

Could the bin Laden Raid Have Revealed a Secret New Helicopter?

Contributed by MICHELLE TRAVIERSO Time, ABC, AW&ST
Thursday, 05 May 2011
Last Updated Thursday, 05 May 2011

A picture of the tail rotor of the chopper that the Navy Seals' Team Six detonated revealed unfamiliar features. Reports say it could be a new, secret helicopter.

When the Team Six members reached Osama bin Laden's compound in Abbottabad one of the choppers made a "controlled but hard landing," according to reports, probably due to higher than expected temperatures.

Temperatures affects the density of the air, and low density makes it harder for the rotor to sustain the weight of the chopper, especially if it was near its maximum weight (being packed with soldiers and fuel to fly in from Afghanistan). Abbottabad is about 1200 meters above the sea level, and altitude also affects air density. (Inside the Osama bin Laden Strike: How America Got Its Man.)

So what machine exactly experienced the hard landing described above? Short answer: we don't know for sure. Long answer: It seems that the tail rotor visible in the picture belongs to a highly modified version of the H-60, the chopper of choice of the special forces for more than 30 years. Aviation Week doesn't beat around the bush, claiming: "A previously undisclosed, classified stealth helicopter apparently was part of the U.S. task force that killed Osama bin Laden in Pakistan on May 1."

Stealth technology on helicopters is not itself new, but the fact that a previously unknown machine was used in this raid is yet another proof of the degree of importance that this mission had for U.S. commanders. (Watch President Obama's announcement of Osama bin Laden's death.)

Aviation Week then goes techie and explains what we can see from that picture: "Photos disseminated via the European PressPhoto agency and attributed to an anonymous stringer show that the helicopter's tail features stealth-configured shapes on the boom and the tail rotor hub fairings, swept stabilizers and a 'dishpan' cover over a five-or-six-blade tail rotor. It has a silver-loaded infrared suppression finish similar to that seen on V-22s."

Low radar visibility was essential, for the Pakistani air force would have either scrambled its jets if an unknown threat to its airspace (and near the country's best military academy!) was detected, or fired its surface to air missiles. It's possibly more proof of the fact that Pakistan really knew nothing about the mission - or at least its first wave of attack - until it ended. (See pictures of Osama bin Laden.)

This would explain why the Seals wasted critically precious time to blow up the mysterious helicopter and why many experts had problems identifying its remains. It's unclear what Pakistan could have made of the downed chopper, but growing ties between Pakistani and Chinese armed forces could have made the destruction of such new machine a must. China and Pakistan, over the past two decades, have developed a multi role combat aircraft called JF-17 and an advanced trainer, the JL-8.

The Navy Seals usually fly in the famed Sikorsky UH-60, popularized by the movie Black Hawk Down, in which two UH-60 were shot down in Somalia, resulting in the death of 18 men.

Black Hawk Down was a scenario, insiders say, that together with first attempt to rescue the hostages held at the U.S. embassy in 1980 in Iran, that's been evoked constantly in the planning phases leading to the May 1 raid, as examples of potentially disastrous outcomes. (Via Aviation Week)

See continuing coverage of Osama's death.

See TIME's al-Qaeda covers.

View this article on Time.com

Most Popular on Time.com:

- Students with Bush on 9/11 Look Back After bin Laden Death
- September 11, 2001: If You Want to Humble an Empire
- Kristen Wiig: The Anti-Comedian
- Osama bin Laden Dead: Terrorist Killed by U.S. in Pakistan

- Could Osama bin Laden's Death Bankrupt al-Qaeda?

Osama bin Laden killed: US helicopter in flames following deadly mission
{youtube}GQllhtcfUpo{/youtube}

Bin Laden Raid May Have Exposed Stealth Helo

May 4, 2011

By Bill Sweetman william_sweetman@aviationweek.com

A previously undisclosed, classified stealth helicopter apparently was part of the U.S. task force that killed Osama bin Laden in Pakistan on May 1.

The exact type of helicopter is unknown but it appears to be a highly modified version of an H-60 Blackhawk. Photos disseminated via the European PressPhoto agency and attributed to an anonymous stringer show that the helicopter's tail features stealth-configured shapes on the boom and the tail rotor hub fairings, swept stabilizers and a "dishpan" cover over a five-or-six-blade tail rotor. It has a silver-loaded infrared suppression finish similar to that seen on V-22s.

