**AH-1 Cobra**

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*This article is about the single-engine models of the Bell Cobra family. For the twin-engine models, see* [*AH-1 Super Cobra*](http://en.wikipedia.org/wiki/AH-1_SuperCobra)*. For an overview of the whole Huey family of aircraft, see* [*Bell Huey family*](http://en.wikipedia.org/wiki/Bell_Huey_family)*.*

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| **AH-1 Huey Cobra/Cobra** |
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| A Bell AH-1G Huey Cobra |
| **Role** | [Attack helicopter](http://en.wikipedia.org/wiki/Attack_helicopter) |
| **Manufacturer** | [Bell Helicopter](http://en.wikipedia.org/wiki/Bell_Helicopter) |
| **First flight** | 7 September 1965 |
| **Introduction** | 1967 |
| **Status** | Active service |
| **Primary users** | [United States Army](http://en.wikipedia.org/wiki/United_States_Army) (historical)[Japan Self Defense Forces](http://en.wikipedia.org/wiki/Japan_Self_Defense_Forces)[Republic of Korea Army](http://en.wikipedia.org/wiki/Republic_of_Korea_Army)[Israeli Air Force](http://en.wikipedia.org/wiki/Israeli_Air_Force) |
| **Produced** | 1967-present |
| **Number built** | 1,116 |
| **Unit cost** | US$11.3 million (1995) (AH-1 Huey Cobra)  |
| **Developed from** | [Bell UH-1 Iroquois](http://en.wikipedia.org/wiki/Bell_UH-1_Iroquois) |
| **Variants** | [Bell AH-1 Sea Cobra/Super Cobra](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra)[Bell 309 King Cobra](http://en.wikipedia.org/wiki/Bell_309) |

The **Bell AH-1 Cobra** (company designation: **Model 209**) is a two-bladed, single engine [attack helicopter](http://en.wikipedia.org/wiki/Attack_helicopter) manufactured by [Bell Helicopter](http://en.wikipedia.org/wiki/Bell_Helicopter). It shares a common [engine](http://en.wikipedia.org/wiki/Engine), [transmission](http://en.wikipedia.org/wiki/Transmission_%28mechanics%29) and [rotor](http://en.wikipedia.org/wiki/Helicopter_rotor) system with the older [UH-1 Iroquois](http://en.wikipedia.org/wiki/Bell_UH-1_Iroquois). The AH-1 is also referred to as the **Huey Cobra** or **Snake**.

The AH-1 was the backbone of the [United States Army](http://en.wikipedia.org/wiki/United_States_Army)'s attack helicopter fleet, but has been replaced by the [AH-64 Apache](http://en.wikipedia.org/wiki/AH-64_Apache) in Army service. Upgraded versions continue to fly with the militaries of several other nations. The [AH-1 twin engine versions](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra) remain in service with [United States Marine Corps](http://en.wikipedia.org/wiki/United_States_Marine_Corps) (USMC) as the service's primary attack helicopter. Surplus AH-1 helicopters have been converted for fighting forest fires. The [United States Forest Service](http://en.wikipedia.org/wiki/United_States_Forest_Service) refers to their program as the *Firewatch Cobra*. Garlick Helicopters also converts surplus AH-1s for forest firefighting under the name, *Fire Snake*.

**Development**

**Background**

Closely related with the development of the Bell AH-1 is the story of the [Bell UH-1 Iroquois](http://en.wikipedia.org/wiki/Bell_UH-1_Iroquois)—predecessor of the modern helicopter, icon of the [Vietnam War](http://en.wikipedia.org/wiki/Vietnam_War) and still one of the most numerous helicopter types in service today. The UH-1 made the theory of air [cavalry](http://en.wikipedia.org/wiki/Cavalry) practical, as the new tactics called for US forces to be highly mobile across a wide area. Unlike before, they would not stand and fight long [battles](http://en.wikipedia.org/wiki/Battle), and they would not stay and hold positions. Instead, the plan was that the troops carried by fleets of UH-1 "Huey’s" would range across the country, to fight the enemy at times and places of their own choice.

It soon became clear that the unarmed troop helicopters were vulnerable against ground fire from [Việt Cộng](http://en.wikipedia.org/wiki/National_Front_for_the_Liberation_of_South_Vietnam) and [North Vietnamese](http://en.wikipedia.org/wiki/North_Vietnamese_Army) troops, particularly as they came down to drop their troops in a landing zone. Without friendly support from artillery or ground forces, the only way to pacify a landing zone was from the air, preferably with a machine that could closely escort the transport helicopters, and loiter over the landing zone as the battle progressed. By 1962 a small number of armed UH-1As were used as escorts, armed with multiple machine guns and rocket mounts.

