



NOT A BIRD. OR A PLANE.
AND NOT JUST A HAWK...

INTRODUCING THE

UH-60A Black Hawk

The superior capabilities and proven utility of the UH-60A Black Hawk, refurbished to like new condition, customized to your specific needs, at a price you can afford.

Let us breathe “new life” into your mission.



Making Flight Affordable



UH-60A Black Hawk Refurbishment Program

Gulf State Aviation, LLC is pleased to present the totally refurbished, like-new UH-60A Black Hawk helicopter. Gulf State Aviation is an approved representative of these aircraft made available from Arista Aviation, the world's leading military helicopter refurbishment company.

The refurbished Black Hawk market is emerging, and many countries and companies are now realizing that this exceptional helicopter is now more obtainable than ever before. Through the Arista program, Black Hawk helicopters are completely refurbished at their Alabama facility. Beginning with a meticulous inspection of the airframe, the aircraft undergo repair to any airframe or component discrepancies, followed by a thorough corrosion check. Next is a complete strip and paint, the installation of new windows and other airframe items, and final customization of the aircraft according to each customer's specification. This may include NextGen avionics, cargo hooks, rescue hoists, or other systems.

Purchasing a Black Hawk is one thing, supporting it is another. Through our affiliation with several leading support companies, Gulf State Aviation is able to offer turn-key services. These include the following:

- Aircraft delivery and set-up
- Global spare parts support and component tracking
- Field maintenance training and support, both initial and on-going
- Depot maintenance training and support, both initial and on-going
- Pilot training, both initial and on-going
- Logistics support, so your mission stays on track regardless of where you're operating
- Special equipment installation, training, and support
- On-going auditing and oversight of the program, to ensure the operation is achieving the desired results, and the aircraft are being used to their full capability

Why choose a refurbished Black Hawk? There are many benefits to the Arista refurbished Black Hawk aircraft, some of which include:

- **Tremendous cost savings** - a refurbished Black Hawk is substantially cheaper to acquire than a new one
- **Complete refurbishment** - you can be assured of the highest quality control standards, so you're getting a reliable aircraft that performs the way it's suppose to
- **Fleet upgrade** - due to the cost savings, a refurbished Black Hawk allows you to upgrade your fleet to this caliber helicopter when you otherwise may not have been able to
- **Increased fleet size** - add multiple refurbished Black Hawks for less than the cost of one new Black Hawk
- **Mission training** - use the less expensive, refurbished Black Hawk for routine mission training instead of risking new aircraft in your fleet
- **Backup support** - the refurbished Black Hawk's are the perfect compliment to backup your existing Black Hawks during periods of maintenance, etc.

The following pages highlight the tremendous capability of the Black Hawk helicopter, and what the addition of one of these aircraft can do for your operation or flight program... for a fraction of the cost of a new Black Hawk.



The UH-60A Black Hawk

The UH-60 Black Hawk, developed by Sikorsky, has been operational in the US Army since 1978, and variants of the Black Hawk are operational or have been ordered by 25 international customers: the Argentine Air Force, Royal Australian Army, Bahrain, Brazil, Brunei, Chile, Colombian Air Force, Egypt, Greece, Hong Kong, Israel, Japan Self Defense Force, Jordan, Korea, Malaysia, Mexico, Morocco, People's Republic of China, Royal Saudi Land Forces Army Aviation Command, the Turkish Jandarma, Spain, The Philippine Air Force, Taiwan, and Thailand.

UH-60 Black Hawk helicopter

More than 2,000 UH-60 Black Hawk helicopter variants are in service with the US Military and more than 600 exported. Black Hawk helicopters have logged over four million flying hours, including a diverse range of combat missions in Grenada, Panama, in the liberation of Kuwait, Somalia, Afghanistan, Iraq and numerous humanitarian and rescue missions including operations in Bosnia.

The helicopters are manufactured at the Sikorsky Aircraft Corporation production facilities based in Stratford, Connecticut, USA. Licensed production of Black Hawk helicopters is also carried out in Japan and the Republic of Korea.

