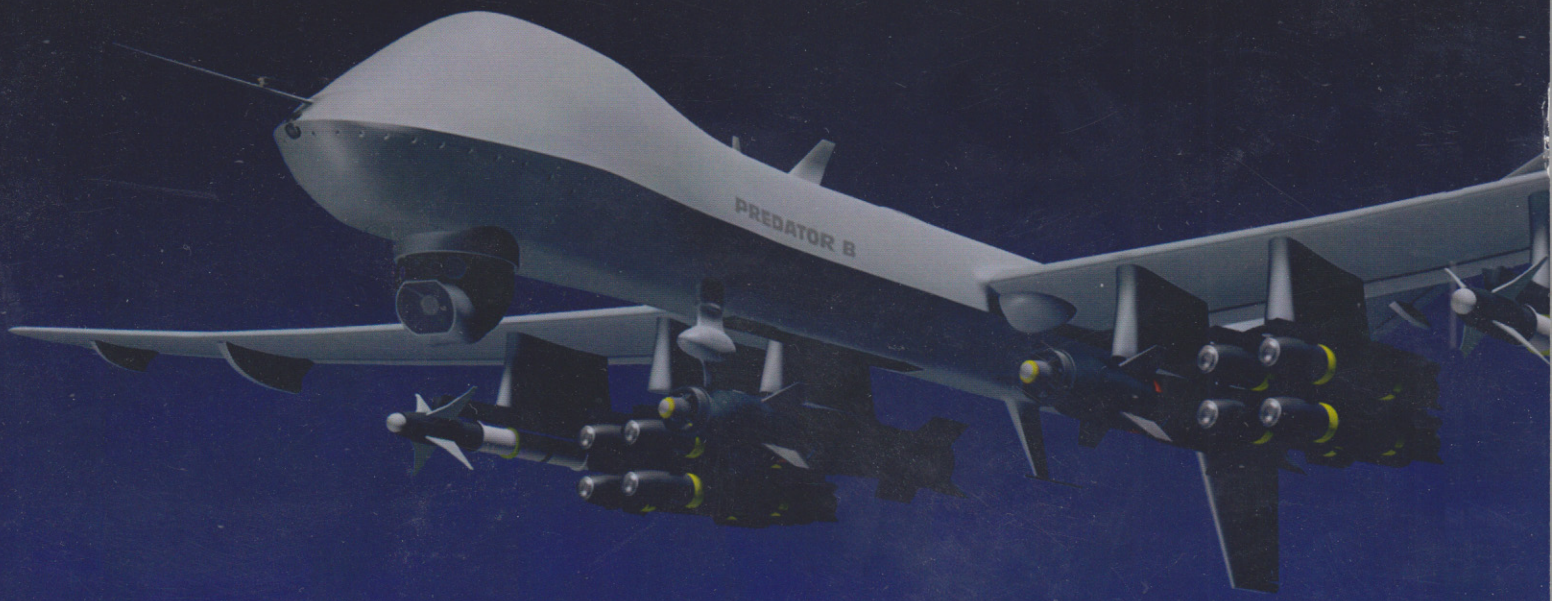


GENERAL ATOMICS
AERONAUTICAL

Leading The Situational Awareness Revolution

GENERAL ATOMICS
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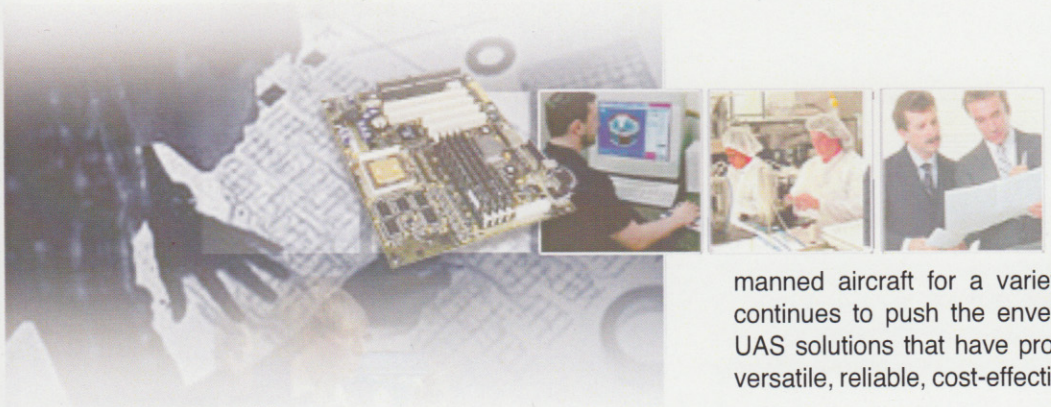


