**UH-60 Black Hawk**

From Wikipedia, the free encyclopedia

*For other uses of Blackhawk/Black Hawk, see* [*Black Hawk*](http://en.wikipedia.org/wiki/Black_Hawk)*.*

*This article is about the military versions of the S-70 family. For an overview of the S-70 family, and for its civilian models, see* [*Sikorsky S-70*](http://en.wikipedia.org/wiki/Sikorsky_S-70)*.*

|  |  |
| --- | --- |
| **UH-60 Black Hawk** | |
|  | |
| UH-60 Black Hawk helicopter. | |
| **Role** | Utility helicopter |
| **Manufacturer** | [Sikorsky Aircraft Corporation](http://en.wikipedia.org/wiki/Sikorsky_Aircraft_Corporation) |
| **First flight** | 29 November 1974 |
| **Introduced** | 1979 |
| **Status** | Active service |
| **Primary users** | [United States Army](http://en.wikipedia.org/wiki/United_States_Army) [Republic of Korea Army](http://en.wikipedia.org/wiki/Republic_of_Korea_Army) [Colombian Armed Forces](http://en.wikipedia.org/wiki/Colombian_Armed_Forces) [Turkish Armed Forces](http://en.wikipedia.org/wiki/Turkish_Armed_Forces) |
| **Produced** | 1974–present |
| **Number built** | 2,600+ |
| **Unit cost** | US$5.9 million |
| **Variants** | [SH-60 Seahawk](http://en.wikipedia.org/wiki/SH-60_Seahawk) [HH-60 Pave Hawk](http://en.wikipedia.org/wiki/HH-60_Pave_Hawk) [HH-60 Jayhawk](http://en.wikipedia.org/wiki/HH-60_Jayhawk) [Sikorsky S-70](http://en.wikipedia.org/wiki/Sikorsky_S-70) |

The **UH-60 Black Hawk** is a four-bladed, twin-engine, medium-lift utility [helicopter](http://en.wikipedia.org/wiki/Helicopter) manufactured by [Sikorsky Aircraft](http://en.wikipedia.org/wiki/Sikorsky_Aircraft). Sikorsky submitted the S-70 design for the [United States Army](http://en.wikipedia.org/wiki/United_States_Army)'s Utility Tactical Transport Aircraft System (UTTAS) competition in 1972. The Army designated the prototype as the *YUH-60A* and selected the Black Hawk as the winner of the program in 1976, after a fly-off competition with the [Boeing Vertol YUH-61](http://en.wikipedia.org/wiki/Boeing_Vertol_YUH-61). The UH-60A entered service with the Army in 1979, to replace the [UH-1 Iroquois](http://en.wikipedia.org/wiki/UH-1_Iroquois) as the Army's tactical transport helicopter.

**Development**

In the late 1960s, the United States Army began forming requirements in for its Utility Tactical Transport Aircraft System (UTTAS) helicopter to replace the [UH-1 Iroquois](http://en.wikipedia.org/wiki/UH-1_Iroquois) based on experience in Vietnam. The Army also initiated the development of a new turbine engine for its helicopters that would become the [General Electric T700](http://en.wikipedia.org/wiki/General_Electric_T700). The Army required significant performance, survivability and reliability improvements from both UTTAS aircraft and powerplant. The Army released its UTTAS requests for proposals (RFP) in January 1972. Four prototypes were constructed, the first (YUH-60A) flying in October 1974, and evaluated against a rival [Boeing-Vertol](http://en.wikipedia.org/wiki/Boeing-Vertol) design, the [YUH-61A](http://en.wikipedia.org/wiki/Boeing-Vertol_YUH-61). Prior to delivery of the prototypes to the US Army, a preliminary evaluation was conducted in November 1975 to ensure the aircraft could be operated safely during all testing. Three of the prototypes were delivered to the Army in March 1976, and one was kept by Sikorsky for internal research. The Black Hawk was selected for production in December 1976. Deliveries of the UH-60A to the US Army began in October 1978 and the helicopter entered service in June 1979.

In 1987, the improved UH-60L was ordered. It featured more power and lift with the upgraded T700-701C engine and gearbox developed for the [SH-60B Seahawk](http://en.wikipedia.org/wiki/SH-60_Seahawk). Production on the L-model began in 1989.



