

# Shadow Tactical Unmanned Aerial Vehicle (TUAV)

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance

## MISSION

To provide the tactical maneuver commander near real-time reconnaissance, surveillance, target acquisition, and force protection during day/night and adverse weather conditions.

## DESCRIPTION

The RQ-7B Shadow Tactical Unmanned Aerial Vehicle (TUAV) has a wingspan of 14 feet and a payload capacity of approximately 60 pounds; gross takeoff weight exceeds 380 pounds and endurance is more than six hours on-station at a distance of 50 kilometers. The system is compatible with the All Source Analysis System, Advanced Field Artillery Tactical Data System, Joint Surveillance Target Attack Radar System Common Ground Station, Joint Technical Architecture-Army, and the Defense Information Infrastructure Common Operating Environment. The

One System Ground Control Station (OSGCS) is also the only joint-certified GCS in the DoD. The RQ-7B Shadow can be transported by six Air Force C-130 aircraft. Shadow is currently operational in both the Army and Marine Corps.

The RQ-7B Shadow configuration, fielded in platoon sets, consists of:

- Four air vehicles with electro-optical/infrared imaging payloads including infrared illuminators
- Two ground control station (GCS) shelters mounted on High Mobility Multipurpose Wheeled Vehicles (HMMWV) and their associated ground data terminals; one portable GCS and one portable ground data terminal
- Two air vehicle transport HMMWV, one of which tows a trailer-mounted hydraulic launcher
- Two HMMWV with trailers for operations/maintenance personnel and equipment transport
- One HMMWV with Maintenance Section Multifunctional (MSM) shelter and trailer
- One HMMWV with Mobile Maintenance Facility (MMF) shelter

- Two automatic Take-off and Landing Systems (TALS)
- Four One System Remote Video Terminals (OSRVT) and antennas

The Shadow is manned by a platoon of 22 soldiers and, typically, two contractors. The Soldier platoon consists of a platoon leader, platoon sergeant, UAV warrant officer, 12 Air Vehicle Operators (AVOs)/Mission Payload Operators (MPO), four electronic warfare repair personnel and three engine mechanics supporting launch and recovery. The MSM is manned by Soldiers who also transport spares and provide maintenance support. The MMF is manned by contractor personnel located with the Shadow platoon to provide logistics support to include “off system support” and “maintenance by repair.”

The Shadow also has an early entry configuration of 15 Soldiers, one GCS, the air vehicle transport HMMWV, and the launcher trailer, which can be transported in three C-130s. All components can be slung under a CH-47 or CH-53 helicopter for transport.

## SYSTEM INTERDEPENDENCIES

HMMWV, SINGARS, MEP803A 10kW

## PROGRAM STATUS

- **Current:** System is in the Production and Deployment phase
- **Current:** Since achieving Initial Operating Capability, the Shadow has flown more than 386,000 hours in support of combat operations in Operation Iraqi Freedom and Operation Enduring Freedom

## PROJECTED ACTIVITIES

- **FY08–09:** Continue fielding Shadow platoons in support of Army Modularity, Integrate Laser Designation systems; develop and field numerous reliability improvements; develop and field a larger wing

## ACQUISITION PHASE

Technology Development

Engineering & Manufacturing Development

Production & Deployment

Operations & Support

## Shadow Tactical Unmanned Aerial Vehicle (TUAV)

### FOREIGN MILITARY SALES

None

### CONTRACTORS

#### Air Vehicle/Ground Data Terminal:

AAI Corp. (Hunt Valley, MD)

#### GCS, Portable GCS:

CMI (Huntsville, AL)

#### Auto-land system:

Sierra Nevada Corp. (Sparks, NV)

#### Ground Data Terminal Pedestal:

Tecom (Chatsworth, CA)

#### MMF/MSM shelter:

General Dynamics (Marion, VA)

#### Avionics:

Rockwell Collins (Warrenton, VA)

#### Ground Station Software:

CDL Systems (Calgary, Canada)

#### Aircraft Engine:

UAV Engines Limited (Shenstone, UK)

