

AAI RQ-7B Shadow 200

Power plant

The AR74-1100 engine is a single rotor, ram air-cooled Wankel-type pusher engine. A Teflon coated throttle plate minimizes carburetor icing. Recommended fuel is Aviation Gasoline (AVGAS) 100LL. In the event this fuel is not available, Motor Gasoline (MOGAS) with a minimum 87 octane and no ethanol additives may be used as an alternate.

Dimensions

Wing span	14 ft 0.0 in
Length overall	11 ft 4.0 in
Height overall	3 ft 2.0 in
Propeller length	29 in
Propeller pitch	21 in

Weights

Weight empty	252 to 257 lbs
Max fuel weight	73 lbs
Max payload	45 lbs
Max launching weight	370 to 375 lbs

Performance

Airspeed normal range	60-110 KIAS
Automatic landing speed	52-78 KIAS
Min commanded airspeed	60 KIAS
Optimum climb speed	70 KIAS
Decent speed	70-90 KIAS
Rate of climb	500 ft/min
Service ceiling	15,000 ft
Min Altitude	Electronic Line of Sight
Max launch altitude	9000 ft DA
Operational radius	125 km
Max endurance	6 Hours
Max pitch	+20, -15 degrees
Max roll	± 20 degrees

Launch

Automatic ground launch by a Shadow 200 TUAV System Launcher (hydraulic catapult.)



Recovery

Automatic wheeled landing utilizing the Hook Arresting System.

Flight Termination System

The flight termination system is comprised of a recovery parachute controlled from the ground. Its function is to recover the AV with minimum damage during an emergency flight termination.

Transportation

Air vehicle can be dismantled and stored/transported in a 0.61 × 0.61 × 1.65 m (2 × 2 × 5.4 ft) container; can be carried by two people. Complete system air-transportable in three C-130 aircraft.

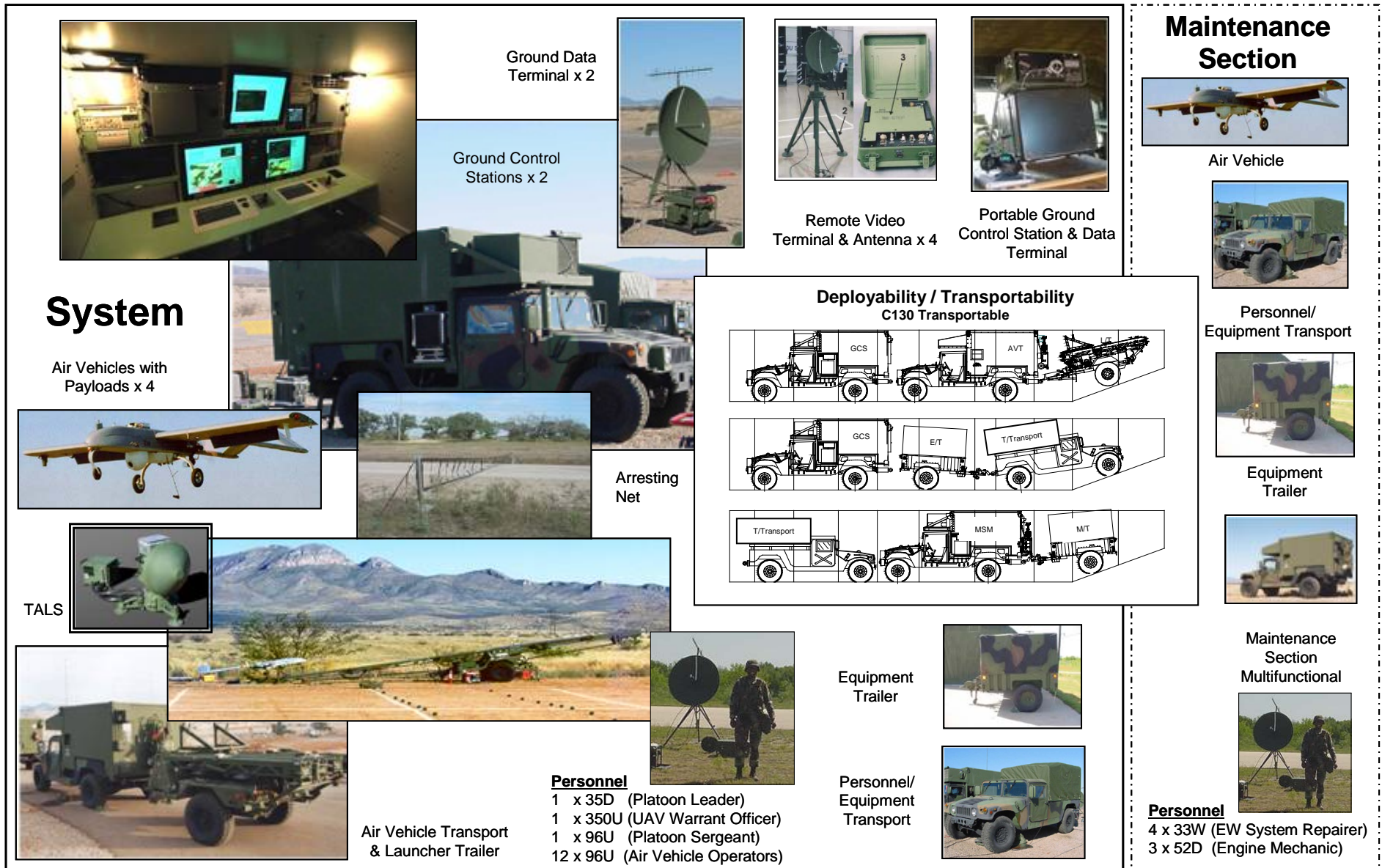
System composition

Four air vehicles with payloads; six HMMWVs; two mobile Raytheon Systems GCSs; four RVTs and antennas; one portable GCS and one GDT. One HMMWV transports the UAVs and the hydraulic launch trailer; two others each transport one GCS, two are troop and equipment carrier vehicles, and the sixth carries associated support equipment. US Army ground crew of 21.

Operational status

Selected as winner of US Army Tactical UAV (TUAV) competition in December 1999; initial LRIP contract of US\$41.8 million for four Shadow 200 systems; delivered from November 2000; option for further four LRIP systems exercised with award of US\$19.4 million contract on 11 April 2001. Field qualification tests at Fort Huachuca, Arizona, completed in March 2001; IOT&E at Fort Hood, Texas, began at the end of April 2001 and was completed successfully in May 2002, at which time some 1,700 hours in 900 flights had been completed. A Lot 2 LRIP contract (US\$22.3 million for five systems) was awarded in March 2002; Milestone C (approval for full-rate production) was achieved on 1 October 2002 and was expected to result in an order for nine systems during FY03 at a cost of approximately US\$99 million. The RQ-7A was fielded in October 2002.

Shadow 200 System Baseline



Attachment 1