UH-60 Black Hawks equipped with [M60 machine guns](http://en.wikipedia.org/wiki/M60_machine_gun) near [An Najaf](http://en.wikipedia.org/wiki/An_Najaf), [Iraq](http://en.wikipedia.org/wiki/Iraq) in May 2005.

In 2001, development of the next improved variant was approved. The UH-60M uses the more powerful T700-701D engine model and improved rotor blades. Manufacturing began on the UH-60M in 2006. The UH-60M will extend the service life of the UH-60 design well into the 2020s, features state of the art electronic instrumentation, flight controls and aircraft navigation control.

**Design**

The Black Hawk helicopter series can perform a wide array of missions, including the tactical transport of troops, electronic warfare, and aeromedical evacuation. A [VIP](http://en.wikipedia.org/wiki/Very_Important_Person) version known as the VH-60N is used to transport important government officials (e.g., Congress, Executive departments) with the helicopter's call sign of "[Marine One](http://en.wikipedia.org/wiki/Marine_One)" when transporting the [President of the United States](http://en.wikipedia.org/wiki/President_of_the_United_States). In [air assault](http://en.wikipedia.org/wiki/Air_assault) operations it can move a squad of 11 combat troops with equipment or reposition the 105 mm [M102 howitzer](http://en.wikipedia.org/wiki/M102_howitzer) with thirty rounds of 105 mm ammunition, and a four-man crew in a single lift. Alternatively, it can carry 2,600 lb. (1,170 kg) of cargo or sling load 9,000 lb. (4,050 kg) of cargo (for UH-60L/M). The Black Hawk is equipped with advanced avionics and electronics for increased survivability and capability, such as the [Global Positioning System](http://en.wikipedia.org/wiki/Global_Positioning_System).

The UH-60 can be equipped with stub wings at top of fuselage to carry fuel tanks or possibly armament. The initial stub wing system is called external stores support system (ESSS). It has two pylons on each wing to carry two 230 US gal (870 L) and two 450 US gal (1,700 L) tanks in total. The four fuel tanks and associated lines and valves form the external extended range fuel system (ERFS). The ESSS can also carry 10,000 lb. (4,500 kg) of armament such as rockets, missile and gun pods. The ESSS entered service in 1986. However it was found that with four fuel tanks it would obstruct the firing field of the door guns. To alleviate the issue, the external tank system (ETS) with non-swept stub wings to carry two fuel tanks was developed.

The unit cost varies with the version due to the varying specifications, equipment and quantities. For example, the unit cost of the Army's UH-60L Black Hawk is $5.9 million while the unit cost of the Air Force MH-60G Pave Hawk is $10.2 million.

**US Army**



US Army UH-60 during the [Battle of Mogadishu](http://en.wikipedia.org/wiki/Battle_of_Mogadishu_(1993)).

The UH-60 entered service with the US Army's 101st Airborne Division in June 1979. The UH-60 saw its first combat service in the US [invasion of Grenada](http://en.wikipedia.org/wiki/Invasion_of_Grenada) in 1983. UH-60As also served in the [invasion of Panama](http://en.wikipedia.org/wiki/United_States_invasion_of_Panama) in 1989. UH-60A and UH-60L Black Hawks participated in the Gulf War of 1991. In 1993, Black Hawks featured prominently in the [assault on Mogadishu](http://en.wikipedia.org/wiki/Battle_of_Mogadishu_(1993)) in [Somalia](http://en.wikipedia.org/wiki/Somalia). Black Hawks also saw action in the [Balkans](http://en.wikipedia.org/wiki/Balkans) and [Haiti](http://en.wikipedia.org/wiki/Haiti) in the 1990s. UH-60s continue to serve in [Afghanistan](http://en.wikipedia.org/wiki/Afghanistan) and [Iraq](http://en.wikipedia.org/wiki/Iraq).

**Colombia**

Colombia is a large user of the UH-60, many have been bought or received from the US

**Israel**

The IAF received its first Blackhawks in August 1994, 10 US Army surplus UH-60As. It saw its first combat use in April 1996, during operation "Grapes of Wrath" against the Hezbollah in southern Lebanon, and has since been in routine use in IDF operations in Lebanon and in fighting in the West Bank and Gaza Strip.

