

# Arcturus T-20

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(Redirected from Arcturus-UAV T-20)

The **Arcturus T-20** unmanned aerial vehicle (UAV) is a medium range, fully composite aircraft capable of internal and external payloads. Launched from a portable catapult, it can be recovered with a shipboard landing system, or belly land on unimproved surfaces. The T-20 carries a retractable gimbal-mounted, digitally-stabilized, electro-optical/infrared (EO/IR) camera that relays video in real time via a C-band LOS data link to the ground control station (GCS). Powered by a 4-stroke, fuel injected gasoline engine, the aircraft burns 2 lbs of fuel per hour at cruise. The T-20 does not require an airfield to operate and lands on dirt, grass, desert, or gravel roads. The internal payload bay (11"x11"x36") allows for sensor arrays to be pre-assembled on 'payload pallets' that attach from the bottom of the aircraft. The T-20 system includes three aircraft, ground control station, portable launcher, and support trailer for equipment and personnel. The airframe is entirely composite with complex wet wings tested to stresses of 10 G's.

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## Development

The Arcturus-UAV T-20 was privately developed in 2009 in Rohnert Park, California as an Intelligence, Surveillance and Reconnaissance platform with payload capacity for a gimbal camera, and wing mounted drop pods. Flight testing of the prototype T-20 was completed at Edwards Air Force Base in February 2009. The first air drop test was completed in August 2009 at Camp Roberts California with payloads provided by the Naval Postgraduate School. October 2009 The T-20 flew air drops at the 2009 Precision Airdrop Technology Conference and Demonstration(PATCAD)<sup>[1]</sup> at Yuma Proving Ground in support of the

### Arcturus T-20



T-20 with ISR camera extended Camp Roberts, California

<b>Role</b>	Runway independent tactical reconnaissance UAV
<b>Manufacturer</b>	Arcturus-UAV, LLC
<b>First flight</b>	Jan 28th, 2009 Edwards Air Force Base
<b>Introduction</b>	2009
<b>Primary user</b>	United States Navy
<b>Number built</b>	20 + Delivered/160 Planned



Naval Postgraduate School Snowflake<sup>[2]</sup> guided para foil.

T-20 ready to launch at Camp Roberts, California

## Operation

In March 2012 the Naval Air Systems Command (NAVAIR) included the Arcturus T-20 UAV in a multi-award IDIQ contract N00019-12-D-0010<sup>[3]</sup> for ISR Services. Arcturus UAV, LLC is a sub contractor to Computer Sciences Corporation (CSC) under this contract.

California October 24, 2012 the Arcturus T-20 became part of aviation history as the first Unmanned Aerial Vehicle to see and avoid a general aviation manned aircraft using an ADS-B transponder. The event was sponsored by the Cascade Chapter of AUVSI.<sup>[4]</sup>

## Variants

Variations of the T-20 are the Block I (Carburetor) and Block II (Fuel Injected).

## Specifications

### General characteristics

- **Length:** 9.4 ft in (2.8 m)
- **Wingspan:** 17.2 ft in (5.2 m)
- **Height:** 3.0 ft in (1 m)
- **Empty weight:** 110 lb (50 kg)
- **Gross weight:** 175 lb (79 kg)
- **Powerplant:** 1 × 1 Aviation Gasoline Avgas 110 LL 4 stroke internal combustion, 10 hp (7.5 kW) each

### Performance

- **Maximum speed:** 104 mph (167 km/h)
- **Range:** 55 LOS miles (89 km)
- **Endurance:** 16 hours
- **Service ceiling:** 15,000 ft (5,486 m)

## See also

- Unmanned Aerial Vehicle
- Unmanned Combat Air Vehicle
- NAVAIR PMA 263 Small Tactical Unmanned Aircraft System (STUAS) (<http://www.navair.navy.mil/index.cfm?fuseaction=home.display&key=4043B5FA-7056-4A3A-B038-C60B21641288>)
- Dragon Eye

Aircraft of comparable role, configuration and era

RQ-7 Shadow Boeing ScanEagle Institu Integrator

Related lists

- List of active United States military aircraft

## References

- *This article contains material that originally came from the web article Sagetech, Arcturus Team to Demonstrate Joint Ops With ADS-B (http://www.auvsi.org/AUVSI/News/#ADSBdemo/) by Brett Davis, October 24th 2012, which exists in the Public Domain.*
- *This article contains material that originally came from the web article Arcturus Unmanned Aerial Vehicle (http://www.jber.af.mil/news/story.asp?id=123098843/) by Marine Sgt. Rocky Smith, which exists in the Public Domain.*
- *This article contains material that originally came from the web article Unmanned Aerial Vehicles (http://www.vectorsite.net/twuav.html) by Greg Goebel, which exists in the Public Domain.*
- *This article contains material that originally came from the web article Pentagon to Test Guided Parachute Drops From UAVs (http://www.popularmechanics.com/blogs/technology\_news/4324278.html) by PM Staff June 2009, which exists in the Public Domain.*

1. ^ Precision Airdrop Technology Conference and Demonstration July 2009 NATICK website
2. ^ Hennings, E:"Aerodynamic Decelerator Systems", Aerospace America page 8 December 2009
3. ^ US Dept. of Defense Feb 29, 2012 website
4. ^ AUVSI News October 24th 2012 article by Brett Davis

## External links

- AUVSI News (http://www.auvsi.org/AUVSI/News/#ADSBdemo/)
- Popular Mechanics T-20 UAV (http://www.popularmechanics.com/blogs/technology\_news/4324278.html/)
- Arcturus-UAV Website (http://www.arcturus-uav.com/)
- Arcturus-UAV Turkey Distributor (http://www.atesin.com.tr/)
- Arcturus UAV Joint Base Elmendorf-Richardson News (http://www.jber.af.mil/news/story.asp?id=123098843/)
- T-20 Specifications (http://www.arcturus-uav.com/docs/T-20%20June%20Spec%20Sheet,%20Final.pdf/)
- 2009 Naval Postgraduate School Video (http://www.nps.edu/video/portal/Video.aspx?enc=seWlm4jD9k7NMT%2FYFTtpXfyHIZeTF9Bi/)

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Categories: United States military reconnaissance aircraft 2000–2009

| Unmanned aerial vehicles of the United States | Arcturus aircraft | Single-engine aircraft

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