

Launch and Recovery

The MQ-1 Predator follows a conventional launch sequence from a semi-prepared surface under direct line-of-sight control.

A Launch and Recovery Element (LRE) will be used for taxiing, launching, recovering, and traffic pattern operations within Cannon's Class D Airspace. All communications for launch, recovery and pattern work will be accomplished on designated ATC frequencies. Redundant UHF/VHF LOS voice radio with telephone communications are available as backup.

Weather minimums for departures and operations within the Cannon Class D must be at least basic VMC and forecasted VMC for the operating period in accordance with USAF basic weather minimums. Operations will not take place if forecast or reported turbulence at the airport is greater than moderate. Pilots will limit exposure to turbulence to the maximum extent practical. Pilots will comply with the wind limits specified in the MQ-1 flight manual.

A Supervisor of Flying (SOF) will normally be in the tower to oversee all operations prior to the MQ-1 taxiing. ATC and the MQ-1 unit will maintain standard operating procedures that define the SOF's role in this function.

Ground observers must be in place one-hour prior to aircraft launch or one-hour prior to aircraft schedule to depart restricted airspace and have accomplished communication checks prior to the aircraft taxiing or exiting restricted airspace.

The following apply during taxi operations:

- If the pilot loses sight of the taxiway centerline, the aircraft will be stopped until visual contact with the centerline is reacquired. If the pilot cannot regain sight of the centerline, a wing walker must be in place with two-way communication established before moving the aircraft any further.
- The SO will use the sensor ball to clear for obstructions during taxi operations and prior to all turns. The SO will advise the pilot prior to releasing the sensor ball from position mode.
- If the pilot is using the sensor ball as the only video source for taxi and a requirement arises to use it for obstacle scanning, the pilot will bring the aircraft to a stop before releasing the sensor ball from position mode.
- Maximum taxi speed is 10 knots ground speed (KGS) on a taxiway, 20 KGS on a runway, and 5 KGS in a turn.

- ATC ground controller and/or observer will have eyes on the aircraft during all ground movements.

Runway Requirements:

- Minimum runway length is 5000 feet.
- Minimum runway width is 75 feet.
- Minimum taxiway width is 50 feet.

Takeoff:

- The PIC will ensure take off and landing data (TOLD) are calculated prior to takeoff. TOLD will include the following as a minimum: rotate speed, lift-off speed, climb speed, and glide speed (engine out situations).
- Pilots will not taxi or takeoff over a raised cable or takeoff into a raised webbing-type barrier. Pilots may takeoff beyond or between raised cables provided there is 5000 ft of runway beyond or between barriers.
- The sensor ball will be in position mode when the aircraft is below 500 ft Above Ground Level (AGL).

Airborne:

- The Pilot will always have flight graphics displayed.
- The aircrew will perform operations checks at least once per hour. These checks will include fuel level, oil level, propeller pitch operation, and engine parameters at a minimum.
- An oil level check will be conducted every 30 minutes.
- The conduct of operations and oil level checks will not interfere with tactical or safety-of-flight operations. If required, these checks may be postponed until such time as they may be accomplished without mission degradation.

Approach and Landing:

- The PIC will ensure the approach and landing speeds have been calculated and briefed prior to commencing the approach.
- The sensor ball will be placed in position mode and flight graphics will be displayed on both PSO racks prior to descending below 500 feet AGL.
- The pilot will normally accomplish a 3 degree approach.

- The desired touchdown zone for a visual approach is 500 to 1500 feet from the threshold, or the precision approach glide path interception point. When local procedures or unique runway surface conditions require landing beyond these points, the desired touchdown zone will be adjusted accordingly and all crewmembers briefed.
- Crewmembers will not attempt landing or touch-and-goes over raised webbing-type barriers. Pilots may land or accomplish touch-and-goes beyond raised cables provided there is 5000 feet remaining to the runway end or the next raised cable.
- Pilots will comply with wake turbulence avoidance criteria for a small aircraft (category 1) to the maximum extent possible.
- Pilots will not attempt practice night EO nose-camera landings. Low approaches are authorized. Pilots will not exceed 1200 feet per minute (FPM) descent rate on final approach and will establish normal glide path by 200 feet AGL. Descent rates greater than 600 FPM from threshold to flare require a go-around.

Cannon Departure Procedures: The MQ-1 will depart Cannon AFB and proceed to holding area “West” (figure 1). The pilot will ensure that the MQ-1 does not climb higher than 6800’ MSL (remaining within Cannon’s Class D Airspace). Prior to radar approach control releasing the MQ-1 to climb to 7300’ - 8300’ MSL (within the West holding area), the following must take place:

1. Ground observer # 2 must verify that no observed traffic is within their area.
2. RAPCON controller must ensure that no uncontrolled traffic is within or around the surrounding area of the holding area.

After clearance to climb is granted from the RAPCON controller, the following must take place prior to RAPCON releasing the MQ-1 into the corridor:

1. Pilot will use the MQ-1 sensors to scan the corridor for potential traffic and must verify that they have no observed traffic within or around the surrounding area of the corridor.
2. Ground observers 2, 3, 4, and 5 must verify that they have no observed traffic within their areas along the corridor route.
3. RAPCON controller must verify that they have no “uncontrolled” radar observed traffic (primary or secondary) within the identified 20 NM X 20 NM box (figure 2).

After the above is accomplished, the pilot can be released into the corridor by the RAPCON controller. The pilot will fly from the Class D entry/exit waypoint “A” direct to R-5104A entry/exit point “B” maintaining 7300’ - 8300’ MSL within the corridor.

Cannon Arrival Procedures: The MQ-1 will proceed to the R-5104A “East” holding area and make right turns. The pilot will maintain 7300’ – 8300’ MSL. The following must take place prior to the RAPCON Controller releasing the MQ-1 into the corridor:

1. Pilot will use the MQ-1 sensors to scan the corridor for potential traffic and must verify that they have no observed traffic within or around the surrounding area of the corridor.
2. Ground observers 2, 3, 4, and 5 must verify that they have no observed traffic within their areas along the corridor route.
3. RAPCON controller must verify that they have no “uncontrolled” radar observed traffic (primary or secondary) within the identified 20 NM X 20 NM box (figure 2).

After the above is accomplished, the pilot can be released into the corridor by the RAPCON controller. The pilot will fly from the R-5104A entry/exit waypoint “B” direct to the Class D entry/exit waypoint “A” and enter the West holding area maintaining 7300’ - 8300’ MSL until cleared into the Class D airspace by the tower controller. The tower controller will clear the pilot to the appropriate traffic pattern for landing.



Figure 1. Cannon Departure Procedures.