The primary mission of the Black Hawk helicopter is as a troop carrier and logistical support aircraft, but in addition the helicopter can be configured to carry out medical evacuation, command-and-control, search-and-rescue, armed escort, electronic warfare and executive transport missions.

UH-60 Black Hawk helicopter design

Black Hawk has low detectability and outstanding nap-of-the-earth flight capabilities. The aircraft is tolerant to small arms fire and most high-explosive, medium-calibre (23mm) projectiles. The flight controls are ballistically hardened and the helicopter is equipped with redundant electric and hydraulic systems.

The helicopter has the ability to absorb high-impact velocities. The fuel system is crash-resistant and self-sealing. The crew seats, passenger seats and the landing gear are energy absorbing.



Black Hawk weapons

The UH-60 is qualified as a launch platform for the laser-guided Hellfire anti-armour missile. The Black Hawk can carry 16 Hellfire missiles using the external stores support system (ESSS). The ESSS has the capability of carrying thousands of kilogrammes of missiles, rockets, cannons and electronic countermeasures pods. The helicopter can also accommodate additional missiles, supplies or personnel inside the cabin. The Black Hawk can mount 7.62mm or .50-calibre machine guns in the windows. US Army Black Hawks are fitted with the Goodrich AN/AVR-2B laser threat warning system.

Cargo and Cabin

The cabin provides accommodation for 11 fully equipped troops (standard configuration) or four litters (stretcher patients) with a medical officer for medical evacuation missions.

The cabin is equipped with a ventilation and heating system. The UH-60A can carry external loads up to 3,636 kg on the cargo hook - for example, a 155mm howitzer. The main cabin can be cleared of troop seats for transportation of cargo. Additional stores can be carried on the external stores support system.

Communications

The UH-60A is equipped with a voice and data communications suite including VHF, UHF communications, an identification friend or foe (IFF) transponder, secure voice communications, satellite communications and an intercom system. The availability of these different radio sets is subject to US ITAR regulations.

Engines

The UH-60A is equipped with two General Electric turboshaft engines, type T700-GE-700. The internal fuel tanks have a capacity of 1,360 litres. Auxiliary fuel can be carried with 1,400 liters in two internal fuel tanks and 1,740 liters externally.

Reputation

The UH-60A Black Hawk has developed a well-deserved reputation as the world's best combat/utility helicopter. It has system redundancies designed to keep it in the air and to get you home. It is probably the most crash worthy helicopter on earth and is ballistically tolerant like no other helicopter. It has been proven in all climates throughout the world and at all altitudes in its flight envelope. When you consider the capability of this aircraft, the reliability and the worldwide support available, there is no better helicopter available. And at the available price from Gulf State Aviation, the decision is easy.



10 REASONS WHY THE BLACK HAWK IS THE WORLD'S BEST HELICOPTER!

1. **LDI (LEAK DETECTION AND ISOLATION)** LDI is a unique feature of the Black Hawk. In the case of a hydraulic leak due to a faulty fitting or ballistic hits from up to a 23mm round, the LDI system will detect and isolate the leak to prevent loss of hydraulic fluid. This system protects the flight control system and allows continued flight.
2. **193 KNOT VNE** This 357 kilometre/hour airspeed limit means rapid descents are possible and facilitates very fast journey times.
3. **CRASH ACTUATED FIRE EXSTINGUISHING SYSTEM** An omni-directional inertia switch is hard mounted to the airframe to sense crash forces. Upon impact of a crash of 10 G's or more, the switch will automatically fire both fire extinguishing containers into both engine compartments. This system virtually eliminates post-crash fires.
4. **HEADING HOLD AND COORDINATED TURN FEATURE** At airspeeds below 60 knots, the aircraft will automatically hold a desired heading for the pilot. At airspeeds above 60 knots, the aircraft will always stay in trim during turns with no input from the pilot.
5. **STABILATOR** The tail mounted Stabilator is operated via electromechanical actuators and provides a more level hover attitude, improved control of pitch axis in cruise flight, increased dynamic stability and a more level flight profile.
6. **CRASH ATTENUATING SEATS FOR CREW AND PASSENGERS** The crew seats provide ballistic protection along with an energy attenuation feature also found in the passenger seats. This feature provides added protection to occupants during a crash sequence.
7. **AUXILIARY POWER UNIT (APU)** The onboard APU provides pneumatic power for engine starting, and electrical power for ground and emergency in-flight electrical operations, including the Back-Up Hydraulic Pump.
8. **MAIN AND TAIL ROTOR DE-ICE SYSTEM** Equipped with an ice accumulation detector, ice is detected and eliminated either manually or automatically by electrothermal heating elements in the main and tail rotor blades.
9. **MAIN LANDING GEAR** The main landing gear is comprised of an upper and lower stage and will absorb loads up to approximately 11.25 G's.
10. **GENERAL ELECTRIC T700-GE-700 TURBOSHAFT ENGINES** These engines are proven worldwide to be the most reliable turbine engines available and are used in many rotary wing and fixed wing applications.