## THE COMPANY

General Atomics Aeronautical Systems, Inc. (GA-ASI), an affiliate of privately-held General Atomics, is a leading manufacturer of unmanned aircraft systems (UAS), tactical reconnaissance radars, and surveillance systems. The company's Aircraft Systems Group is a leading designer and manufacturer of proven, reliable UAS. It also manufactures a variety of solid-state digital ground control stations (GCS) and provides pilot training and support services for UAS field operations. The Reconnaissance Systems Group designs, manufactures, and integrates the Lynx® Synthetic Aperture/Ground Moving Target Indicator (SAR/GMTI) radar and the highly sophisticated CLAW® sensor payload control and image analysis software onto both manned and unmanned surveillance aircraft. It also integrates other sensor and communication equipment into manned intelligence, surveillance, reconnaissance (ISR) aircraft and develops emerging technologies in solid-state lasers, electro-optical sensors, and ultra-wideband data links for government applications.

Leading the industry to new levels of performance, reliability, and operational capability since its establishment in 1993, GA-ASI has expanded the acceptance and application of UAS within the United States and among allied forces around the globe. The company is dedicated to providing long-endurance, mission-capable aircraft with the integrated sensor and data link systems required to deliver persistent, wide area situational awareness and rapid strike capabilities.

GA-ASI has over 4,000 employees at multiple facilities in the San Diego area and in the Mojave Desert, just east of Los Angeles.

## UNMANNED AIRCRAFT SYSTEMS

GA-ASI is revolutionizing aviation by expanding the capabilities of UAS, making them viable alternatives to manned aircraft for a variety of missions. The company continues to push the envelope with innovative high-tech UAS solutions that have produced an ever-growing line of versatile, reliable, cost-effective, and combat-proven aircraft.

### I-GNAT SERIES

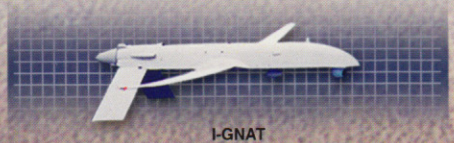
The I-GNAT® UAS series offers the benefits of a long-loiter aircraft with over 40 hours of endurance, a large payload capacity, ease of use, and low maintenance requirements while providing a very low cost-per-flight-hour. I-GNAT, an improved version of the original GNAT-750, is designed to take off and land conventionally from any hard surface and is in operation with the U.S. Government and foreign militaries.

### PREDATOR

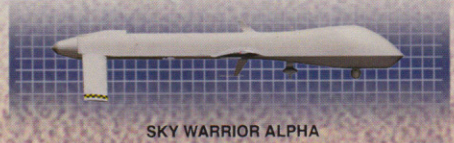
A growth evolution of the proven GNAT system, Predator® is the most combat-proven unmanned aircraft system in the world, providing continuous and persistent armed reconnaissance and battlefield support to ground forces. MQ-1 Predator has an endurance of 40 hours, is equipped with a satellite data link system, and an electro-optical/infrared (EO/IR)-stabilized gimbal containing color and infrared video cameras, plus laser designation, laser spotting, and laser range-finding capabilities. The aircraft has also been configured with air-to-air and air-to-ground missiles. Predator is operational with the U.S. Air Force (USAF), U.S. Navy, and the Italian Air Force. The U.S. Army I-GNAT ER/Sky Warrior® Alpha, Predator variants, provide support to ground forces through the aircraft's precision capability to detect, identify, track, and engage time-sensitive targets.

