

Bell 204/205

The **Bell 204** and **205** are the civilian versions of the **UH-1 Iroquois** single-engine military helicopter of the **Huey** family of helicopters. They are type-certificated in the transport category and are used in a wide variety of applications, including crop dusting, cargo lifting and aerial firefighting.

Contents

Development

Variants

- Bell 204
- Bell 205
- Experimental models
- Upgrades
- Derivatives

Operators

- Military operators
- Government operators

Specifications (204B)

See also

References

External links

Development



A Bell XH-40, a prototype of the UH-1 and Bell 204

Bell designed its *Model 204* in response to a 1955 **United States Army** requirement for a utility helicopter. The 204 was a giant step forward in helicopter design, being one of the first to be powered by a turboshaft. The turboshaft engine radically improved the practicality of the helicopter due to its light weight and high power-to-weight ratio, lower fuel consumption, and lower maintenance and operating costs. The use of a turboshaft in the 204 allowed it to carry a useful payload over respectable ranges and at reasonable speeds, which resulted in the 204 and subsequent 205 becoming the most successful western helicopter series in terms of numbers built.^[1]

The civil *204B* was first delivered in 1961. The subsequent *Model 205A-1* is equivalent to the *UH-1H*, which, compared to the 204, is longer, larger, and has better performance and a more powerful engine.^[1]

Over 60 civil Model 204B helicopters had been delivered by 1967, while further examples were built by Agusta-Bell until 1973. 12,000 Model 205s (including civil 205A-1s) were built by Bell and Agusta-Bell up to the early 1980s. Numerous ex-military 204s and 205s were converted for commercial use.^[1]

Bell 204/205



A Kern County Fire Department's Bell 205 departs from the Mojave Spaceport

Role	Multipurpose utility helicopter
National origin	United States
Manufacturer	Bell Helicopter
First flight	22 October 1956
Introduction	1959
Status	In service
Produced	1956–1980s
Developed from	Bell UH-1 Iroquois
Variants	Bell 212 <p>Bell 214</p>

Variants

Bell 204

Bell Helicopter's company designation of the UH-1B.

- **Bell 204B** – Civil or military utility transport helicopter, derived from the UH-1B. Powered by a T53-09A, max weight was 8,500 lbs, max passengers, ten.^[2]
- **Agusta-Bell AB 204** – Civil or military utility transport helicopter. Built under licence in Italy by Agusta.
- **Fuji-Bell 204B-2** – Civil or military utility transport helicopter. Built under licence in Japan by Fuji Heavy Industries. Used by the Japan Ground Self Defense Force under the name **Hiyodori**.



A Bell 205A-1, used by Royal Thai Police

Bell 205

Bell Helicopter's company designation of the UH-1H.

- **Bell 205A** – Civil or military utility transport helicopter. Powered by one T53-11A, max weight 8,500 pounds, max passenger, 14.^[2]
 - **Agusta-Bell 205** – Civil or military utility transport helicopter. Built under licence in Italy by Agusta.
- **Bell 205A-1** – Civil or military utility transport helicopter version, initial version based on the UH-1H. Powered by one T53-13A, max weight 9,500 pounds (10,500 for external loads), max passengers, 14.^[2]
 - **Agusta-Bell 205A-1** – Modified version of the AB 205.
 - **Fuji-Bell 205A-1** – Civil or military utility transport helicopter. Built under licence in Japan by Fuji.
- **Bell 205B** – Bell's early version of the 210 built in the late 1970s; only five were built and sold. Had 212 nose, uprated T53-17 engine, K-Flex driveshaft, 212 main rotor blades, tail rotor blades. Max weight, 10,500 pounds (11,200 external), max passengers, 14.^[2]
- **Bell 210** – Bell Helicopter's designation for a UH-1H, remanufactured and sold as a new aircraft. Powered by one T53-17B, same weight capacities as the 205B.^[2]

Experimental models

- **Agusta-Bell 205BG** – Prototype fitted with two Gnome H 1200 turboshaft engines.^[3]
- **Agusta-Bell 205TA** – Prototype fitted with two Turbomeca Astazous turboshaft engines.^[3]
- **Bell 208** – In 1965, Bell experimented with a single twin-engine Model 208 "Twin Huey" prototype, which was a UH-1D fitted with Continental XT67-T-1 twin-pack engine module, consisting of two power turbines driving a common gearbox. This exercise was performed as an experiment using company funds.^[3]



A Bell 205A-1 on firefighting duty with Valhalla Helicopters

Upgrades

- **205A-1++** – Field-upgraded 205A utilizing a T53-17 engine and a 212 drivetrain. Similar to the production 205B and 210.
- **Advanced 205B** – Proposed upgraded Japanese version.
- **Global Eagle** – Pratt & Whitney Canada name for a modified UH-1H with a new PT6C-67D engine, modified tail rotor, and other minor changes reported to increase range and fuel efficiency over the Bell 212.^[4]
- **Huey 800** – Upgraded commercial version, fitted with an LHTEC T800 turboshaft engine.