The massive expansion of [American](http://en.wikipedia.org/wiki/United_States_of_America) military presence in Vietnam opened a new era of war from the air. The linchpin of US Army tactics were the helicopters, and the protection of those helicopters became a vital role.

**Iroquois Warrior and Sioux Scout**

Bell Model 207 Sioux Scout

Main article: [Bell 207 Sioux Scout](http://en.wikipedia.org/wiki/Bell_207_Sioux_Scout)

Bell had been investigating helicopter gunships since the late 1950s, and had created a mockup of its D-255 helicopter gunship concept, named "Iroquois Warrior". In June 1962, Bell displayed the mockup to Army officials, hoping to solicit funding for further development. The Iroquois Warrior was planned to be a purpose-built attack aircraft based on the UH-1B components with a new, slender airframe and a two-seat, tandem cockpit. It featured a grenade launcher in a ball turret on the nose, a 20 mm belly-mounted gun pod, and stub wings for mounting rockets or [SS.10](http://en.wikipedia.org/wiki/SS.10) anti-tank missiles.

The Army was interested and awarded Bell a proof of concept contract in December 1962. Bell modified a [Model 47](http://en.wikipedia.org/wiki/Bell_47) into the sleek [Model 207 Sioux Scout](http://en.wikipedia.org/wiki/Bell_207_Sioux_Scout) which first flew in July 1963. The Sioux Scout had all the key features of a modern attack helicopter: a tandem [cockpit](http://en.wikipedia.org/wiki/Cockpit_%28aviation%29), stub wings for weapons, and a chin-mounted [gun turret](http://en.wikipedia.org/wiki/Gun_turret). After evaluating the Sioux Scout in early 1964, the Army was impressed, but also felt the Sioux Scout was undersized, underpowered, and generally not suited for practical use.

**AAFSS**

Army's solution to the shortcomings of the Sioux Scout was to launch the Advanced Aerial Fire Support System (AAFSS) competition. The AAFSS requirement would give birth to the [Lockheed AH-56 Cheyenne](http://en.wikipedia.org/wiki/Lockheed_AH-56_Cheyenne)–a heavy battlefield helicopter that would prove to be over-ambitious, over-complex and over-budget, before being canceled 10 years later in 1972. The Cheyenne program developed future technology and demonstrated some impressive performance, but was never made to work as a functional gunship. It served to underline an important rule of the combat helicopter–survival would be ensured only by the right mix of speed, agility and weapons.

**Model 209**

Bell 209 prototype of the AH-1 Cobra series, with skids retracted (FAA no. N209J)

At the same time, despite the Army's preference for the AAFSS–for which Bell Helicopter was not selected to compete–Bell stuck with their own idea of a smaller and lighter gunship. In January 1965 Bell invested $1 million to proceed with a new design. Mating the proven transmission, the "540" rotor system of the UH-1C augmented by a Stability Control Augmentation System (SCAS), and the T53 turboshaft engine of the UH-1 with the design philosophy of the Sioux Scout, Bell produced the Model 209. Bell's Model 209 largely resembled the "Iroquois Warrior" mockup.

In Vietnam, events were also advancing in favor of the Model 209. Attacks on US forces were increasing, and by the end of June 1965 there were already 50,000 US ground troops in Vietnam. 1965 was also the deadline for AAFSS selection, but the program would become stuck in technical difficulties and political bickering. The U.S. Army needed an interim gunship for Vietnam and it asked five companies to provide a quick solution. Submissions came in for armed variants of the [Boeing-Vertol](http://en.wikipedia.org/wiki/Boeing_Rotorcraft_Systems) [ACH-47A](http://en.wikipedia.org/wiki/Boeing_CH-47_Chinook), [Kaman](http://en.wikipedia.org/wiki/Kaman_Aircraft) [HH-2C Tomahawk](http://en.wikipedia.org/wiki/SH-2_Seasprite#Variants), [Piasecki](http://en.wikipedia.org/wiki/Piasecki_Aircraft) [16H Pathfinder](http://en.wikipedia.org/wiki/Piasecki_16H), [Sikorsky S-61](http://en.wikipedia.org/wiki/Sikorsky_S-61), and the Bell 209.