See AviationWeek.com/ares for some photographs.

The aircraft was damaged during the mission and abandoned. The mission team destroyed most of the airframe but its tail section landed outside the wall of the target compound and escaped demolition.

Stealth helicopter technology is not new and was applied extensively to the Boeing/Sikorsky RAH-66 Comanche, cancelled in 2004. Compared with fixed-wing stealth, more emphasis is usually placed on noise and infrared signatures.

Noise can be reduced and made less conspicuous by adding blades to the main and tail rotors. It can also be reduced by aerodynamic modifications and flight control changes that make it possible to reduce rotor rpm, particularly in forward flight below maximum speed. Infrared reduction measures are crucial - the Comanche had an elaborate system of exhaust ducts and fresh-air ejectors in its tailboom.

Radar cross-section (RCS) reduction measures include flattened and canted body sides, making landing gear and other features retractable, and adding fairings over the rotor hubs. It usually is not possible to achieve the same - you can't make a helo as radar-stealthy as a fixed-wing airplane, but helicopters generally operate at low altitude in ground clutter. Reducing RCS also makes jamming more effective, whether from the aircraft itself or from a standoff jammer.

UH-60M File Photo: Sikorsky

http://www.aviationweek.com/aw/generic/story_channel.jsp?channel=defense&id=news/awx/2011/05/03/awx_05_03_2011_p0-318248.xml&headline=Bin%20Laden%20Raid%20May%20Have%20Exposed%20Stealth%20Helicopter

{mp4}ABC-News-Stealth-Blackhawk{/mp4}

Mission helo was secret stealth Black Hawk

By Sean D. Naylor - Staff writer

Posted : Wednesday May 4, 2011 18:07:39 EDT

The helicopters that flew the Navy SEALs on the mission to kill Osama bin Laden were a radar-evading variant of the special operations MH-60 Black Hawk, according to a retired special operations aviator.

The helicopter's low-observable technology is similar to that of the F-117 Stealth Fighter the retired special operations aviator said. "It really didn't look like a traditional Black Hawk," he said. It had "hard edges, sort of like an F-117, you know how they have those distinctive edges and angles — that's what they had on this one."

In addition, "in order to keep the radar cross-section down, you have to do something to treat the windshield," he said. If a special coating was applied to the windshield it is "very plausible" that would make the helicopter more difficult to fly for pilots wearing night-vision goggles, he said. The helicopters carrying the SEALs arrived over the bin Laden compound at about 1 a.m. Monday local time. One crash-landed in the courtyard and was so badly damaged it was unable to take off again.

That crash landing might have been caused by a phenomenon known as "settling with power," which occurs when a helicopter descends too quickly because its rotors cannot get the lift required from the turbulent air of their own downwash. "It's hard to settle with power in a Black Hawk, but then again, if they were using one of these [low-observable helicopters], working at max gross weight, it's certainly plausible that they could have because they would have been flying so heavy," the retired special operations aviator said, noting that low-observable modifications added "several hundred pounds" to the weight of the MH-60, which already weighs about 500 to 1000 pounds more than a regular UH-60 Black Hawk.

The special operations troops on the bin Laden mission destroyed the stricken aircraft — most likely using thermite grenades — but the resultant fire left the helicopter's tail boom, tail rotor assembly and horizontal stabilizers intact in the compound's courtyard.

Photographs of the wreckage taken the next day raced around the Internet, creating a firestorm of speculation among military aviation enthusiasts because the tail of the helicopter did not resemble any officially acknowledged U.S. military airframe.

This was to be expected, the retired special operations aviator said. "Certain parts of the fuselage, the nose and the tail had these various almost like snap-on parts to them that gave it the very unique appearance," he said. He and another source referred to the disc-shaped device that is seen covering the tail rotor in the photographs as a "hubcap."

If the radar-evading technology worked, it "would be a true statement" to say that the use of the low-observable Black Hawks was evidence that the United States gave Pakistani authorities no advance warning of the mission, the retired special operations aviator added.