### PREDATOR B

A turboprop-powered aircraft, the company developed Predator B expands the mission performance and capability of Predator to meet ever-increasing mission requirements for civil and military applications. Based on the reliability of the Predator airframe, avionics, mechanical systems, data


I-GNAT


PREDATOR


SKY WARRIOR ALPHA

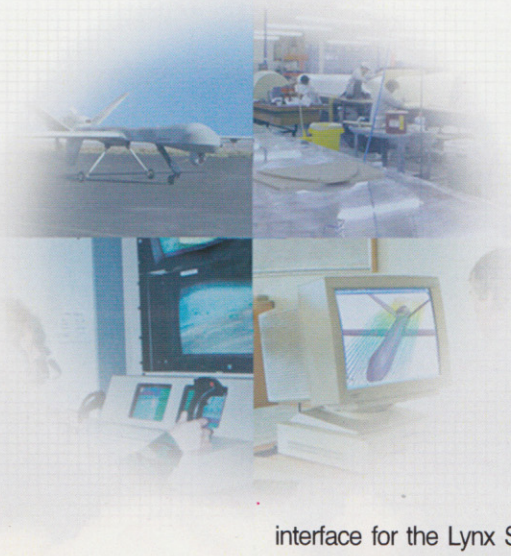
link, and flight control technology, Predator B has a 500 percent greater payload capacity than Predator, an endurance over 30 hours, speeds greater than 240 KTAS, and can operate above 50,000 feet. It provides increased reliability through triple-redundant avionics and flight control systems and redundant flight control surfaces.

The Predator B multi-purpose aircraft can be configured with a variety of weapons to meet its designated "hunter-killer" mission requirements, carrying up to 3,000 pounds of external ordnance. Its improved EO/IR, and Lynx SAR with GMTI capability make it a dominant battlefield capability. When equipped with a multi-mode maritime radar, Predator B also provides a superior maritime surveillance capability.

Operational with the USAF as MQ-9 Reaper, Predator B has also been acquired by the U.S. Department of Homeland Security (DHS)/Customs and Border Protection (CBP), the U.S. Navy, NASA, the Royal Air Force, and soon the Italian Air Force.

### SKY WARRIOR

Sky Warrior UAS, a Predator derivative, was designed to meet the U.S. Army's Extended Range Multi-Purpose (ER/MP) requirement for a nondevelopmental solution for persistent ISR and tactical strike operations. Powered by a heavy-fuel engine and featuring the same redundant flight systems and surfaces as in the Predator B, the aircraft provides persistent wide-area surveillance with long-endurance communications relay, and weapons delivery missions, with twice the weapons capacity of Predator.



## SYSTEM OPERATION AND CONTROL

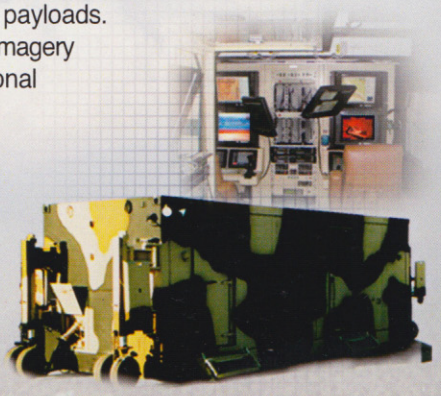
GA-ASI manufactures a variety of solid-state digital GCS featuring high mobility and portability that are in operation around the world today. These stations allow direct, real-time control of the aircraft and their onboard sensors that provide intelligence to customers located on land, in an aircraft, or on a ship anywhere in the world. Each aircraft is controlled by a pilot in a GCS through a C-Band line-of-sight (LOS) data link at ranges up to 150 nautical miles, or autonomously to the range limits of the aircraft. For routine over-the-horizon control, a Ku-Band satellite data link is also available on Predator and Predator B series aircraft. Currently under development, the flight-tested and ergonomically designed Advanced Cockpit GCS offers game-changing situational awareness and mission effectiveness with features that include 3D moving maps, a panoramic synthetic-enhanced horizon, high-definition video, multi-aircraft control, a fused operational picture, and intuitive touch screen displays and controls. The company also manufactures a Remote Video Terminal (RVT) that provides real-time imagery directly from the aircraft to war fighters in the field, on ships, or in the air.