In March 2000 three Blackhawks were used to ferry Pope John Paul II on his visit to Israel, with one helicopter carrying the Pope, another his medical team and a third standing on constant standby.

**Turkey**

These helicopter have been used in NATO deployment to Afghanistan and Balkans. Also used in combat in Iraq, attacking Kurdish insurgents.

**Variants**

The UH-60 comes in many variants, and many different modifications. The U.S. Army variants can be fitted with the stub wings to carry additional fuel tanks or weapons. Variants may have different capabilities and their respective equipment in order to fulfill different roles.

**Utility variants**



6 UH-60Ls on an [Air Assault](http://en.wikipedia.org/wiki/Air_Assault) mission April 2003 in [Iraq](http://en.wikipedia.org/wiki/Iraq) with Bravo Company "Lancers" 5th Battalion, 101st Aviation Regiment, [101st Airborne Division](http://en.wikipedia.org/wiki/101st_Airborne_Division)



[Israel Air Force](http://en.wikipedia.org/wiki/Israel_Air_Force) UH-60 Blackhawk "YANSHUF"

* **UH-60A Black Hawk**: Original U.S. Army version, carrying a crew of fourand up to 11 passengers. Equipped with T700-GE-700 engines. Produced 1977-1989.
* **UH-60C Black Hawk**: Modified version for C2 missions.
* CH-60E: Proposed troop transport variant for the [US Marine Corps](http://en.wikipedia.org/wiki/US_Marine_Corps).
* **UH-60L Black Hawk**: UH-60A with upgraded T700-GE-701C engines, improved durability gearbox, and updated flight control system. Produced 1989-2007.
* **UH-60M Black Hawk**: Improved design wide chord rotor blades, T700-GE-701D Engines (max 2,000 shp (1,500 kW) each), improved durability gearbox, Integrated Vehicle Management Systems (IVHMS) computer, and modern "Glass Cockpit" flight instrument suite. Production began in 2006 Planned to replace older U.S. Army UH-60s.
* **UH-60Q Black Hawk**: UH-60A modified for medical evacuation. Aircraft since re-designated HH-60A.

**Special purpose**

* **EH-60A Black Hawk**: Modified electrical system and stations for two electronic systems mission operators. (All examples of type have been taken back to standard UH-60A configuration.)
* **YEH-60B Black Hawk**: UH-60A modified for special radar and avionics installations, prototype for stand-off target acquisition system.
* **EH-60C Black Hawk**: UH-60A modified with special electronics equipment and external antenna. (All examples of type have been taken back to standard UH-60A configuration.)
* **EUH-60L** (no official name assigned): Modified with additional mission electronic equipment for Army Airborne C2.
* **EH-60L Black Hawk**: EH-60A with major mission equipment upgrade.
* **HH-60L** (no official name assigned): UH-60L extensively modified with medical mission equipment. Components include an external rescue hoist, integrated patient configuration system, environmental control system, on-board oxygen system (OBOGS), suction, mechanical litter-lift system, drop-down ambulatory seats, with crew-chief and flight medic positions relocated to the back of the cabin.
* **MH-60A Black Hawk**: Modified with additional avionics, precision navigation system, [FLIR](http://en.wikipedia.org/wiki/FLIR) and air-to-air refueling capability. Equipped with T700-GE-701 engines.
* **MH-60K Black Hawk**: USA variant. Special operations modification, used by the [160th Special Operations Aviation Regiment](http://en.wikipedia.org/wiki/160th_Special_Operations_Aviation_Regiment) ("Night Stalkers") at [Fort Campbell, Kentucky](http://en.wikipedia.org/wiki/Fort_Campbell,_Kentucky).
* **MH-60L Direct Action Penetrator (DAP)**: USA variant. Special operations modification, operated by the [160th Special Operations Aviation Regiment](http://en.wikipedia.org/wiki/160th_Special_Operations_Aviation_Regiment_(Airborne)). It is capable of being armed with [Hellfire](http://en.wikipedia.org/wiki/AGM-114_Hellfire) missiles, [M230 Chain Gun](http://en.wikipedia.org/wiki/M230_Chain_Gun) 30 mm automatic cannon, [Hydra 70](http://en.wikipedia.org/wiki/Hydra_70) 2.75-inch (70 mm) rockets, as well as [M134D](http://en.wikipedia.org/wiki/Minigun) gatling guns operated as door guns or fixed forward.
* **HH-60M** {no official name assigned}: USA variant. UH-60M with medical mission equipment.
* **UH-60A RASCAL**: NASA-modified version for the Rotorcraft-Aircrew Systems Concepts Airborne Laboratory: $US25M program for the study of helicopter maneuverability in three programs, Super augmented Controls for Agile Maneuvering Performance (SCAMP), Automated Nap-of-the-Earth (ANOE) and Rotorcraft Agility and Pilotage Improvement Demonstration (RAPID).
* **VH-60D Nighthawk**: USMC variant. VIP-configured HH-60D, used for Presidential transport. T700-GE-401C engines.
* **VH-60N Whitehawk**: USMC variant. Modified UH-60A with some features from the SH-60B/F Seahawks. Used for [Presidential and VIP transport](http://en.wikipedia.org/wiki/Marine_One). It entered service in 1988 and nine were delivered.

