

Launch/Recovery: (description; specify type, procedure, times, location, personnel involved, coordination, communication etc.)

The Shadow is controlled by an automatic takeoff and landing system. It uses a rail compressed nitrogen gas powered catapult for launches. Emergency landings are by use of a parachute which is deployed after the engine has been shut down to minimize the danger to ground personnel. The Shadow has standard aircraft red and green position lights, a white anti-collision strobe light arrangement, and GPS navigation. Navigation can be preprogrammed, programmed during flight or direct navigation by the vehicle operator. Recovery and landing is typically performed autonomously by the TALS, a process similar to an ILS approach for manned aircraft. A tail hook/arresting cable system is used for rolling recoveries. Primary and secondary arresting cables are used to recover the aircraft. In the rare event that the RQ-7B does not catch on either arresting cable, an arresting net is preplaced to stop the aircraft. An AO located in the GCS controls the UA, continually monitoring system status, and maneuvers the UA as desired. The downlink data includes a display of health and status parameters such as attitude, magnetic heading, indicated airspeed, GPS position, barometric altitude, rate of climb, engine instrumentation, and warnings and cautions. The Aviation Safety Officer (ASO) and Crew Chief (CC) are responsible for maintaining safety of the launch / recovery sight, during all aspects of TUAS operations.