Day TV
Ultra Narrow
6 NM
Infrared
Ultra Wide
6 NM
Infrared
UltrNar 2x
5.5 NM
The Cockpit

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Remote Split Operations (RSO) = smallest footprint forward

Concept of Operations

- **Stateside AFB**: Mission Control Element
- **In Theater**: Launch & Recovery Element
- **Video Network**: Fiber Optics
- **LOS Only**: “Lost Link Missions”

**Ku Satellite**

**PPSL**

**GCS**

**Ops Cell**

"Collect - Target - Engage - Assess - Train"
Predator/Reaper System
24/7/365 Combat Air Patrol

Ground Data Terminal
SATCOM Earth Terminal Sub System (SETSS)
Operations Center
4 Aircraft
2 Ground Control Stations (GCS)

Personnel for the 1st CAP
LRE (Forward) – 50 (ops & mx)
GCS/MCC (Home Station) – 60 (ops and mx)
MQ-1/9 Missions

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The 432d Wing Mission

- 24/7 unparalleled combat support to the Joint Forces Warfighter with 100% of our available combat assets 100% of the time

“Our job is to keep guys out of trouble…
But if they get in trouble, we get them out”

- Conduct RPA LRE / base defense, intel, weather and maintenance training that is second to none.
Mission Sets

Where we are

Where we are going

Always Supporting the Joint Force Commander

Collect - Target - Engage - Assess - Train
Close Air Support

Accelerated 2X
Airspace Integration

Collect - Target - Engage - Assess - Train
URT Pipeline Training

RPA Pilots

2 months
RPA Flight Screening
Pilot Fundamental Skills
39 hours flight time

2.5 months
RPA Instrument Qualification Course
Simulator only – 49 hours
Instrument Check Ride

4 weeks
RPA Fundamentals Course
Tactical / Theatre Ops:
weapons, threats,
sensors, ATO/SPINS,
comms, ISR basics
110 hours academics
4 Labs/Missions

Traditional Pilots

MQ-1/9 Formal Training Units

2-6 months

RPA Sensor Operators

2 weeks
Aircrew Fundamentals Course
Aircrew Culture

6 weeks
Basic Sensor Operator Course
Train Full-motion Video,
Sensor Basics / Analysis

Joint Firepower Course

2 Weeks
ACC/AFSOC
OPS SQs
Nellis Test & Training Range

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MQ-1/9 COA’s

- Possible because:
  - Transponder equipped
  - Class A Airspace
  - Radar Coverage
  - Close ATC integration
RPA CAP Growth
(MQ-1, MQ-9)

May ‘14 – 65 CAPs
(32 MQ-1, 33 MQ-9)

May ‘13 – 63 CAPs
(34 MQ-1, 29 MQ-9)

Nov ‘12 – 58 CAPs
(36 MQ-1, 21 MQ-9)

Dec ‘08 – 33 CAPs
(31 MQ-1, 2 MQ-9)

1st Million Hours (1995 – Jun 2011)

2nd Million Hours (Jun 2011 – Oct 2013)

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Current RPA Bases

New ANG (Combat) squadrons (MCE)

Combat squadrons (MCE)

Formal Training Unit (FTU) and/or Test squadron

ACC Units  ANG Units  AFSOC Units  AFRC Support

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Bottom Line: Class 4&5 UAS, treat like any other squawking, talking, aircraft.

Questions

Lt Col Michael “Wilson” Lewis
Commander, 89 ATKS