



*Out-moded
overhaul can't
compete with Blackhawk's
engine upgrade options*

Better than New!

Story by JoAnn Stringer
Photos by Jim Lawrence

It all started with an idea, almost eleven years ago, and has now evolved into one of the fastest growing trends in aviation today. The Blackhawk XP engine upgrade for the Pratt & Whitney PT6A family offers aircraft operators the choice to bring their aircraft performance up to speed with modern production standards as opposed to opting for traditional engine overhaul.

Blackhawk founder and current President and CEO Jim Allmon believed that older turboprop aircraft could be elevated to "better than new" performance by installing new generation, high performance engines without modifying the airframe. To that aim, he has crafted a unique business model that utilizes the Supplemental Type Certificate (STC) process to rescue airframes that have been frozen with old technology. Blackhawk has secured the largest non-OEM contract for PT6A engines in Pratt & Whitney's history, organized a global network of distributors and installation facilities, achieved worldwide certification, and continues to engineer new programs and support the growing family of XP owners. This idea implemented over a decade ago has propelled Blackhawk as the leading engine upgrade company in the world.

Blackhawk has demonstrated an unceasing drive to concept, engineer and test new STCs, and even

continue to improve the tried-and-true ones they already have. To date, they have sold more than 500 PT6A engines resulting in increased value and performance for over 250 satisfied turboprop operators who share in Allmon's belief. An essential part of Blackhawk's success is the venerable Piper Cheyenne fleet. With its sleek corporate styling, there's a lot of life left in this popular aircraft, long after the -11 engines have had their day. Now Blackhawk offers a practical and a powerful alternative to overhaul for Cheyenne owners.

XP28 for the value-minded Cheyenne owner

Cheyenne owners know that the resale value of the Cheyenne I is often less than the cost of overhauling the factory installed PT6A-11 engines, so they are understandably nervous about investing in new engines. Blackhawk recently certified a solution to the overhaul problem many value conscious operators agonize over. The Blackhawk XP28 engine upgrade gives the Cheyenne I a power surge equal to a Cheyenne II. Freshly overhauled or time-continued PT6A-28 engines are installed in place of the existing PT6A-11 engines.

The impressive boost in power compares favorably with the price of a standard overhaul, while enabling accelerated climb rates and faster

cruise speeds. This new engine option affords Cheyenne operators lower operating costs due to the reduced cost per nautical mile while subsequently increasing the value of their aircraft. It's clearly a practical choice for the value-minded owner.

"The XP28 for the Cheyenne I introduces a lower price point for performance seekers reluctant to invest in factory new -135A engines," said Allmon. "For not much more than a standard -11 overhaul, the XP28 offers an alluring 250 KTAS cruise platform that will bring this airframe back to life regardless of its total time."

To further reduce the overall upgrade costs, no propeller changes are necessary. Blackhawk certified the XP28 engine upgrade with the existing Hartzell 3 bladed propellers originally installed from the factory. For the many who have upgraded their propellers to the McCauley 4-bladed "Black Mac" propeller or the Hartzell 4-bladed "Whisper" propellers, both prop models are fully certified with the XP28 engines.

As another value adding proposition, Blackhawk says they also certified a new set of Hawkeye Digilog engine instruments to replace the aging analog system at an additional cost. An all new Airman Flight Manual Supplement with full performance charts is included with the STC for flight planning.

Consistent with all of Blackhawk's XP engine upgrades, Allmon ensured that the design of the upgrade increased the overall safety of the aircraft. As a pilot himself, he knew there was a need for greater operational flexibility, greater safety margins and lower costs. "The improvement in speed and efficiency that the Cheyenne I fleet will receive gives not only value but makes the older model aircraft safer to operate." Allmon further explained that the 620 SHP -28 engines are flat rated to the same 500 SHP of the -11 engines eliminating the need for the Stability Augmentation System (SAS). The flat rating will allow an XP28 operator to pull full horsepower to a much higher altitude without increasing stress to the airframe. High altitudes are where the bigger engines substantially outperform their predecessor.

XP135A brings Cheyenne up to modern levels

For the Cheyenne owner who wants to bring the aircraft up to modern levels of performance, nothing compares to the power surge afforded by the XP135A. Factory new, 750 SHP -135A engines allow the Cheyenne I, II and IIXL models to cruise at 280 KTAS. This is more than 10 KTAS faster than the current production King Air C90GTx.

Conklin & de Decker performed an independent financial analysis that compares a Cheyenne I with the Blackhawk XP135A engines to a standard Cheyenne with -11 engines. Fuel consumption is higher with the bigger -135A engines, but the cost per nautical mile is reduced due to shorter block times. An operator can save almost 30 minutes on a 600 NM trip. The reduced time on the airframe will save a Cheyenne I operator with annual utilization of 300 hours over \$50,000 per year and over \$25,000 per year for a Cheyenne II owner. Aircraft Bluebook and Vref list the value of the Blackhawk XP135A upgrade at the full installed list price giving the upgrade supreme resale value.

Introducing Digital Precision, Analog Simplicity for the Cheyenne

Blackhawk's Hawkeye DigiLog Gauges introduce modern advancements in human factors engineering to legacy aircraft. Now Cheyenne operators can observe with digital accuracy the engine parameters and the impressive performance benefits the Blackhawk XP Engine Upgrade delivers. The gauges bring a heightened sense of awareness to the pilot further enhancing safety margins for considerably less than alternative panel upgrades. Installation of the Hawkeye DigiLog Gauges optimizes flight management functionality.

- Digital design
- High accuracy, no "0" or "span" drift
- Lightweight: < .5 lbs (.6 dual) for 2" instruments
- Very low power consumption, <7 watts
- Full built-in test (BIT), continuous
- Alarms and enunciators
- Continuous sensor reasonableness testing
- Lower cost and weight vs. glass displays
- 2" round analog display
- Recessed pointer for minimal parallax error
- Standard mounting with no panel change
- Snap-lock MS connectors
- Crisp blue back light for superior night readability
- Increased situational awareness & control
- Flashing exceedance warning light
- Redundant digital display coupled with standard analog format
- Greater accuracy



Blackhawk Sales and Marketing Director Edwin Black is enthusiastic about the choices for Cheyenne operators. "Blackhawk continues to shine the spotlight of performance on older airplanes to increase their useful life and maximize an operator's investment. This new XP28 engine upgrade coupled with our existing XP135A upgrade for the Cheyenne series highlights why Blackhawk is the leading Pratt & Whitney engine upgrade company

in the world. We understand what operators want in an airplane and accommodate their needs."

The question to overhaul or upgrade engines remains. Cheyenne operators can rest a little easier knowing that Blackhawk has gone to great lengths to ensure a practical and powerful alternative to overhaul. You are not only upgrading your engines, but how you operate your Cheyenne and that is a compelling idea.

