

Test of

Bell OH-58D Kiowa Warrior

Produced by Area-51 Simulations

The Bell OH-58D Kiowa Warrior is a single engine and single rotor military helicopter primarily used for observations of enemy positions and direct fire support. The helicopter is a military enhancement of the civilian and very popular Bell 206A JetRanger and is produced by Bell Helicopters for the United States Army.

There are today built over 2200 units in various versions of the OH-58 and the latest version is the D-model which is used for ground support and reconnaissance operations. The US Army has used the Kiowa since 1969 and Bell has later on also exported versions for several countries as Austria and Canada – furthermore the Kiowa was also produced on license in Australia.

Specs:

- **Produced by** *Bell Helicopters*
- **First Flight** *January 10th 1966 (206A)*
 - *(OH-58D war October 6th 1983)*
- **Introduction** *May 1969*
- **Role** *Light Observation Helicopter (LOH) / Scout*
- **Status** *In active service*
- **Primary Users:**
 - *United States Army*
 - *Australian Army*
 - *Republic of China*
 - *Royal Saudi Land Forces*
- **Built** *2.200+*
- **Unit Costs** *OH-58D US\$ 4,9 million (1990 fig)*



The first time I became acquainted with the Kiowa was in the movie *Firebirds* with Nicolas Cage and Tommy Lee Jones and afterwards I have had a great interest in this specific helicopter. I have seen a few freeware versions for flight simulator but none which were any good, so when I discovered that Area-51 Simulations had created one, it was simply a must for me to test and review it.

I purchased the Kiowa through FSPilotShop and as always the payment and download from that site was without any issues. The installation went perfectly – quick and easy and I was ready for the fun part after only a few minutes.

After installation I opened FSX to check if everything was installed properly, and of course it was. I was very surprised when I discovered that this add-on contains a huge number of various liveries which were a lot more than what I had expected. Unfortunately the mini pictures are all the same and that damages the overview a lot, but still it was nice to see so many various liveries. Included in this add-on is a short manual which can be read in just a few minutes. The manual describes the basics and how you e.g. activate the night vision gauges.

I started with an external view-around to get a feeling of the model. What I found was a very detailed model with good textures, a nice finish and multiple animations. The pilots are also modeled quite well and I saw that the main rotor also do move according to my control inputs which I find as a very important feature when looking at helicopters. The lighting is good and the textures for the main rotor are made very nicely.



After viewing this very well made external model I went inside to check out the cockpit. The add-on features a very well made virtual cockpit but not quite the standard of what I had seen with the external model. The virtual cockpit is very detailed with fair textures, good depth and a nice finish but what I am missing is more clickable buttons and switches. I know that this add-on is not the very newest on the market, but I had expected more integration in the virtual cockpit.

As a very nice plus you do get a lot of details in the virtual cockpit as e.g. the raffle that is placed on the right side panel and also the possibility to activate night vision gauges and hereby flying the helicopter at night without any problems. You also have various animations in the virtual cockpit and the gauges used are also of good quality.

When I started up the engine I noticed the unique sound that the Bell 206 makes which I had also expected because the Kiowa is actually a Bell 206 converted to a military version. The sound set has been tweaked to fit the D-model (4-blades) and is fair and fits the model quite nicely. The sound is clean and clear but it seems that the sound set used internally is not corresponding well with the sound set used externally which I would have liked it to – meaning that the sound set internally is very close to the sound set of the default Bell B206 internally, but the external sound set is a complete different sound set, more towards the B406 – I guess that this is due to the D-model configuration. However the sound set does provide the simmer with added realism and I do like it very much. I tested the sound set in both stereo and 7.1 surround sound and both works perfectly.



On my first test flight I made take-off from Faa International, Tahiti (NTAA) in French Polynesia. Here I wanted to test general flight characteristics and low level flight versus medium to high level flight. I toured the island for about half an hour to get used to the helicopter and then I started various tests including flight with maximum airspeed, quick turns, cruise, approaches and landings and of course take-offs. The Kiowa has flight characteristics that are very similar to the default Bell B206 but with an improved sensitivity which really adds a lot of realism to this model. If you are not familiar with flying helicopters, you should choose a different helicopter before trying out your skills on the Kiowa.



After flying for about one hour I set my heading towards the island of Moorea. I made a rapid descent after cruising over one of the Tahitian peaks and performed a low level, high speed flight across the sea between Moorea and Tahiti (radio alt +10'). Arriving at Moorea I made a scout approach coming in low and silently between the trees and landed directly in front on the control tower. This was indeed an awesome experience and it was a lot of fun trying to fly the Kiowa as on a real life mission.



On my second test flight I wanted to try out the night vision gauges combined with a scout approach. I programmed a flight from Karup AFB (EKKA) to Herning Airport (EKHG), Denmark with time set on 0300 hours = 3:00am. When I got airborne I activated the night vision gauges but nothing happened – I still had the normal vision which is not usable when flying low between the trees in the middle of the night. I tried activating the gauges several ways, but nothing seemed to work. I closed down FSX and opened the manual to see if I had made a mistake. After verifying how to activate the night vision gauges I opened FSX once again and sat up the same flight one more time. The result was still the same – no night vision.