On 3 September 1965 Bell rolled out its Model 209 prototype, and four days later it made its maiden flight, only eight months after the go-ahead. In April 1966, the model won an evaluation against the other rival helicopters. Then the Army signed the first production contract for 110 aircraft.[[7]](http://en.wikipedia.org/wiki/Bell_AH-1_Cobra#cite_note-Donald-6#cite_note-Donald-6) Bell added Cobra to the UH-1's Huey nickname to produce its *Hue Cobra* name for the 209. The Army applied the *Cobra* name to its AH-1G designation for the helicopter.

The Bell 209 demonstrator was used for the next six years to test weapons and fit of equipment. It had been modified to the match AH-1 production standard by the early 1970s. The demonstrator was retired to the [Patton Museum](http://en.wikipedia.org/wiki/General_George_Patton_Museum) at [Fort Knox](http://en.wikipedia.org/wiki/Fort_Knox), Kentucky and converted to approximately its original appearance.

**Into production**

The Bell 209 design was modified for production. The retractable skids were replaced by simpler fixed skids. A new wide-blade rotor was featured. For production, a plexiglass canopy replaced the 209's armored glass canopy which was heavy enough to harm performance. Other changes were incorporated after entering service. The main one of these was moving the tail rotor from the helicopter's left side to the right for improved effectiveness of the rotor.

The U.S. Marine Corps was interested in the Cobra and ordered an improved twin-engine version in 1968 under the designation AH-1J. This would lead to more [twin-engine variants](http://en.wikipedia.org/wiki/AH-1_SuperCobra). In 1972, the Army sought improved anti-armor capability. Under the Improved Cobra Armament Program (ICAP), trials of eight AH-1s fitted with [TOW](http://en.wikipedia.org/wiki/BGM-71_TOW) missiles were conducted in October 1973. After passing qualification tests the following year, Bell was contracted with upgrading 101 AH-1Gs to the TOW-capable AH-1Q configuration. Following AH-1Q operational tests, a more powerful T53 engine and transmission were added from 1976 resulting in the AH-1S version. The AH-1S was upgraded in three steps, culminating with the AH-1F.

**Operational history**

*For AH-1J, AH-1T, AH-1W, AH-1Z and other twin-engine variants, see* [*Bell AH-1 Super Cobra*](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra)*.*

Bell AH-1G over Vietnam

AH-1Q Cobra in Fort Hood, Texas

**United States**

By June 1967, the first AH-1G Hue Cobras had been delivered. Originally designated as UH-1H, the "A" for attack designation was soon adopted and when the improved UH-1D became the UH-1H, the Hue Cobra became the AH-1G. The AH-1 was initially considered a variant of the H-1 line, resulting in the G series letter.

AH-1 Cobras were in use by the Army during the [Tet offensive](http://en.wikipedia.org/wiki/Tet_offensive) in 1968 and through the end of the [Vietnam War](http://en.wikipedia.org/wiki/Vietnam_War). Huey Cobras provided fire support for ground forces, escorted transport helicopters and other roles, including aerial rocket artillery (ARA) battalions in the two Airmobile divisions. They also formed "hunter killer" teams by pairing with [OH-6A](http://en.wikipedia.org/wiki/OH-6_Cayuse) scout helicopters. A team featured one OH-6 flying slow and low to find enemy forces. If the OH-6 drew fire, the Cobra could strike at the then revealed enemy. Bell built 1,116 AH-1Gs for the US Army between 1967 and 1973, and the Cobras chalked up over a million operational hours in Vietnam. Out of nearly 1,110 AH-1s delivered from 1967 to 1973 approximately 300 were lost to combat and accidents during the war. The U.S. Marine Corps used AH-1G Cobras in Vietnam for a short time before acquiring twin-engine [AH-1J Cobras](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra).

AH-1 Cobras were deployed for Operation Urgent Fury, the [invasion of Grenada](http://en.wikipedia.org/wiki/Invasion_of_Grenada_%281983%29) in 1983, flying close-support and helicopter escort missions. Army Cobras participated in Operation Just Cause, the [US invasion of Panama](http://en.wikipedia.org/wiki/United_States_invasion_of_Panama) in 1989.

During Operations Desert Shield and Desert Storm in the [Gulf War](http://en.wikipedia.org/wiki/Gulf_War) (1990-91), the Cobras and Super Cobras deployed in a support role. The USMC deployed 91 AH-1W Super Cobras and the US Army 140 AH-1 Cobras; these were operated from forward, dispersed desert bases. Three AH-1s were lost in accidents during fighting and afterward. Cobras destroyed many Iraqi armored vehicles and various targets in the fighting.

