

## 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 x 0.61 x 1.65 m (2 x 2 x 5.4 ft) container; can be carried by two people. Complete system air-transportable in three C-130 aircraft.

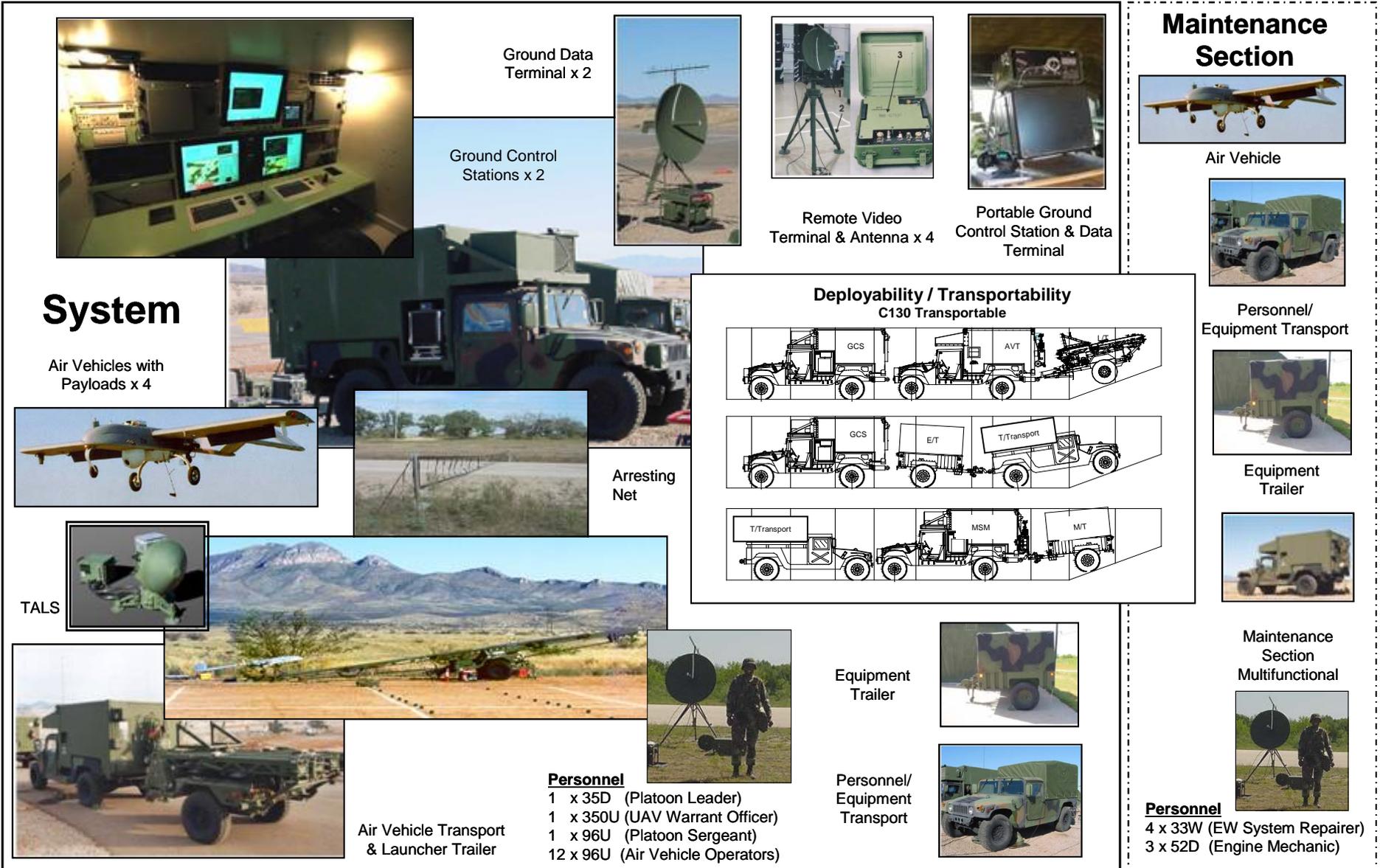
### System composition

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



## Maintenance Section



Air Vehicle



Personnel/  
Equipment Transport



Equipment  
Trailer



Maintenance  
Section  
Multifunctional



**Personnel**  
4 x 33W (EW System Repairer)  
3 x 52D (Engine Mechanic)

Ground Data  
Terminal x 2

Ground Control  
Stations x 2



Remote Video  
Terminal & Antenna x 4



Portable Ground  
Control Station & Data  
Terminal

## System

Air Vehicles with  
Payloads x 4



TALS

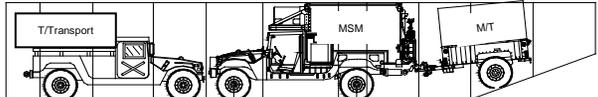
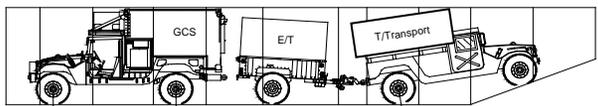
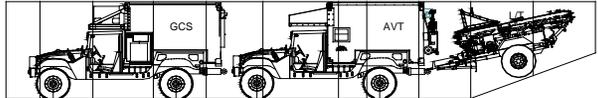


Air Vehicle Transport  
& Launcher Trailer



Arresting  
Net

## Deployability / Transportability C130 Transportable



Equipment  
Trailer



Personnel/  
Equipment  
Transport



**Personnel**  
1 x 35D (Platoon Leader)  
1 x 350U (UAV Warrant Officer)  
1 x 96U (Platoon Sergeant)  
12 x 96U (Air Vehicle Operators)

# Attachment 1