Derivatives

- **Bell 211** – The *HueyTug*, was a commercial version of the UH-1C with an upgraded transmission, longer main rotor, larger tailboom, strengthened fuselage, stability augmentation system, and a 2,650 shp (1,976 kW) T55-L-7 turboshaft engine.^[5]
- **Bell 212** – Bell Helicopter's company designation for the UH-1N.
- **Bell 214 Huey Plus** – Strengthened development of the Bell 205 airframe with a larger engine; optimized for "hot and high" conditions. Later developed into the larger, twin-engine Bell 214ST.
- **Bell 412** – Bell 212 with a four-blade semi-rigid rotor system.
- **Panha Shabaviz 2-75** – is an Iranian utility helicopter built by the Iranian Helicopter Support and Renewal Company.^[6] It is a reverse engineered version of the Bell 205s which were sold to the government of Mohammad Reza Pahlavi. The first example was built in 1998 and the type was publicly unveiled the following year.^[6] It has been manufactured locally in Iran since 2002 and is in active service with the Iranian military and government. It has also been claimed that it can be modified to carry light weaponry.



A Bell 205A-1 with its helitack firefighting crew with the Ontario Ministry of Natural Resources in 1995

Operators

Military operators

For all military operators, regardless of the actual model, see List of UH-1 Iroquois operators

Government operators

Canada

- National Research Council^[7]

Iran

- Law Enforcement Force of Islamic Republic of Iran (Police Aviation)

Thailand

- Royal Thai Police^{[8][9]}

Republic of China

- National Airborne Service Corps^[10]

United States

- California Department of Forestry and Fire Protection ^[11]
- Florida Division of Forestry^[12]
- Kern County Fire Department ^[13]
- Las Vegas Metropolitan Police Department^[14]
- NASA^{[15][16]}
- Orange County Fire Authority^[17]



Iranian Police Aviation AB-205A

- [San Bernardino County Sheriff's Department](#) ^[18]
- [San Diego County Sheriff's Department](#) ^{[19][20]}
- [United States Border Patrol](#) ^{[21][22]}
- [Ventura County Sheriff's Department](#)^[23]
- [Washington State Department of Natural Resources](#) ^[24]



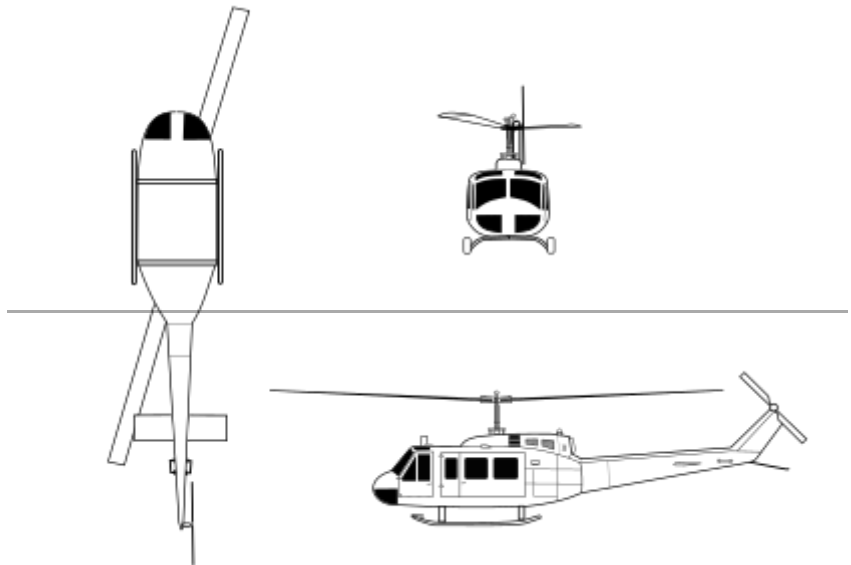
California Department of Forestry "Super Huey", formerly an EH-1H, assigned to the Bieber Helitack crew, takes off from the Mojave Airport

Specifications (204B)

Data from [The International Directory of Civil Aircraft](#) ^[1]

