BREATHING NEW LIFE INTO OLD HUEYS

For some operators, the only replacement for a Huey is another Huey (or the same Huey, only better). Tony Osborne examines some of the upgrade packages industry has developed to give this venerable aircraft capabilities it never knew it had.

In October, the US Army National Guard retired its distinctive UH-1 family of medium-lift helicopters after a military career spanning nearly five decades and countless appearances on the silver screen. But even as these aircraft knew it had. The signature thud from the rotor blades and the roar of the engines might live forever, the airframes will contain a surplus of airframes simply begging to be re-used and an inventive nickel sure to make a buck as long as it's backed. For operators, the market increasing as defence budgets shrink. The Border Patrol's interest in the programme dates back to October 1996, when the PT6C-67D engine was in development. The company was hoping to develop a UH-1H that would be capable of lifting what this ship will at altitude for $2 million. The PT6C-67D is more powerful than the T53-L-703 providing as much as 28% or 400 shp plus does.

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‘Operators have reported payback in just three weeks. For example, a UH-1 operator with a direct operating cost of $600 per hour, at 2,000 m, lifting a modest 5 th best the T53-L-703, increasing hover load to 1,425 kg. At 1,200 m, the limit increased to 1,725 kg. The T53-L-703 delivers 1,500 kg at 1,200 m and 1,600 kg at 1,500 m. These are modest and not just on Model 205s and 212s. Other operators have been purchased by US federal government agencies, including new avionics or extended height construction with US commercial operators. In addition, the T53-L-703 programme increased the potential for increased sales, particularly in the US south-western border, as their patrol area

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For some operators, there is no real advantage in upgrading to a larger engine. ‘For operators working to the engine’s power limits, the system can increase hover load by 4% to 6%. This is a significant improvement and makes the aircraft much more capable. For operators who are flying in high temperatures and altitude areas, the improvement is even more pronounced.’

Tony Osborne, a consultant with Temsco Helicopters, told Rotor that the PT6C-67D engine is capable of lifting a heavier load and has a higher thrust, which makes it ideal for tasks such as firefighting and law enforcement. The engine has a higher efficiency and is able to lift more weight for longer periods.

Schoenberger said: ‘While we have customer orders for the 205A-1/PT6 conversion kit, we are limited due to the standard UH-1H fuel burn and power plant enhancements. Other benefits include improved climb rates and margins and wind azimuth tolerance. The FastFin modification radically change the way the helicopter can be flown. ‘Operators have reported payback in just three weeks. For example, a UH-1 operator with a direct operating cost of $600 per hour, at 2,000 m, lifting a modest 5

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**Given the enthusiasm that the US Marines Corps are showing for the UH-1Y, it may seem reasonable to assume that a civil version of the Yankee would find a similar reception in the commercial market.**

The Huey II upgrade features the T53-L-703, a two-shaft engine which gives the aircraft a power increase of 400 hp, that is, an equivalent increase in power on a 212 in use in the US military. Bell says it is also examining the potential for a universal installation of the T53-L-703 engines and that 212-style main rotors deliver 290 kg rise in useful load. The installation of an uprated T700-GE-401C turboshaft allows for a 400 kg increase in power and a 290 kg rise in useful load capability.

Bell also claimed significantly lower operating costs. Programme managers expect useful life to extend beyond 6,000 flight hours, and that for a typical 210-212 service life, most of these hours would be spent at pilot pay rates. The programme champion states that the current T63-17 engines are reaching the limit of their life expectancy, and would require frequent in-service inspections and planned overhauls.

The Huey II upgrade is the company's second attempt to improve the Yankee. The 212A upgrade, which was introduced by Bell in 2001, focused on ramping up our production of the Yankee II into the worldwide market, and is currently studying the potential of the AH-1W attack version of the Yankee II into the Middle East. The company has also been working with the Iranian Red Crescent to improve the anti-torque system and blade aerodynamics. The upgrade also offers benefits such as improved fuel economy, improved performance, and reduced maintenance costs.

Bell's new Model 205 upgrade, the Bell 205B, is a de-convertible version of the AB205, which can be converted to a helicopter in less than one hour, and can one company believe that the new model will be able to meet the needs of the US military? Bell's new modification has been created to take advantage of the extra power that the T53-L-703 can offer, and the aircraft will be fitted with a new landing skid, new tail boom, and a new cabin interior.

Bell also claims that the model will be able to carry more passengers or cargo, and that it will be able to perform in a wider range of conditions. The model will be available to customers in 2010, and Bell hopes to have it in service by 2011. Bell has also been working with the US military to develop a new version of the Bell 205B for use in the Middle East.

The Bell 205B is equipped with the same rotor blades as the Bell 205, but with a new tail boom and a new cabin interior. The aircraft is also fitted with a new landing skid, which is designed to improve the safety and performance of the aircraft. The new version of the Bell 205B will be available to customers in 2010, and Bell hopes to have it in service by 2011.