CROATIAN WARRIORS

Croatia has reached initial operational capability with its OH-58D Kiowa Warriors less than a year after receiving them as part of the Excess Defense Articles program. *Combat Aircraft* visits the new Croatian Kiowa Warrior squadron to find out how this was achieved so quickly.

REPORT AND PHOTOS **Dirk Jan de Ridder and Menso van Westrhenen**

IN FEBRUARY 2016, Croatia became the second country after Tunisia to acquire excess Bell OH-58D Kiowa Warriors from the US Army, soon followed by Greece. All the helicopters — comprising 16 OH-58Ds plus an instructional airframe — were delivered to the Croatian Air Force (Hrvatsko ratno zrakoplovstvo i protuzračna obrana) at Zadar-Zemunik air base by the end of the year after the army decided to retire the type in a drastic cost-cutting move. It took a few months for US instructors to arrive, before they began flights with the 'new' Warriors in April, accompanied by Croatian pilots. The five US instructor pilots then trained eight Croatian pilots under a 'train the trainers' principle for an initial cadre of local expertise.

Croatia's Kiowa Warriors are flown by pilots from the Eskadrila Helicoptera (EH, Helicopter Squadron) at Zadar. Although the Kiowa production line ceased in 1989, the machines are described as being in 'perfect condition' thanks in part to overhaul and upgrade prior to delivery. Some were even manufactured with brand-new cabins.

Lt Col Krešimir Ražov, the squadron commander who has nearly 3,000 hours on the Bell 206 and was among the first eight pilots to fly the OH-58D, says, 'In 2010, they went through the so-called wartime replacement aircraft program. This covered 49 helicopters, 23 of which were cabin conversion 'A2D' models (OH-58A to OH-58D) and 26 were 'new-metal' aircraft. Between 2012 and 2014, they started to fly as rebuilt helicopters with new serial numbers and zero flying hours. The KWs [Kiowa Warriors] we received at the end of 2016 had between 120 to 550 hours, so we consider them as new helicopters. They were in very good shape.'

The Croatian squadron has operated the Bell 206B in the training role for many years, so conversion to the OH-58D — broadly based on the 206 — didn't appear overly complicated. However, it wasn't to be the case. Ražov explains, 'We were expecting the conversion training to be relatively easy. Eight of our most experienced instructor pilots started the training and we were surprised. It takes a few hours to get accustomed with the Kiowa Warrior. For example, we didn't expect it to be more maneuverable than the Bell 206. Another thing that was new for us was the 'glass' cockpit. All this new and sophisticated equipment was demanding for us, so we needed some 75 hours of type rating on this helicopter. After these 75 hours of type rating, the training was oriented at mission tactics as a scout weapon team [SWT] during day and night.'

Potent Kiowa

The Kiowa Warrior was designed for aerial reconnaissance, intelligence-gathering and surveillance and target acquisition in close combat scenarios. In Croatia, the type will be used in a variety of roles, including anti-armor, close air support, convoy escort and protection, as well as acting as an airborne command and control platform. The helicopters can determine the distance and direction of an

This image: The 16 Croatian OH-58Ds are wartime replacement airframes that were intended to boost the US Army's Kiowa Warrior inventory to 368 examples, before work was terminated in 2014 as the army decided to retire the type.

Inset: Night attack is one of the key roles of the OH-58D, for which Croatian pilots have had to train hard.

intended target and hand it over to field artillery for engagement. Depending on the mission, the OH-58D can be armed with any combination of .50-caliber machine guns, AGM-114 Hellfire air-to-surface missiles or 70mm Hydra rockets, mounted on a weapons pylon on each side of the airframe. Ground crews can rearm or change the type of armament in a matter of minutes.