## TACTICAL RECONNAISSANCE RADARS: SAR/GMTI

To provide total situational awareness to military decision-makers, GA-ASI manufactures airborne sensor packages specially designed to enhance the ISR capability of manned and unmanned aircraft systems. These include the world class Lynx SAR/GMTI radar with high-resolution and long-range, wide-area surveillance capability. The company also designs and provides integrated sensor packages that include both SAR/GMTI and high-resolution EO/IR sensors with a common workstation that uses the GA-ASI-developed CLAW integrated sensor control and image exploitation analysis software.

Lynx radars can provide high-resolution SAR imagery out to 35 kilometers slant range, as well as coarser resolutions in excess of 80 kilometers. The Lynx SAR has been chosen by the USAF for the MQ-9 Reaper program and by DHS for the CBP Predator B program. In addition, Lynx has been integrated onto the U.S. Army's I-GNAT ER/Sky Warrior Alpha UAS, as well as onto other Army manned aircraft, and is currently operational on these aircraft.

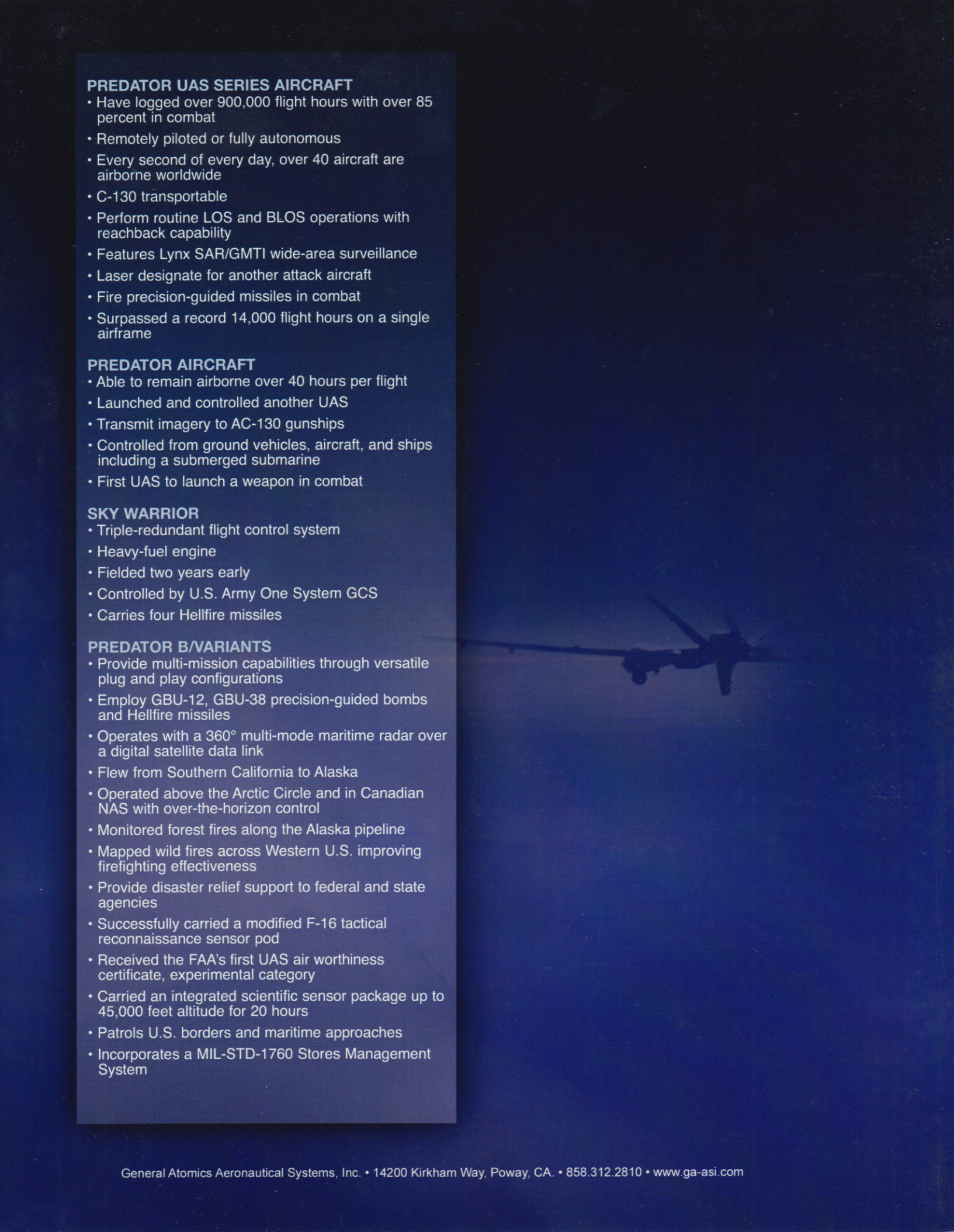
CLAW is a Windows-based payload control, image exploitation, and data mining software package originally developed as a point-and-click interface for the Lynx SAR/GMTI. It is now operational on both manned and unmanned aircraft for sensor control, image processing, image analysis and cross-cueing of EO/IR, radar, and hyper/multi spectral payloads. CLAW overlays sensor imagery and aircraft situational awareness symbology onto an integrated map server, while providing robust data basing and archival capabilities. CLAW also supports and enables the Lynx radar advanced post-processing capabilities.