General characteristics

- **Crew:** one-two
- **Capacity:** 3,000 lb (1,360 kg) including up to eight-nine passengers, or equivalent cargo
- **Length:** 41 ft 8 in (12.69 m)
- **Rotor diameter:** 48 ft 0 in (14.63 m)
- **Height:** 14 ft 7 in (4.5 m)
- **Disc area:** 1,808 ft² (168.0 m²)
- **Empty weight:** 4,600 lb (2,085 kg)
- **Useful load:** lb (kg)
- **Loaded weight:** lb (kg)
- **Max. takeoff weight:** 9,500 lb (4,310 kg)
- **Powerplant:** 1 × [Lycoming T53-L-11A](#) turboshaft, 1,100 shp (820 kW)



Performance

- **Never exceed speed:** knots (mph, km/h)
- **Maximum speed:** 120 knots (135 mph, 220 km/h)
- **Cruise speed:** 111 knots (125 mph, 205 km/h)
- **Stall speed:** knots (mph, km/h)
- **Range:** 300 nm (mi, 533 km)
- **Service ceiling:** 19,390 ft (5,910 m)
- **Rate of climb:** 1,755 ft/min (8.9 m/s)
- **Disc loading:** lb/ft² (kg/m²)
- **Power/mass:** hp/lb (W/kg)



Bell 204 instrument panel

See also

- [U.S. helicopter armament subsystems](#)

Related development

- [Bell 212](#)
- [Bell 214](#)
- [Bell 412](#)
- [Bell AH-1 Cobra](#)
- [Bell UH-1 Iroquois](#)
- [Bell UH-1N Twin Huey](#)

Related lists

- [List of active United States military aircraft](#)

References

1. Frawley, Gerard: *The International Directory of Civil Aircraft, 2003–2004*, page 44. Aerospace Publications Pty Ltd, 2003. ISBN 1-875671-58-7
2. FAA Type Certificate Data Sheet H1SW for the 204, 205A, 205A-1 and 210 models (https://web.archive.org/web/20110608074714/http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgMakeModel.nsf/0/1f2c7b0cfe3afe288625733a006b57df/%24FILE/H1SW.pdf)
3. Greg Goebel's Vectorsite in Public Domain (<http://www.vectorsite.net/avhuey.html>) Archived (<https://web.archive.org/web/20110405092751/http://www.vectorsite.net/avhuey.html>) April 5, 2011, at the Wayback Machine
4. Douglas W. Nelms (2005-11-01). "Eagle Power" (<https://web.archive.org/web/20071114173945/http://www.aviationtoday.com/print/rw/military/utility/1824.html>). Aviation Today. Archived from the original (<http://www.aviationtoday.com/print/rw/military/utility/1824.html>) on 2007-11-14. Retrieved 2007-03-17.
5. "Skycranes" (<https://web.archive.org/web/20070409021135/http://centennialofflight.gov/essay/Rotary/skycranes/HE13.htm>). Centennial of Flight Commission. Archived from the original (<http://www.centennialofflight.gov/essay/Rotary/skycranes/HE13.htm>) on 9 April 2007. Retrieved 2007-03-15.
6. Panha hovers between repair and manufacturing. (http://www.janes.com/defence/air_forces/news/jdw/jdw010827_1_n.shtml)
7. "Research aircraft (rotary and fixed wing) – National Research Council Canada" (http://www.nrc-cnrc.gc.ca/eng/solutions/facilities/research_aircraft.html). Nrc-cnrc.gc.ca. Retrieved 2014-04-22.
8. "ROYAL THAI POLICE -History" (<http://www.thai-aviation.net/files/Police.pdf>) (PDF). Retrieved 17 January 2013.
9. "Royal Thai Police Wing" (<https://web.archive.org/web/20151222085728/http://www.jetphotos.net/viewphoto.php?id=6630119&nseq=11>). JetPhotos.Net. Archived from the original (<http://jetphotos.net/viewphoto.php?id=6630119&nseq=11>) on 22 December 2015. Retrieved 17 January 2013.
10. "National Airborne Service Corps (NASC)" (<http://taiwanairpower.org/nasc/index.html>). TaiwanAirPower. Retrieved 18 Jan 2013.
11. "CAL FIRE Air Unit" (http://www.fire.ca.gov/fire_protection/fire_protection_air_program.php). Retrieved 20 January 2013.
12. "Florida Department of Agriculture and Consumer Services" (http://www.floridaforestservice.com/wildfire/equipment/helicopter_uh1h.html). ffs.gov. Retrieved 17 January 2013.
13. "Heuy dust off" (<http://www.vietnamdustoff.com/dustoffaircraft.html>). Network Solutions®. Retrieved 22 January 2013.
14. "LVMPD Air Support" (<https://web.archive.org/web/20130115112335/http://lvmpd.com/Sections/AirSupport/tabid/166/Default.aspx>). Archived from the original (<http://www.lvmpd.com/Sections/AirSupport/tabid/166/Default.aspx>) on 15 January 2013. Retrieved 20 January 2013.
15. "NASA Security" (<http://www.tactical-life.com/online/tactical-weapons/nasa-ert-spaceport-protectors/>). Retrieved 20 January 2013.
16. of the UH-1 on Airliners.net (<http://www.airliners.net/photo/NASA/Bell-UH-1H-Iroquois/1721227/L/&sid=d2bb02874ad4f6c39641f1fd8a34a9c6Photo>)
17. "OC Fire Authority" (http://www.dpdproductions.com/page_emergallery_air2.html). Copyright ©DPD. Retrieved 17 January 2013.
18. "SBSD Aircraft operated" (http://www.sbcounty.gov/sheriff/aviation/Aircraft_Operated.asp). sbcounty.gov. Retrieved 17 January 2013.
19. "San Diego Sheriff's Copter 10 Responds To Riverside County For Hoist Rescue" (<http://policehelicopterpilot.com/police-helicopter-journal/?currentPage=3>). Police Helicopter Pilot.com. Retrieved 17 January 2013.
20. "San Diego County Sheriff Bell 205A" (<http://www.airliners.net/photo/San-Diego-County/Bell-205A-1/1949314/L/&sid=2641b2f2186c37954e3e5eb4ef10dcb8>). Demand media. Retrieved 17 January 2013.