**Export versions**

* **UH-60J Black Hawk**: Export variant for the Japanese Air Self Defense Force and Maritime Self Defense Force. Also known as the S-70-12. Made under license by [Mitsubishi Heavy Industries](http://en.wikipedia.org/wiki/Mitsubishi_Heavy_Industries).
* **UH-60JA Black Hawk**: Export variant for the Japanese Ground Self Defense Force. Also made under license by Mitsubishi Heavy Industries.
* **AH-60L Arpía III**: Export version for Colombia, COIN attack version with improved electronics, firing system, FLIR, radar, light rockets and machine gun, developed by the [Colombian Air Force](http://en.wikipedia.org/wiki/Colombian_Air_Force), Elbit and Sikorsky.
* **AH-60L Battle Hawk**: Export version unsuccessfully tendered for Australian Army project AIR87, similar to AH-60L Arpía III.
* **UH-60P Black Hawk**: Export version for the [Republic of Korea](http://en.wikipedia.org/wiki/Republic_of_Korea), similar to UH-60L configuration.

**S-70A**

Sikorsky military model for the export market:

* S-70A-1 Desert Hawk: Export version for the Royal Saudi Land Forces.
* S-70A-L1 Desert Hawk: Aeromedical evacuation version for the Royal Saudi Land Forces.
* S-70-5 Black Hawk: Export version for the Philippine Air Force.
* S-70A-9 Black Hawk: Export version for the Australian army.
* S-70-11 Black Hawk: Export version for the Royal Jordanian Air Force.
* S-70-12 Black Hawk: Search and rescue model for the Japanese Air Self Defense Force and Maritime Self Defense Force. Also known as the UH-60J.
* S-70-14 Black Hawk: Export version for Brunei.
* S-70-16 Black Hawk: Engine test bed for the Rolls-Royce/Turbomeca RTM 332.
* S-70-17 Black Hawk: Export version for Turkey.
* Sikorsky/Westland S-70-19 Black Hawk: This version is built under license in the United Kingdom by Westland. Also known as the WS-70.
* S-70-21 Black Hawk: Export version for Egypt.
* S-70-24 Black Hawk: Export version for Mexico.
* S-70-26 Black Hawk: Export version for Morocco.
* S-70-27 Black Hawk: Export version for Hong Kong.
* S-70A-42 Black Hawk: Export version for Austria.
* S-70A-43 Black Hawk: Export version for Royal Thai Army.

See [SH-60 Seahawk](http://en.wikipedia.org/wiki/SH-60_Seahawk), [HH-60 Pave Hawk](http://en.wikipedia.org/wiki/HH-60_Pave_Hawk), and [HH-60 Jayhawk](http://en.wikipedia.org/wiki/HH-60_Jayhawk) for other [Sikorsky S-70](http://en.wikipedia.org/wiki/Sikorsky_S-70) variants.