Army Cobras provided support for the US humanitarian intervention during [Operation Restore Hope](http://en.wikipedia.org/wiki/Unified_Task_Force) in Somalia in 1993. They were also employed during the US invasion of Haiti in 1994. US Cobras were also used in operations later in the 1990s.

The US Army phased out the AH-1 during the 1990s and retired the AH-1 from active service in March 1999, offering them to NATO allies. The Army retired the AH-1 from reserves in September 2001. The retired AH-1s have been passed to other nations and to the [USDA Forest Service](http://en.wikipedia.org/wiki/United_States_Forest_Service). The AH-1 continues to be in service with the US military, by the US Marine Corps, which operate the twin-engine AH-1W Super Cobra and [AH-1Z Viper](http://en.wikipedia.org/wiki/Bell_AH-1Z_Viper).

**Israel**

Israeli Air Force *Tzefa* helicopters

The [Israeli Air Force](http://en.wikipedia.org/wiki/Israeli_Air_Force) named its Cobras as the "Tzefa" (צפע), Hebrew for [*Viper*](http://en.wikipedia.org/wiki/Viper_%28animal%29). Since the mid-1970s Lebanon has been Israel's most active front. The Cobra helicopter's unique abilities and its precision weapons have made it perfect for the Lebanese theatre and IAF Cobras have been a constant feature of the fighting for more than 20 years. The first Cobra attack took place on 9 May 1979, near Tyre. Having crossed the border over the Mediterranean at dusk, two AH-1s scored direct hits with 2 missiles fired by each helicopter.

Cobra [helicopter gunships](http://en.wikipedia.org/wiki/Helicopter_gunship) were also used widely by the Israeli Air Force in the [1982 Lebanon War](http://en.wikipedia.org/wiki/1982_Lebanon_War) to destroy [Syrian](http://en.wikipedia.org/wiki/Syria) armor and fortification. IAF Cobras destroyed dozens of Syrian [armored fighting vehicles](http://en.wikipedia.org/wiki/Armored_fighting_vehicle), including many of the modern Soviet [T-72](http://en.wikipedia.org/wiki/T-72) tanks. As part of their service in southern Lebanon the Cobras were very active in Israel's major operations against Hezbollah in operations "[Accountability](http://en.wikipedia.org/wiki/1993_Lebanon_war)" and "[Grapes of Wrath](http://en.wikipedia.org/wiki/1996_Lebanon_war)".

**Pakistan**

[Pakistan](http://en.wikipedia.org/wiki/Pakistan) was supplied with around 20 AH-1F gunships in 1983, these were later upgraded with the C-NITE thermal imaging package. Prior to that Iran had donated some AH-1 helicopters to Pakistan in mid 1970s, which Pakistan used as its main gunship helicopters against insurgents during the [Baluchistan conflict](http://en.wikipedia.org/wiki/Balochistan_conflict). The recent [insurgencies in the Waziristan regions](http://en.wikipedia.org/wiki/Waziristan_War) have seen Pakistani AH-1 gunships in action against [Taliban](http://en.wikipedia.org/wiki/Taliban) and [Al Qaeda](http://en.wikipedia.org/wiki/Al_Qaeda) fighters as well as their tribal allies. Pakistani gunships have also been used in operations against tribal uprisings in the [Balochistan province](http://en.wikipedia.org/wiki/Balochistan_%28Pakistan%29), supporting the [Pakistan Army](http://en.wikipedia.org/wiki/Pakistan_Army) against well-armed [Bugti](http://en.wikipedia.org/wiki/Bugti) and [Marri](http://en.wikipedia.org/wiki/Marri) tribesmen under the late [Nawab Akbar Khan Bugti](http://en.wikipedia.org/wiki/Nawab_Akbar_Khan_Bugti) and the [Balochistan Liberation Army](http://en.wikipedia.org/wiki/Balochistan_Liberation_Army), since c. 2005.

Pakistan has several AH-1F and AH-1S Cobra attack helicopters. Sustainment of these aircraft is difficult, but possible through commercial channels. Additionally, the U.S. Government will use $75 million in FY 2009 Pakistan Counterinsurgency Funds to update a portion of the existing Cobra fleet. Pakistan will likely seek to replace its current AH-1 Cobras when the AH-1Z becomes available for export, probably in 2015.