UH-60A Black Hawk Refurbishment

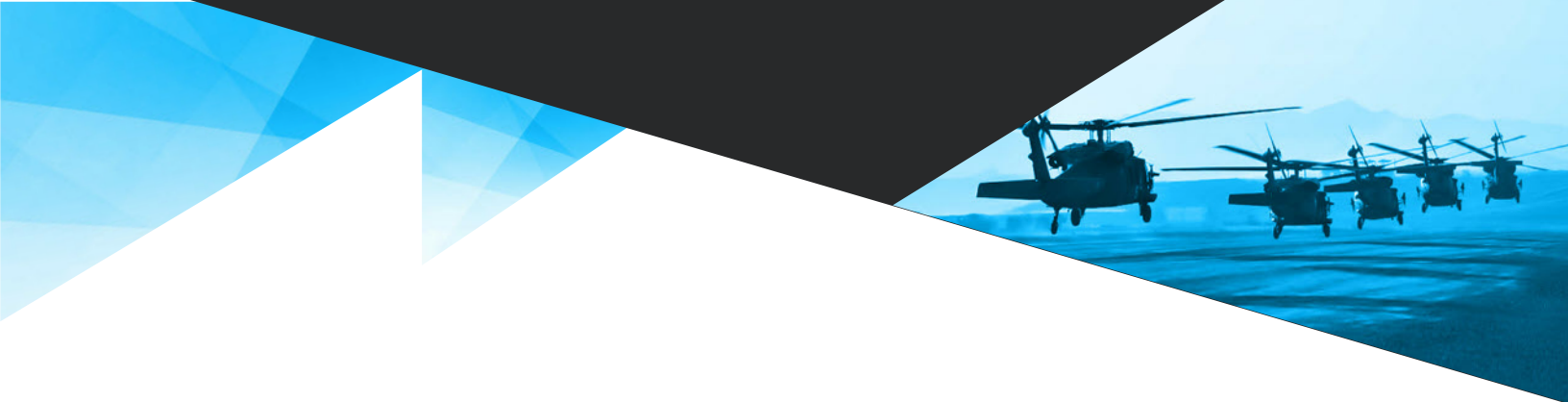


Before Refurbishment



After Refurbishment





UH-60 Black Hawk Life Cycle Management

We can manage your spare parts and component repair needs through our network of partners



We can send highly skilled maintenance teams to your country to return aircraft to service



Aircraft Maintenance

Parts Support

Total Support Solutions

Training

Technical Support

We can provide pilot and maintenance training courses through our network of partners



We can provide technical manpower for various upgrade programs, and are affiliated with a world-class avionics company