**Military operators**



An Australian Army S-70A-9 Black Hawk



An Austrian S-70A-42

[Australia](http://en.wikipedia.org/wiki/Australia)



* [Australian Army Aviation](http://en.wikipedia.org/wiki/Australian_Army_Aviation) - 34 S-70s in service
  + [5th Aviation Regiment (Australia)](http://en.wikipedia.org/wiki/5th_Aviation_Regiment_(Australia))
    - B Squadron
  + [6th Aviation Regiment (Australia)](http://en.wikipedia.org/wiki/6th_Aviation_Regiment_(Australia))
    - [171st Aviation Squadron (Australia)](http://en.wikipedia.org/wiki/171st_Aviation_Squadron_(Australia))

[Austria](http://en.wikipedia.org/wiki/Austria)



* [Austrian Air Force](http://en.wikipedia.org/wiki/Austrian_Air_Force) - 9 S-70A-42 Black Hawk

[Bahrain](http://en.wikipedia.org/wiki/Bahrain)



Received 2 UH-60A/S-70A and 8 UH-60L/S-70A Black Hawks.

[Brazil](http://en.wikipedia.org/wiki/Brazil)



* [Brazilian Air Force](http://en.wikipedia.org/wiki/Brazilian_Air_Force) - 6 UH-60s in service with another 4 on order in Nov. 2008Another 15 authorized to be ordered in the next few years.
* [Brazilian Army](http://en.wikipedia.org/wiki/Brazilian_Army) - 4 UH-60Ls in service with another 6 on order in Nov. 2008
* [Brazilian Navy](http://en.wikipedia.org/wiki/Brazilian_Navy) - 4 S-70Bs on order in Nov. 2008

[Brunei](http://en.wikipedia.org/wiki/Brunei)



Received 1 UH-60A and 1 UH-60L Black Hawks with 9 UH-60Ms on order.

[Colombia](http://en.wikipedia.org/wiki/Colombia)



* [Colombian Air Force](http://en.wikipedia.org/wiki/Colombian_Air_Force) - Has 32 UH-60A/L and AH-60L Arpia III in use
* [Colombian Army](http://en.wikipedia.org/wiki/Colombian_Army) - Has 34 UH-60A/L with 15 more on order.
* [Colombian National Police](http://en.wikipedia.org/wiki/Colombian_National_Police) - (Note Colombia operates the third-largest Black Hawk helicopter fleet.)

[Chile](http://en.wikipedia.org/wiki/Chile)



Received 1 UH-60L.

[Egypt](http://en.wikipedia.org/wiki/Egypt)



Received 8 UH-60Ls.

[Israel](http://en.wikipedia.org/wiki/Israel)



Has 49 S-70A/UH-60A/L helicopters in use as of Nov. 2008.

[Japan](http://en.wikipedia.org/wiki/Japan)



* [Japan Air Self-Defense Force](http://en.wikipedia.org/wiki/Japan_Air_Self-Defense_Force) - has 31 UH-60s in service as of Nov. 2008.
* [Japan Maritime Self-Defense Force](http://en.wikipedia.org/wiki/Japan_Maritime_Self-Defense_Force) (see [Mitsubishi SH-60](http://en.wikipedia.org/wiki/Mitsubishi_SH-60) for details)
* [Japan Ground Self-Defense Force](http://en.wikipedia.org/wiki/Japan_Ground_Self-Defense_Force) - has 27 UH-60s in service with 1 on order as of Nov. 2008.

[Jordan](http://en.wikipedia.org/wiki/Jordan)



[South Korea](http://en.wikipedia.org/wiki/South_Korea)



Has 43 S-70As, and 98 UH-60Ps in use as of Nov. 2008.

[Morocco](http://en.wikipedia.org/wiki/Morocco)



* [Royal Moroccan Gendarmerie](http://en.wikipedia.org/wiki/Royal_Moroccan_Gendarmerie) received 2 UH-60Ls in VIP configuration.