**US Forest Service**

In 2003, the US Forest Service acquired 25 retired AH-1Fs from the US Army. These have been designated Bell 209 and are being converted into Firewatch Cobras with infrared and low light sensors and systems for real time fire monitoring. The Florida Division of Forestry has also acquired 3 AH-1Ps from the US Army. These are called Bell 209 "Fire snakes" and are equipped to carry a water/fire retardant system.

**Variants**

**Single-engine**

[Japan Ground Self-Defense Force](http://en.wikipedia.org/wiki/Japan_Ground_Self-Defense_Force) AH-1S

U.S. Forest Service Bell 209 on the [Bar Complex Fire](http://en.wikipedia.org/w/index.php?title=Bar_Complex_Fire&action=edit&redlink=1) in California

Bell 209

Original AH-1G prototype with retractable skid landing gear. This model number is also used by the FAA for the civilian registration of former U.S. Army AH-1s used in firefighting service.

AH-1G Hue Cobra

Initial 1966 production model gunship for the US Army, with one 1,400 shp (1,000 kW) Avco Lycoming T53-13 turboshaft.

JAH-1G Hue Cobra

One helicopter for armament testing including Hellfire missiles and multi-barrel cannon.

TH-1G Hue Cobra

Two-seat dual-control trainer.

Z.14 Hue Cobra

Spanish Navy designation of the AH-1G.

YAH-1Q

Eight AH-1Gs with XM26 Telescopic Sight Unit (TSU) and two M56 TOW 4-pack launchers.

AH-1Q Hue Cobra

Equipped with the M65 [TOW](http://en.wikipedia.org/wiki/BGM-71_TOW)/Cobra missile subsystem, M65 Telescopic Sight Unit (TSU), and M73 Reflex sight. All future versions will be equipped with the TSU and be equipped to fire the TOW missile subsystem.

YAH-1R

AH-1G powered by a T53-L-703 engine without TOW system.

YAH-1S

AH-1Q upgrade and TOW system.

AH-1S

The baseline AH-1S is an AH-1Q upgraded with a 1,800 shp (1,300 kW) T53-L-703 turboshaft engine. The AH-1S is also referred to as the "Improved AH-1S", "AH-1S Modified", or "AH-1S(MOD)" prior to 1988. (Prior to 1988, all upgraded aircraft were referred to as variants of the AH-1S.)

AH-1P

100 production aircraft with composite rotors, flat plate glass cockpit, and improved cockpit layout for nap-of-earth (NOE) flight. The AH-1P is also referred to as the "Production AH-1S", or "AH-1S(PROD)" prior to 1988. These improvements are considered Step 1 of the AH-1S upgrade program.

AH-1E

98 production aircraft with the Enhanced Cobra Armament System (ECAS) featuring the M97A1 armament subsystem with a three-barreled M197 20 mm cannon. The AH-1E is also referred to as the "Up gunned AH-1S", or "AH-1S(ECAS)" prior to 1988. These improvements are considered Step 2 of the AH-1S upgrade program. AH-1E aircraft included the M147 Rocket Management Subsystem (RMS) to fire 2.75-inch (70 mm) rockets.

AH-1F

143 production aircraft and 387 converted AH-1G Cobras. The AH-1F incorporates all Step 1 and 2 upgrades to the AH-1S. It also featured Step 3 upgrades: a head-up display, a laser rangefinder, an infrared jammer mounted above the engine exhaust, and an infrared suppressing engine exhaust system, and the M143 Air Data Subsystem (ADS). The AH-1F is also referred to as the "Modernized AH-1S", "AH-1S Modernized Cobra", or "AH-1S(MC)" prior to 1988.

QAH-1S

A target drone conversion of the AH-1S by Bell-Bristol Aerospace under a joint US and [Canadian](http://en.wikipedia.org/wiki/Canada) development program started in 1994. Honeywell further modified the QAH-1S into the *Hokum-X* by installing systems and hardware to allow it to simulate the [Russian](http://en.wikipedia.org/wiki/Russia) [Kamov Ka-50](http://en.wikipedia.org/wiki/Kamov_Ka-50) attack helicopter. Three Hokum-Xs were completed from 1998-2001.

Model 249

Experimental demonstrator version fitted with a four-bladed rotor system, an uprated engine and experimental equipment, including Hellfire missiles.