The low-observable program started with AH-6 Little Bird special operations attack helicopters in the 1980s, said the aviator. During the 1990s U.S. Special Operations Command worked with the Lockheed-Martin Skunk Works division, which also designed the F-117, to refine the radar-evading technology and apply it to the 160th Special Operations Aviation Regiment's MH-60s, he said. USSOCOM awarded a contract to Boeing to modify several MH-60s to the low-observable design "in the '90s to 2000 timeframe," he said.

Initial plans called for the low-observable Black Hawks to be formed into a new unit commanded by a lieutenant colonel and located at a military facility in Nevada, the retired special operations aviator said. "The intent was always to move it out west where it could be kept in a covered capability," he said.

USSOCOM planned to assign about 35 to 50 personnel to the unit, the retired special operations aviator said. "There were going to be four [low-observable] aircraft, they were going to have a couple of 'slick' unmodified Black Hawks, and that was going to be their job was to fly the low-observables."

SOCOM canceled those plans "within the last two years," but not before at least some of the low-observable helicopters had been delivered to the Nevada facility, the retired aviator said. "I don't know if it was for money or if it was because the technology was not achieving the reduction in the radar cross-section that they were hoping for," he said. In the meantime, MH-60 Black Hawk crews from the 160th's 1st Battalion, headquartered at Fort Campbell, Ky., would rotate to Nevada to train on the stealthy aircraft, he said.

The low-observable MH-60s were armed with the same sort of door mini-guns as standard MH-60s, he said. "There was not a DAP conversion," he added, referring to the MH-60 variant known as the Direct Action Penetrator, which is equipped with stub wings upon which can be fitted a variety of armaments.

The early versions of the low-observable Black Hawks were not fitted with air-to-air refueling probes, the retired special operations aviator said. "The probe would disrupt the ability to reduce the radar cross-section," he added. "There was no way to put some kind of a hub or cowling over the probe that would make it stealthy." However, he said he did not know whether the models that flew the bin Laden mission had been equipped with such probes.

USSOCOM spokesman Army Col. Tim Nye said his command had no comment for this story.

Marcus Weisgerber contributed to this story.

<http://www.armytimes.com/news/2011/05/army-mission-helicopter-was-secret-stealth-black-hawk-050411/>

Top Secret Stealth Helicopter Program Revealed in Osama Bin Laden Raid: Experts

By BRIAN ROSS (@brianross) , RHONDA SCHWARTZ, LEE FERRAN and AVNI PATEL
May 4, 2011

Before an elite team of U.S. Navy SEALs executed a daring raid that took down Osama bin Laden, the commandos were able to silently sneak up on their elusive target thanks to what aviation analysts said were top secret, never-before-seen stealth-modified helicopters.

In the course of the operation that cost the al Qaeda leader his life, one of the two Blackhawk helicopters that carried the SEALs into bin Laden's Pakistani compound grazed one of the compound's wall and was forced to make a hard landing. With the chopper inoperable, at the end of the mission the SEALs destroyed it with explosives.

But photos of what survived the explosion -- the tail section of the craft with curious modifications -- has sent military analysts buzzing about a stealth helicopter program that was only rumored to exist. From a modified tail boom to a noise reducing covering on the rear rotors and a special high-tech material similar to that used in stealth fighters, former Department of Defense official and vice president of the Lexington Institute Dan Goure said the bird is like nothing he's ever seen before.

"This is a first," he said. "You wouldn't know that it was coming right at you. And that's what's important, because these are coming in fast and low, and if they aren't sounding like they're coming right at you, you might not even react until it's too late... That was clearly part of the success."

In addition to the noise-reducing modifications, a former special operations aviator told The Army Times the general shape of what was left of the craft -- the harsh angles and flat surfaces more common to stealth jets -- was further evidence it was a modified variant of the Blackhawk.

A senior Pentagon official told ABC News the Defense Department would "absolutely not" comment on anything relating to the destroyed bird.

Neighbors of bin Laden in Abbottabad, Pakistan, told ABC News they didn't hear the helicopters the night of the Sunday raid until they were directly overhead. The rotor covering, along with a special rotor design, suppressed the choppers noise while inbound, Bill Sweetman, editor and chief of Defense Technology International, said.