My settings for the keyboard are customized for me and I don't use the default FSX setting. This I could expect to be why I had some issues here, so I decided to change all settings back to the default FSX setting and this was much better – I could see that the pilots now actually did put on the gauges and now it works perfectly.

Conclusion for this add-on is that the model is very well made, good textures, lots of details and animations and a sound set that fits the model. Good virtual cockpit, a huge number of various liveries which is really good and all that for a very fair price. The helicopter can be flown by all simmers but I do recommend that simmers are familiar with minimum the default Bell B206.

I do recommend fellow simmers to purchase this add-on, especially if you like military aviation then this is a must for your virtual hangar. I thank Area-51 Simulations for this very well made add-on and I am very happy to see this specific helicopter for FSX. I rate the Bell OH-58D Kiowa Warrior with 4/5-stars



Rays Aviation



Variants:

OH-58A Original version with 4 seats (2 pilots and 2 passengers)– The A-model was the original Vietnam version equipped with a M134 Minigun and a 7.62 mm electronically operated machinegun. This version was also exported to The Canadian Armed Forces and was designated COH-58A but later it was changed to CH-136 Kiowa

76 units of the OH-58A was later modified with an engine upgrade, a thermal imaging system and a communication package for the police. Also improved navigation equipment and taller skids for the Army National Guard's for their Counter-Drug RAID program

OH-58B is the export version of the A-model for Austria and Australia. These were later on built on license in Australia by Commonwealth Aircraft Corporation and designated CA-32 which was actually a Bell 206B-1 version = upgraded engine and longer rotor blades

OH-58C is the B-model with a new engine upgrade. There were also installed a new and unique IR damping system on the exhaust to make the Kiowa invisible on various IR tracking systems

Previous versions of the C-model were equipped with flat windows to eliminate sun glare which could be seen by enemies. This however had a very negative effect for the cockpit view which was a huge strength in the original version

The main instrument panel was also upgraded and was increased with app. 30% to be able to fit larger and more instruments. NVG (night vision goggles) was also installed and the internal lighting was altered to not effect the NVG. As an additional upgrade the helicopter was now equipped with a AN/APR-39 radar detector which provides information to the pilots about hostile anti-aircraft radar systems within a certain range from the helicopter

A few C-models was also equipped with 2 AIM-92 Stinger missiles that could contribute to air-to-air defence – these were designated OH-58C/S and became a part of ATAS (air-to-air-stinger)

OH-58D The base model for the D-model is Bell's model 406. This version was transferred to the military as a result of the AHIP program (army helicopter improvement program). The D-model has an upgraded transmission and upgraded engine that provide the helicopter with sufficient power for what the US Army calls *Flight Profile nap-of-the-earth*. To support this, the rotor was changed to a 4 bladed rotor which reduced the noise level significantly

Next step in the upgrade was the MMS (mast-mounted sight) that was placed on top of the rotor. To support the MMS the instrument panel was partly converted to be a glass cockpit including both analogue instruments but now also LCDs.

Bell actually also did make a 406CS (combat scout) which was a D-model including all upgrades (MH-58D) – All 15 units produced was exported to Saudi Arabia with a small variation – the MMS was replaced with a SAAB-HeliTOW sight system and the 406CS had removable weapon hard points on each side

The OH-58D became very popular and task force 118 got their own version – the AH-58D. This version was modified with advanced weapons for support use for Operation Prime Chance – these new weapon systems was later on standard for the Kiowa Warrior

OH-58F is a version that has not yet entered service – it is an upgraded D-model that is expected to remain in service until 2025. The upgrade includes e.g. a cockpit with sensor upgrades (CASUP) and the MMS will be replaced by a nose mounted targeting and surveillance (similar to the AH-64D Apache Longbow)

OH-58X was a modification of the D-model with improved stealth and a nose mounted McDonnell-Douglas Electronics System turret providing the pilots with a night system including a Kodak FLIR system with 30 degrees angle view. The instrument systems was moved to the nose to give enough space for a passenger seat – NOTE that this model was never built – only exists on the drawing board

Specifications for D-model

General

- Crew: 2 pilots
- Length: 42 ft 2 in (12,85m)
- Rotor diameter: 35 ft 0 in (10,67m)
- Hight: 12 ft 10^{5/8} in (3,93m)
- Empty weight: 3.829 lb (1.737 kg)
- MTOW: 5.500 lb (2.495 kg)
- Engine: 1x Rolls-Royce T703-AD-700A or 250-C30R/3 Turboshaft, 650 hp (485 kW)

Performance

- Max speed: 130 kts (241 km/t)
- Cruise speed: 110 kts (204 km/t)
- Range: 299 nmi (555 km)
- Service Ceiling: 15.000 ft (4.575m)

Weapons

- AGM-114 Hellfire anti-tank missiles
- Hydra 70 rockets
- M296 or M3P 50 caliber (12,7 mm) machinegun
- AIM-92 Stinger air-to-air missiles (not in use any more)