[Bell 309 King Cobra](http://en.wikipedia.org/wiki/Bell_309)

Experimental all-weather version based on the AH-1G single-engine and AH-1J twin-engine designs. Two Bell 309s were produced; the first was powered by a [PW&C T400-CP-400](http://en.wikipedia.org/wiki/Pratt_%26_Whitney_Canada_PT6T) Twin-Pac engine set and the second was powered by a [Lycoming T-55-L-7C](http://en.wikipedia.org/wiki/Lycoming_T55) engine.

**Twin-engine**

*For all twin-engine variants, such as AH-1J, AH-1T, AH-1W, and AH-1Z, see* [*Bell AH-1 Super Cobra*](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra)*.*

**Operators**

Operators of the AH-1 single-engine variant are shown in dark blue, the twin-engine variant in green, both variants in light blue and former operators in red.

*For operators of AH-1J, AH-1T, AH-1W, AH-1Z and other twin-engine variants, see* [*Bell AH-1 Super Cobra*](http://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra)*.*

**Current operators**

Two [Pakistani Army](http://en.wikipedia.org/wiki/Pakistani_Army) AH-1S Cobras at AVN Base, [Multan](http://en.wikipedia.org/wiki/Multan)

Three Israeli AH-1F Cobras over [Masada](http://en.wikipedia.org/wiki/Masada)

USFS Bell 209 at [Fox Field](http://en.wikipedia.org/wiki/Fox_Field) during the [California wildfires of October 2007](http://en.wikipedia.org/wiki/California_wildfires_of_October_2007)

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

* [Red Bull](http://en.wikipedia.org/wiki/Red_Bull) (Flying Bulls) operates a demilitarized TAH-1F at [Salzburg Airport](http://en.wikipedia.org/wiki/Salzburg_Airport), [Austria](http://en.wikipedia.org/wiki/Austria).

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

* [Bahrain Air Force](http://en.wikipedia.org/wiki/Bahrain_Air_Force) acquired 24 AH-1Ps and 6 TAH-1P trainers. Bahrain has 10 AH-1Es, 6 AH-1Ps and 6 TAH-1Ps in inventory as of January 2010.

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

* [Israeli Air Force](http://en.wikipedia.org/wiki/Israeli_Air_Force) has 54 AH-1 "Tzefa" צפע ("Viper"), consisting of 5 AH-1G, 30 AH-1S, 6 AH-1E, and 13 AH-1F variants in inventory as of January 2010.

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

* [Japan Ground Self-Defense Force](http://en.wikipedia.org/wiki/Japan_Ground_Self-Defense_Force) received 2 AH-1Es for exhaustive evaluation. 89 AH-1S Cobras were license-manufactured by [Fuji Heavy Industries](http://en.wikipedia.org/wiki/Fuji_Heavy_Industries%2C_Ltd.) from 1984 to 2000. Has 84 AH-1S Cobras in use as of January 2010. JGSDF uses AH-1S Step 3 that were roughly equivalent the United States Army's AH-1Fs. The engine is the T53-K-703 turboshaft, which [Kawasaki Heavy Industries](http://en.wikipedia.org/wiki/Kawasaki_Heavy_Industries) produced under license.

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

* [Jordanian Air Force](http://en.wikipedia.org/wiki/Jordanian_Air_Force) received 24 AH-1Ss and 9 AH-1Fs. Jordan has 22 AH-1S and 9 AH-1F Cobras in use as of January 2010.

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

* [Pakistan Army](http://en.wikipedia.org/wiki/Pakistan_Army) received 20 AH-1S Cobras in the 1980s (later upgraded to AH-1F) and ordered more AH-1Fs in 2004. Pakistan has 18 AH-1S and 8 AH-1F Cobras in use as of January 2010. Pakistan ordered more Cobras in 2008 and received 14 AH-1Fs from United States in March 2010.

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

* [Republic of Korea Army](http://en.wikipedia.org/wiki/Republic_of_Korea_Army) received 42 AH-1S and 20 AH-1F Cobras. It has 50 AH-1S Cobras in service as of January 2010.

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

* [Royal Thai Army](http://en.wikipedia.org/wiki/Royal_Thai_Army) received 4 AH-1Fs in 1990. The RTA has 2 AH-1Fs in use as of January 2010.

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

* [Turkish Army](http://en.wikipedia.org/wiki/Turkish_Army) received 32 used AH-1P/S Cobras. These were upgraded to AH-1F standards. The Turkish Army has 23 AH-1P Cobras in inventory as of 2010.