"Helicopters make a very distinctive percussive rotor sound which is caused by their rotor blades and if you can blend that down, of course that makes a noise that is much less likely to be heard and much more likely to blend into any background noise that there is," Sweetman said.

The U.S. has attempted to use stealth helicopters before. In the mid-90s, the Army developed several prototypes of the Comanche helicopter, a reconnaissance helicopter that was at the time a revolutionary step in stealth technology. But in 2004 the Department of Defense scrapped the program and promised to use technology developed for the Comanche on other crafts.

Since, the government has been working to silence the Army's Blackhawk helicopters but an official program for the stealth choppers was never publicized. The wreckage, Sweetman said, is the first the public has ever seen of an operational stealth-modified helicopter.

Goure said he believes the stealthy Blackhawks have been in use for years without the public's knowledge.

"We probably have been running hundreds of missions with these helicopters over the last half dozen years, and the fact is, they've all been successful -- or at least the helicopters have all come back," he said.

But now that one went down and photographs emerged of large sections being taken from the crash site under a tarp, former White House counterterrorism advisor and ABC News consultant Richard Clarke said U.S. officials may have reason to worry about where those parts end up.

"There are probably people in the Pentagon tonight who are very concerned that pieces of the helicopter may be, even now, on their way to China, because we know that China is trying to make stealth aircraft," he said. The Chinese military is known to have a close relationship with the Pakistani military.

<http://abcnews.go.com/Blotter/top-secret-stealth-helicopter-program-revealed-osama-bin/story?id=13530693>

Osama bin Laden death: photos suggest use of 'stealth' helicopters

Blackhawk wreckage reveals previously unseen modifications, seemingly to reduce radar visibility and muffle noise

Peter Walker guardian.co.uk, Thursday 5 May 2011 08.59 BST

It is yet another question over the operation that killed Osama bin Laden: did the US Navy Seal team sneak up to his compound using previously top-secret "stealth" helicopters?

A number of military analysts believe photographs of the wreckage of one of the two Blackhawk helicopters used in the raid, which the Seals blew up after it was damaged, show hitherto unknown modifications to the aircraft, seemingly to reduce its radar visibility and muffle noise.

One former US special operations air expert told the Army Times that the distinctive hard-angled shape of the destroyed Blackhawk resembled the fuselage of the F-117 Stealth Fighter, which is designed to deflect radar. "It really didn't look like a traditional Black Hawk," he told the US forces' newspaper.

The US did not warn Pakistan about the raid for fear of leaks, but the helicopters nonetheless managed to fly to the compound from their base in Afghanistan without Pakistan's military seemingly being alerted.

Other photos appeared to show a circular cover over the helicopter's tail rotor, which experts said could be intended to dampen noise, making it harder for people on the ground to anticipate the aircraft's arrival. Some of those living near the compound said they did not hear the helicopters until they were almost directly overhead.

The military team that killed the al-Qaida leader arrived in two helicopters described officially only as Blackhawks, the Sikorsky-made US military's workhorse helicopter for the past 30 years. One was damaged as it landed heavily at Bin Laden's compound, reportedly after its rotor clipped a wall, and the Seals destroyed it with explosives before departing in the other helicopter.

Stealth aircraft canopies are covered in a radar-deflecting coating and it was "very plausible" that this could have made the Blackhawks harder to fly at night, perhaps causing the crash, the ex-special operations expert told the Army Times.

The US military has previously experimented with stealth helicopters, notably an adapted version of the Comanche reconnaissance aircraft. However none have previously been seen on active service. The Pentagon has refused to comment on questions about the Blackhawks used in the Bin Laden raid.

Dan Goure, a former Pentagon official now with the Lexington Institute thinktank, told ABC News: "This is a first. You wouldn't know that it was coming right at you. And that's what's important, because these are coming in fast and low, and if they aren't sounding like they're coming right at you, you might not even react until it's too late ... That was clearly part of the success."

<http://www.guardian.co.uk/world/2011/may/05/osama-bin-laden-stealth-helicopters>

Reference to quote: "been working to silence the Army's Blackhawk helicopters"

<http://www.activesensors.com/news/7>