SKY WARRIIOR

PREDATOR B

PREDATOR B - MARITIME



## PREDATOR UAS SERIES AIRCRAFT

- Have logged over 900,000 flight hours with over 85 percent in combat
- Remotely piloted or fully autonomous
- Every second of every day, over 40 aircraft are airborne worldwide
- C-130 transportable
- Perform routine LOS and BLOS operations with reachback capability
- Features Lynx SAR/GMTI wide-area surveillance
- Laser designate for another attack aircraft
- Fire precision-guided missiles in combat
- Surpassed a record 14,000 flight hours on a single airframe

## PREDATOR AIRCRAFT

- Able to remain airborne over 40 hours per flight
- Launched and controlled another UAS
- Transmit imagery to AC-130 gunships
- Controlled from ground vehicles, aircraft, and ships including a submerged submarine
- First UAS to launch a weapon in combat

## SKY WARRIOR

- Triple-redundant flight control system
- Heavy-fuel engine
- Fielded two years early
- Controlled by U.S. Army One System GCS
- Carries four Hellfire missiles

## PREDATOR B/VARIANTS

- Provide multi-mission capabilities through versatile plug and play configurations
- Employ GBU-12, GBU-38 precision-guided bombs and Hellfire missiles
- Operates with a 360° multi-mode maritime radar over a digital satellite data link
- Flew from Southern California to Alaska
- Operated above the Arctic Circle and in Canadian NAS with over-the-horizon control
- Monitored forest fires along the Alaska pipeline
- Mapped wild fires across Western U.S. improving firefighting effectiveness
- Provide disaster relief support to federal and state agencies
- Successfully carried a modified F-16 tactical reconnaissance sensor pod
- Received the FAA's first UAS air worthiness certificate, experimental category
- Carried an integrated scientific sensor package up to 45,000 feet altitude for 20 hours
- Patrols U.S. borders and maritime approaches
- Incorporates a MIL-STD-1760 Stores Management System

General Atomics Aeronautical Systems, Inc. • 14200 Kirkham Way, Poway, CA. • 858.312.2810 • www.ga-asi.com

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