Providing affordable solutions through an integrated perspective

SPECIFICATIONS

UH-60A Black Hawk Aircraft Specifications

Air Vehicle

Manufacturer: Sikorsky Aircraft
Model: UH-60A
Typical Empty Weight*: 10,387 - 11,253 lbs 4,711 - 5,104 kg
Max. Operating Weight*: 15,976 - 16,803 lbs 7,246 - 7,621 kg
Max. Take-Off Weight*: 22,000 lbs 10,000 kg
Cruise Speed*: 139 - 145 kts @ 4,000 ft and 95° F 257 - 268 kph
VNE Speed*: 193 kts
Vertical Rate of Climb*: 390 - 1,000 fpm 119 - 305 mpm
Service Ceiling*: 9,000 ft 5,791 m
HIGE*: 18,000 ft MSL at 25 C at 18,000 lbs
HOGE*: 18,000 ft MSL at 25 C at 16,400 lbs
Typical Range*: 300 nautical miles w/ 30 min. reserve 555 km w/ 30 min. reserve
Typical Endurance*: > 3 hrs

Airframe

Construction: Aluminum monocoque structure
Undercarriage: Conventional, non-retractable, main landing gear and tail-wheel assemblies
Braking: Pilot or co-pilot activated, main landing gear and parking brake systems
Cockpit: Pilot and co-pilot crashworthy seats with sliding ballistic armor panels
Cabin: Provisions for eleven (11) troop seats, and two (2) gunner/crew chief seats
Accessories: First-Aid kits (3), portable fire extinguishers (2), and crash axe (1)
Options*: Cargo hook with 8,000 lbs capacity; Hover Infrared Suppression System (HIRSS)

Powerplants

Engines

Manufacturer: General Electric
Model No.: T700-GE-700 (2)
Inter. Rated Power*: 1,561 shp @ SL-STD conditions, 30 minutes max.
Max. Continuous Power*: 1,318 shp per engine
OEI Power*: 1,561 shp per engine

Aux. Power Unit (APU)

Manufacturer: Honeywell
Model No.: GTCP36-150[BH]

Dynamic Systems

Main Rotor: Articulated, main rotor head consisting of titanium hub, elastomeric bearings, lead-lag dampers, and passive vibration absorbers
Ballistically tolerant, main rotor blades (4) constructed from titanium and composite materials
Tail Rotor: Tail rotor head consisting of flex beams, and elastomeric bearings

Ballistically tolerant, tail rotor blades (4) constructed from titanium and composite materials
Main Gearbox: Transmission consisting of main module (1), input modules (2), and accessory modules (2); rated to 2,828 shp
Intermediate Gearbox: Transmission providing 1 : 0.806 speed reduction between MGB output and TGB input
Tail Gearbox: Transmission providing 1 : 0.359 speed reduction and power to tail rotor system
Drivetrain: Ballistically tolerant driveshafts (7), hangar bearings, and couplings interconnecting main, intermediate, and tail gearboxes; integral MGB oil cooler

Fuel System

Standard fuel system: Two (2) crashworthy and ballistically tolerant, internal fuel tanks permitting cross-feeding and pressure refueling
Standard fuel capacity: 360 gals / 1,363 l total
Opt. internal aux. cap.: 200 gals / 757 l total, when equipped with aftermarket system
Opt. external aux. cap.: 900 gals and/or 460 gals total, when equipped with External Stores Support System (ESSS)

Flight Controls

Cockpit: Ballistically tolerant and redundant, mechanical pilot and co-pilot flight controls; AFCS with auto pilot
Upper Deck: Redundant 3,000 psi hydraulic system consisting of Systems #1, #2, and back-up; Leak Detection and Isolation

Electrical System

Upper deck: Redundant, alternating current electrical system; 30/45 KVA generators (2) providing 3 independent phases and 115/200 VAC, 400 Hz power
AC primary bus load converted to 28 VDC; APU generator rated at 20/30 KVA provides 3 phase, 115 VAC, 400 Hz power

Navigation / Communication*

IFF Transponder: AN/APX-118
VOR: R-2139/ARN-123(V)
ADF: R-1496/APN-89/C-7392/ARN-89
Radar Altimeter: APN-209/RT-1115J
Altimeter: AAU-31/A
ICS: C-6533/ARC
VHF AM/FM: RT-1300A/ARC-186(V)
UHF: RT-1518C AN/ARC-164
ELT: 406-HM

* Specifications may vary based on Manufacturer Serial Number

CONTACT

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