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

* [U.S. Forest Service](http://en.wikipedia.org/wiki/United_States_Forest_Service) (25 AH-1Fs, converting to Bell 209 Firewatch Cobras)
* [Florida Division of Forestry](http://en.wikipedia.org/wiki/Florida_Department_of_Agriculture_and_Consumer_Services) (3 AH-1Ps, converting to Bell 209 "Fire snakes")

**Former operators**

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

* [Spanish Navy](http://en.wikipedia.org/wiki/Spanish_Navy) purchased eight new-build AH-1Gs, designating the type the "Z-14". These were equipped with the M35 20 mm cannon system, and were used to support coastal patrol boats. Four of these were lost in accidents. The remaining helicopters were retired in 1985 with three sent back to the US, and one kept in storage in Spain.

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

* [United States Army](http://en.wikipedia.org/wiki/United_States_Army) replaced its AH-1s with [AH-64 Apaches](http://en.wikipedia.org/wiki/AH-64_Apache).
* [United States Customs Service](http://en.wikipedia.org/wiki/United_States_Customs_Service) used a small number of AH-1Gs between 1981 and 1986.
* [United States Marine Corps](http://en.wikipedia.org/wiki/United_States_Marine_Corps) used AH-1Gs prior to delivery of AH-1Js.

**Aircraft on display**

* The [American Helicopter Museum & Education Center](http://en.wikipedia.org/wiki/American_Helicopter_Museum_%26_Education_Center) in [West Chester, Pennsylvania](http://en.wikipedia.org/wiki/West_Chester%2C_Pennsylvania) has an AH-1G sn. 68-15138 on display.

**Specifications**

**AH-1G Hue Cobra**

*Data from* *Modern Military Aircraft*, *Verier*, *Modern Fighting Aircraft*

**General characteristics**

* **Crew:** 2: one pilot, one co-pilot/gunner (CPG)
* **Length:** 53 ft (16.2 m) (with both rotors turning)
* **Rotor diameter:** 44 ft (13.4 m)
* **Height:** 13 ft 6 in (4.12 m)
* [**Empty weight**](http://en.wikipedia.org/wiki/Manufacturer%27s_Weight_Empty)**:** 5,810 lb. (2,630 kg)
* [**Max. takeoff weight**](http://en.wikipedia.org/wiki/Maximum_Takeoff_Weight)**:** 9,500 lb. (4,310 kg)
* [**Powerplant**](http://en.wikipedia.org/wiki/Aircraft_engine)**:** 1 × [Lycoming T53-L-13](http://en.wikipedia.org/wiki/Lycoming_T53) [turboshaft](http://en.wikipedia.org/wiki/Turboshaft), 1,100 shp (820 kW)
* **Rotor system**: 2 blades on main rotor, 2 blades on tail rotor
* **Fuselage length:** 44 ft 5 in (13.5 m)
* **Stub wing span:** 10 ft 4 in (3.15 m)

**Performance**

* [**Never exceed speed**](http://en.wikipedia.org/wiki/V_speeds#Vne)**:** 190 knots (219 mph, 352 km/h)
* [**Maximum speed**](http://en.wikipedia.org/wiki/V_speeds#Regulatory_V-speeds)**:** 149 knots (171 mph, 227 km/h)
* [**Range**](http://en.wikipedia.org/wiki/Range_%28aircraft%29)**:** 310 nm. (357 mi, 574 km)
* [**Service ceiling**](http://en.wikipedia.org/wiki/Ceiling_%28aircraft%29)**:** 11,400 ft (3,475 m)
* [**Rate of climb**](http://en.wikipedia.org/wiki/Rate_of_climb)**:** 1,230 ft/min (6.25 m/s)

**Armament**

* 2 × 7.62 mm (0.308 in) multi-barrel [Miniguns](http://en.wikipedia.org/wiki/Minigun), or 2 × [M129](http://en.wikipedia.org/wiki/M129_grenade_launcher) 40 mm Grenade launchers, or one of each, in the [M28 turret](http://en.wikipedia.org/wiki/U.S._Helicopter_Armament_Subsystems#AH-1_Cobra). (When one of each was mounted, the minigun was mounted on the right side of the turret, due to feeding problems.)
* [2.75 in (70 mm)](http://en.wikipedia.org/wiki/Mk_4/Mk_40_Folding-Fin_Aerial_Rocket) rockets - 7 rockets mounted in the **M158** launcher or 19 rockets in the **M200** launcher
* [M18](http://en.wikipedia.org/wiki/U.S._aircraft_gun_pods) 7.62 mm [Minigun](http://en.wikipedia.org/wiki/Minigun) [pod](http://en.wikipedia.org/wiki/Gun_pod) or [XM35 armament subsystem](http://en.wikipedia.org/wiki/U.S._Helicopter_Armament_Subsystems#AH-1_Cobra) with [XM195](http://en.wikipedia.org/wiki/M61_Vulcan) 20 mm cannon