[Mexico](http://en.wikipedia.org/wiki/Mexico)



* [Mexican Air Force](http://en.wikipedia.org/wiki/Mexican_Air_Force) - Received 6 UH-60L (S-70A-24) Black Hawks.
* [Federal Police](http://en.wikipedia.org/wiki/Federal_Police_(Mexico))

[Philippines](http://en.wikipedia.org/wiki/Philippines)



* Presidential Air Wing received 2 S-70s

[People's Republic of China](http://en.wikipedia.org/wiki/People%27s_Republic_of_China)



* [People's Liberation Army Air Force](http://en.wikipedia.org/wiki/People%27s_Liberation_Army_Air_Force) has 22 S-70Cs in inventory as of Nov. 2008

[Republic of China (Taiwan)](http://en.wikipedia.org/wiki/Republic_of_China)



* [Republic of China Air Force](http://en.wikipedia.org/wiki/Republic_of_China_Air_Force) has 13 S-70Cs in service as of Nov. 2008.
* [Republic of China Navy](http://en.wikipedia.org/wiki/Republic_of_China_Navy) (see [SH-60 Seahawk](http://en.wikipedia.org/wiki/SH-60_Seahawk))

[Saudi Arabia](http://en.wikipedia.org/wiki/Saudi_Arabia)



Has 15 UH-60Ls in use as of Nov. 2008.

[Thailand](http://en.wikipedia.org/wiki/Thailand)



* [Royal Thai Army](http://en.wikipedia.org/wiki/Royal_Thai_Army) has 7 UH-60L (S-70A-43) Black Hawks in service.

[Turkey](http://en.wikipedia.org/wiki/Turkey)



The Turkish military and national police received 12 UH-60A/L (S-70A-17), and 95 UH-60L (S-70A-28) Black Hawks The Turkish Army has 54 S-70As (UH-60A/L) in service as of Nov. 2008. The Black Hawk is a strong contender in the Turkish General Use Helicopter Tender. Under this project Turkey intends to indigenously produce 109 helicopters.

[United Arab Emirates](http://en.wikipedia.org/wiki/United_Arab_Emirates)



The United Arab Emirates has requested 14 UH-60M helicopters through a Foreign Military Sale. The package includes laser and radar warning sensors as well as weapons systems.

[United States](http://en.wikipedia.org/wiki/United_States)



* [United States Army](http://en.wikipedia.org/wiki/United_States_Army) has 1,487 UH-60s, 76 MH-60s, 55 EH-60s, and 20 HH-60s in inventory as of Nov. 2008.

**Former military operators**

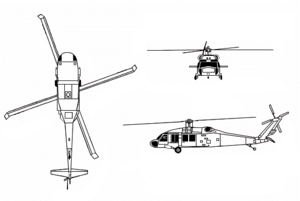
[Australia](http://en.wikipedia.org/wiki/Australia)



* [Royal Australian Air Force](http://en.wikipedia.org/wiki/Royal_Australian_Air_Force) - Received 39 UH-60L (S-70A-9) Black Hawks. Were transferred to Australian Army in 1989.
  + [No. 9 Squadron RAAF](http://en.wikipedia.org/wiki/No._9_Squadron_RAAF)
  + [Aircraft Research and Development Unit](http://en.wikipedia.org/wiki/Aircraft_Research_and_Development_Unit)

See [Sikorsky S-70](http://en.wikipedia.org/wiki/Sikorsky_S-70) for civilian operators.

**Specifications (UH-60L)**



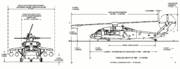
*Data from* Encyclopedia of Modern Warplanes, US Army Fact File, International Directory, Black Hawk

**General characteristics**

* **Crew:** 2 pilots (flight crew)
* **Capacity:** 2,640 lb. of cargo internally, including 14 troops or 6 stretchers, or 8,000 lb. (UH-60A) or 9,000 lb. (UH-60L) of cargo externally
* **Length:** 64 ft 10 in (19.76 m)
* **Fuselage width:** 7 ft 9 in (2.36 m)
* **Rotor diameter:** 53 ft 8 in (16.36 m)
* **Height:** 16 ft 10 in (5.13 m)
* **Disc area:** 2,260 ft² (210 m²)
* **Empty weight:** 10,624 lb. (4,819 kg)
* **Loaded weight:** 22,000 lb. (9,980 kg)
* [**Max takeoff weight**](http://en.wikipedia.org/wiki/Maximum_Takeoff_Weight)**:** 23,500 lb. (10,660 kg)
* **Powerplant:** 2× [General Electric T700-GE-701C](http://en.wikipedia.org/wiki/General_Electric_T700) [turboshaft](http://en.wikipedia.org/wiki/Turboshaft), 1,890 hp (1,410 kW) each