The mast-mounted sight (MMS) is standard equipment. It has a gyro-stabilized platform containing a television system, a thermal imaging system, and a laser range finder/designator offering the ability to search, detect, identify, track, locate, and designate ground targets in both day and night environments. Ražov details the tactical use of the MMS. 'It can function on the move and while in a hover and it allows us to remain hidden behind trees or terrain, as we recently demonstrated for the first time during joint exercises with Croatian Army ground forces. We can designate a target, so that another Kiowa Warrior, aircraft or UAV can attack it. We train for it a lot with Hellfires, for what we call remote Hellfire shots.'

In August 2017, the pilots carried out their first firing training under the watchful eye of an American team of evaluators. It was the first time any of the pilots had fired anything from a helicopter and it marked the completion of their conversion training. 'We qualified as independent Croatian crews using the .50-caliber machine gun, Hydra rockets and [simulated] Hellfire missiles with all the required maneuvers and techniques,' explains Ražov. 'For us, the first live firing with the gun and rockets was amazing — first with the [American] instructors, then with the Croatian crews by day and night. After that, the final part was the instructor pilot course, in order for us to be able to train others, and the maintenance test pilot course for four of our pilots.'

Only the Hellfire air-to-surface missile has not been launched for real. Ražov says, 'You have to consider that it is a very expensive missile, costing over $100,000. We flew a lot of Hellfire missions, but we have not shot any live Hellfires yet. The Hellfires we have right now are only for training purposes, but the procedure of really firing one and simulating it is exactly the same. Everything is recorded in the software, so you can see whether you are doing it right. With all the preparation, the lock-on before launch and lock-on after launch, launching a Hellfire missile is very challenging. Crew co-ordination is vital. When we start the live firing [with the Hellfire] the only difference will be the smoke that we see. We will receive them very soon and we *will* launch them.

'The crew consists of a pilot and a weapon systems operator [WSO], but the [latter] is also a pilot. That is crucial. Both the right seat and the left seat are capable of doing the same things. As a team, we normally fly with two helicopters, so there are four pilots and one of them is the air mission commander, who puts the others in the correct position.'

Above: The mast-mounted sight enables the Kiowa Warrior crew to remain hidden and peek at targets without revealing themselves.

Left: Thus far Croatia has only operated with AGM-114 training rounds, although live missiles are expected to be delivered and trained with.

Team effort

The first group of Croatian pilots and mechanics completed their training in December 2017, notching up over 1,000 flying hours over seven months as the squadron achieved initial operational capability (IOC) and the US assistants returned home. Ražov says, 'Training with the Americans has brought our capabilities to a very high level. They were very open in what they were expecting from us and put us in all kinds of situations. As pilots, we wanted the American instructors to stay, but the contract was for them to just train the trainers. They have a lot of combat experience [and] being in the air and hearing from them why they do something and why they make certain decisions was invaluable.'

Above left to right: Ease of maintenance and ability to rearm quickly are important attributes of the Kiowa Warrior.

A section of OH-58Ds armed with .50-caliber machine guns and 70mm Hydra rockets.

Right: A fabulous night shot of an OH-58D at its new home of Zadar. The Kiowa Warriors have filled a long-term gap left by the retirement of Croatia's Mi-24s.

In February 2018, a new group of pilots began training under the supervision of the Croatian instructors and a third group will be trained at the end of this year. 'The next step is to achieve full operational capability [FOC],' says Ražov. 'Our instructors are fully capable, but we need to train more pilots to achieve FOC. We are very satisfied with how we are developing our mission-specific capabilities, so we expect the squadron to reach FOC at the end of this year.'

Students and instructors on the Kiowa Warrior will also remain instructors on the Bell 206. The plan is for all to be dual-qualified.

What the squadron has achieved in such a short time is a massive accomplishment, especially considering the fact that the Croatian Air Force hasn't operated any attack helicopters in over 12 years. Its last Mi-24 'Hinds' were withdrawn from use in 2005. Ražov concludes, 'I never expected to be in this position within one year. We are conducting our training and we are now approaching the next gunnery training [for the next group of pilots]. We are providing them with full combat training and we are extremely happy to build up our capabilities to this high level.'