**AH-1F "Modernized" Cobra**

*Data from* *Verier*, *Modern Fighting Aircraft*

**General characteristics**

* **Crew:** 2: one pilot, one co-pilot/gunner (CPG)
* **Length:** 53 ft (16.1 m) (with both rotors turning)
* **Rotor diameter:** 44 ft (13.6 m)
* **Height:** 13 ft 6 in (4.12 m)
* [**Empty weight**](http://en.wikipedia.org/wiki/Manufacturer%27s_Weight_Empty)**:** 6,600 lb. (2,993 kg)
* [**Max. takeoff weight**](http://en.wikipedia.org/wiki/Maximum_Takeoff_Weight)**:** 10,000 lb. (4,500 kg)
* [**Powerplant**](http://en.wikipedia.org/wiki/Aircraft_engine)**:** 1 × [Lycoming T53-L-703](http://en.wikipedia.org/wiki/Lycoming_T53) [turboshaft](http://en.wikipedia.org/wiki/Turboshaft), 1,800 shp (1,300 kW)
* **Rotor system**: 2 blades on main rotor, 2 blades on tail rotor
* **Fuselage length:** 44 ft 7 in (13.6 m)
* **Stub wing span:** 10 ft 4 in (3.15 m)

**Performance**

* [**Never exceed speed**](http://en.wikipedia.org/wiki/V_speeds#Vne)**:** 170 knots (196 mph, 315 km/h)
* [**Maximum speed**](http://en.wikipedia.org/wiki/V_speeds#Regulatory_V-speeds)**:** 149 knots (172 mph, 277 km/h)
* [**Range**](http://en.wikipedia.org/wiki/Range_%28aircraft%29)**:** 274 mi (315 mi, 510 km)
* [**Service ceiling**](http://en.wikipedia.org/wiki/Ceiling_%28aircraft%29)**:** 12,200 ft (3,720 m)
* [**Rate of climb**](http://en.wikipedia.org/wiki/Rate_of_climb)**:** 1,620 ft/min (8.2 m/s)

**Armament**

* [General Dynamics](http://en.wikipedia.org/wiki/General_Dynamics) [20 mm (0.787 in)](http://en.wikipedia.org/wiki/20_mm_caliber) [M197](http://en.wikipedia.org/wiki/M197_Gatling_gun) [3-barreled gatling cannon](http://en.wikipedia.org/wiki/Gatling_gun#M61_Vulcan.2C_Minigun.2C_and_other_designs)
* [Hydra 70](http://en.wikipedia.org/wiki/Hydra_70) 2.75 in (70 mm) rockets - 7 rockets mounted in the **M260** launcher or 19 rockets in the **M261** launcher
* [TOW Missiles](http://en.wikipedia.org/wiki/BGM-71_TOW) - 4 or 8 missiles mounted in two-missile launchers on each hardpoint

**See also**

|  |  |
| --- | --- |
|  | [***Aviation portal***](http://en.wikipedia.org/wiki/Portal%3AAviation) |

* [U.S. Helicopter Armament Subsystems, AH-1 Cobra](http://en.wikipedia.org/wiki/U.S._Helicopter_Armament_Subsystems#AH-1_Cobra)

Related development

* [Bell 207 Sioux Scout](http://en.wikipedia.org/wiki/Bell_207)
* [UH-1 Iroquois](http://en.wikipedia.org/wiki/UH-1_Iroquois)
* [AH-1 Super Cobra](http://en.wikipedia.org/wiki/AH-1_SuperCobra)
* [AH-1Z Viper](http://en.wikipedia.org/wiki/AH-1Z_Viper)
* [Bell 309 King Cobra](http://en.wikipedia.org/wiki/Bell_309)
* [Bell YAH-63](http://en.wikipedia.org/wiki/Bell_YAH-63)

Aircraft of comparable role, configuration and era

* [AH-64 Apache](http://en.wikipedia.org/wiki/AH-64_Apache)
* [Mil Mi-24](http://en.wikipedia.org/wiki/Mil_Mi-24)
* [Mil Mi-28](http://en.wikipedia.org/wiki/Mil_Mi-28)

Related lists

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

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