21. "Southwest Border Region" (<http://webarchive.loc.gov/all/20140324095203/http%3A//www.cbp.gov/border%2Dsecurity/air%2Dsea/oam%2Doperating%2Dlocations>). CPB.gov. Archived from the original (http://www.cbp.gov/xp/cgov/border_security/am/operations/locations/southwest_border.xml) on 24 March 2014. Retrieved 17 January 2013.
22. "US Customs & Border Protection UH-1H" (<http://www.airliners.net/photo/US-Customs-&Bell-UH-1H-Iroquois/0715357/L/&sid=97a57cb99297d72761e4f14a9f35c605>). Demand media. Retrieved 17 January 2013.
23. "Ventura County Air Unit" (<http://www.vcsd.org/sub-air-unit.php>). Retrieved 20 January 2013.
24. "Kittitas County prepares for wildfire season" (http://www.dailyrecordnews.com/news/kittitas-county-prepares-for-wildfire-season/article_b0bd06be-5fa5-11df-801b-001cc4c03286.html?mode=image&photo=5). [dailyrecordnews.com](http://www.dailyrecordnews.com). Retrieved 17 January 2013.

The initial version of this article was based on a public domain article from Greg Goebel's Vectorsite.

- Chant, Christopher, *Fighting Helicopters of the 20th Century*, Graham Beehag Books, Christchurch, Dorset, England (1996).
- Debay, Yves, *Combat Helicopters*, France: Histoire & Collections (1996)
- Drendel, Lou. *UH-1 in Action*. Carrollton, TX: Squadron Signal. ISBN 0-89747-179-2
- Francillon, Rene, J. *Vietnam: The War in the Air* New York: Arch Cape Press (1987)
- Mesko, Jim, *Airmobile: The Helicopter War in Vietnam*, Squadron Signal Publications (1984).
- Specifications for 204, 205 and 214 Huey Plus (<http://www.airliners.net/info/stats.main?id=73>)
- Mutza, Wayne. *UH-1 Huey in Colors*. Carrollton, TX: Squadron Signal. ISBN 0-89747-279-9

External links

- Bell Helicopter Official Huey II site (<https://web.archive.org/web/20070316120847/http://www.bellhelicopter.com/en/aircraft/military/bellHueyII.cfm>)
 - FAS.org Huey profile (<http://www.fas.org/man/dod-101/sys/ac/uh-1.htm>)
-

Retrieved from "https://en.wikipedia.org/w/index.php?title=Bell_204/205&oldid=904241436"

This page was last edited on 30 June 2019, at 22:12 (UTC).

Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the [Terms of Use](#) and [Privacy Policy](#). Wikipedia® is a registered trademark of the [Wikimedia Foundation, Inc.](#), a non-profit organization.