**Performance**

* [**Never exceed speed**](http://en.wikipedia.org/wiki/V_speeds#Vne)**:** 193 knots (222 mph, 357 km/h)
* [**Maximum speed**](http://en.wikipedia.org/wiki/V_speeds#Vno)**:** 159 kn (183 mph, 295 km/h)
* [**Cruise speed**](http://en.wikipedia.org/wiki/V_speeds#Vc)**:** 150 kn (173 mph, 278 km/h)
* **Combat radius:** 368 mi (320 nm., 592 km)
* [**Ferry range**](http://en.wikipedia.org/wiki/Ferry_range)**:** 1,380 mi (1,200 nm., 2,220 km) with ESSS stub wings and external tanks
* [**Service ceiling**](http://en.wikipedia.org/wiki/Ceiling_(aeronautics))**:** 19,000 ft (5,790 m)
* [**Rate of climb**](http://en.wikipedia.org/wiki/Rate_of_climb)**:** 700 ft/min (3.6 m/s)
* [**Disc loading**](http://en.wikipedia.org/wiki/Disc_loading)**:** 7.19 lb./ft² (35.4 kg/m²)
* [**Power/mass**](http://en.wikipedia.org/wiki/Power-to-weight_ratio)**:** 0.192 hp/lb. (158 W/kg)



Army manual drawing

**Armament**

* **Guns:**
* 2× 7.62 mm (0.30 in) [M240H machine guns](http://en.wikipedia.org/wiki/M240_machine_gun#M240E5.2FM240H) or
* 2× 7.62 mm (0.30 in) [M134 minigun](http://en.wikipedia.org/wiki/Minigun) or
* 2× .50 in (12.7 mm) [GAU-19](http://en.wikipedia.org/wiki/GAU-19) gatling guns
* Can be equipped with [VOLCANO](http://en.wikipedia.org/wiki/Volcano_mine_system) minefield dispersal system. See [UH-60 Armament Subsystems](http://en.wikipedia.org/wiki/U.S._Helicopter_Armament_Subsystems#UH-60_Black_Hawk.2FSH-60_Sea_Hawk) for more information.
* ESSS stub wings can be equipped with
* 70 mm (2.75 in)) [Hydra 70](http://en.wikipedia.org/wiki/Hydra_70) rockets
* [AGM-114 Hellfire](http://en.wikipedia.org/wiki/AGM-114_Hellfire) laser guided missile
* 7.62 mm (0.30 in), 20 mm (0.787 in), or 30 mm (1.18 in) [M230](http://en.wikipedia.org/wiki/M230_Chain_Gun) gun pods

**See also**

* [*Black Hawk Down*](http://en.wikipedia.org/wiki/Black_Hawk_Down)
* [US Helicopter Armament Subsystems](http://en.wikipedia.org/wiki/US_Helicopter_Armament_Subsystems)

**Related development**

* [Sikorsky S-70](http://en.wikipedia.org/wiki/Sikorsky_S-70)
* [HH-60 Pave Hawk](http://en.wikipedia.org/wiki/HH-60_Pave_Hawk)
* [HH-60 Jayhawk](http://en.wikipedia.org/wiki/HH-60_Jayhawk)
* [SH-60 Seahawk](http://en.wikipedia.org/wiki/SH-60_Seahawk)
* [Piasecki X-49](http://en.wikipedia.org/wiki/Piasecki_X-49)

**Comparable aircraft**

* [Boeing-Vertol YUH-61](http://en.wikipedia.org/wiki/Boeing-Vertol_YUH-61)
* [UH-1 Iroquois](http://en.wikipedia.org/wiki/UH-1_Iroquois)
* [Mil Mi-8](http://en.wikipedia.org/wiki/Mil_Mi-8)/[Mil Mi-17](http://en.wikipedia.org/wiki/Mil_Mi-17)
* [NHI NH90](http://en.wikipedia.org/wiki/NHI_NH90)

**Related lists**

* [List of helicopters](http://en.wikipedia.org/wiki/List_of_helicopters)
* [List of active military aircraft of the United States](http://en.wikipedia.org/wiki/List_of_active_military_aircraft_of_the_United_States)