new (AND BORN-AGAIN) turboprops

Sluggish economy stalls new turboprops

by Mark Huber

The sluggish economy has stalled investment into new turboprop development, but updates of established models from legacy manufacturers are still coming to market pretty much on schedule. While overall sales of new turboprops are down, the decrease is nowhere near the 37-percent decline in new business jet sales. New sales of established turboprop models are down slightly for everyone year over year through the second quarter. Collectively, new turboprop shipments were down 13.6 percent, according to the General Aviation Manufacturers Association.

Several companies that last year claimed to have funds in hand to finish their development programs for all-new aircraft encountered financing difficulties this year.

Epic LT

Hints of trouble began to emerge at Bend, Ore.-based Epic more than a year ago when a deal for a $200 million infusion from an Indian billionaire collapsed, the company skipped EAA AirVenture and then issued a press release entitled “Business is Booming.” The release raised more questions than answers and had a whistling past-the-graveyard ring to it. Epic was developing no fewer than three new single-engine turboprops and last year promised a master plan for “the next ten years of turboprops,” including twins.

By July this year most of the company’s employees had been laid off. By August a court-appointed receiver was sorting through the company’s books and preparing it for bankruptcy. The only aircraft Epic ever delivered was the kit-built LT single-engine turboprop. Through the summer, approximately 35 had been completed and another 12 were stranded on the production line. Plans to build a certified version of the LT—called the Dynasty—in Canada never materialized.

Epic did build the prototype of the Farnborough Aircraft Kestrel, essentially an 80-percent-scale version of the LT. That aircraft first flew in 2006. Plans for Epic to produce the aircraft for Farnborough collapsed and Farnborough filed for bankruptcy in September last year after failing to attract sufficient investment capital. A new ownership group took over the company this year and plans to continue development, but details are sketchy as to when the aircraft could be certified. The new company’s business director, Adrian Norris, acknowledged at EBACE that the company will need to form a partnership with another manufacturer to bring the aircraft to market. He estimated that certification would take a minimum of three years after the partnership was formed.

Comp Air CA-12

Last year Comp Air Aviation president Ron Lueck announced that the company had raised the $150 million required to develop and certify the CA-12 single-engine turboprop and to move to a dedicated facility in Melbourne, Fla., by Jan. 1, 2009.

The money and the move did not happen, but in July, Comp Air said work on the $2.95 million CA-12 was continuing and it announced a supplier agreement with Honeywell to equip the aircraft with the Primus Apex avionics suite. The company predicted CA-12 certification by 2012 and expressed confidence that the funding would materialize and it would be moved in at Melbourne by year-end. A new date for first flight of a conforming prototype—previously scheduled for July of this year—has not been set.

A preliminary nonconforming prototype of the Model 12 first flew in 2007. The production model is to undergo significant changes, including a 42-inch fuselage stretch. The four-inches-larger fuselage diameter would provide a six-foot-tall stand-up cabin. Plans are to offer three basic cabin layouts aft of the cockpit: a luxury executive configuration with six seats; a double-club layout with eight seats; and a high-density design with 10 forward-facing seats.

The cruciform tail on the prototype is to be dropped in favor of a conventional design. The main door may also be enlarged, but not on the order of the massive cargo door on the Pilatus PC-12. Power will come from a 1,650-shp Honeywell TPE331-14GR with a TBO of 9,000 hours.

Dornier Seastar

Two remakes of classic Grumman designs—the Goose and the Albatross—are in various stages of development and awaiting additional funding.
Hawker Beechcraft Refines Two Classics

By Michael D. Taylor

While sales of its new turboprops are down marginally year-to-date from last year, Hawker Beechcraft continues to forge ahead with revisions of two of its three popular turboprop models: the King Air 350 and the King Air C90. The former gets a complete cabin makeover while the latter gets important performance enhancements.

The Super King Air 350 made its debut in 1988. Its fuselage was 34 inches longer than that of the 300, and it sported winglets and a completely redesigned interior. The first 350 was delivered in 1990. Since then, almost six hundred 350s have been manufactured, but the recent spike in fuel prices resulted in sales of 52 King Air 350s last year alone, as buyers opted for the more fuel-efficient turboprops rather than jets.

For the $8.6 million King Air 350i, Hawker Beechcraft maintained the interior’s basic layout but updated it in terms of flexibility and options. All the interior components are new with the exception of the seat frames and seat rails. The new interior is mounted on a new cabin rail system to ensure all the mounting points are identical and every interior is built the same.

All of the cabin furniture, tables and cabinetry have been completely redesigned to have a more sculpted appearance and to fit more snugly against the restyled seats.

The seats themselves use an updated foam technology that is thinner and more ergonomically sculpted, allowing passengers to sit deeper into the seat frames and create more leg and seat-back space. Emteq-supplied automotive-style seat heaters in the seat bottom and back cushions can be controlled via armrest switches by each passenger. The seat heaters are also integrated into the new Rockwell Collins Venom cabin management system, which can pre-heat all of the seats or turn off all of the seat heaters. The seats can be heated without the engines running by pre-heat all of the seats or turn off all of the seat heaters. The seats can be heated without the engines running by

The windows use the same electrochromic darkeners from PPG that will be used on the Boeing 787. They have the flexibility to be set both darker and more transparent than current polarizers and can be controlled by the cabin management system collectively for each of the two club seat groupings. The pilots can also control all of the window settings by choosing from a variety of “scenes,” including “movie” and “nighttime.”

Cabin lighting will be all-LED, including indirect downwash and four-adjustment, multi-intensity reading lights. The main cabin lighting will offer 10 different levels to create theater-like dimming.

The in-flight entertainment components feature a standard 15.3-inch monitor that swings out from the forward bulkhead and plug-in receptacles in the aft seats for 10.4-inch monitors. An optional att entertainment cabinet also holds an additional 15-inch swing-out monitor.

A midship pyramidal-ceiling cabin houses the iPod dock or a wireless DVD player. The pilots can use both in conjunction with the in-flight entertainment system. The ceiling is outfitted with closed circuit television monitors and videoconference system, each providing two cameras.

The King Air 350i is completely redesigned to have a more sculpted appearance and to fit more snugly against the restyled seats.

The galley cabinets have flexible and multiple inserts that can be changed out and are designed to hold liquor minis, water bottles, wine bottles and wine glasses. Cabinet drawers and openings are LED lighted–open the drawers and the lights come on. They also feature soft automatic closing much like that found on high-end kitchen cabinets. A special hot carafe system, an alternative to the traditional static coffee pot, can be passed around the cabin. The redesigned lavatory can be equipped with an optional vanity with toiletry storage areas, running water, automatic LED lighting and dual mirrors. It is located next to the in-flight-accessible baggage area.

FAA certification and initial customer deliveries of the 350i are anticipated later this year, with EASA certification planned for the first quarter of next year.

Hawker Beechcraft introduced its first King Air 90 in 1964. It hopes to boost sales of its best-selling, entry-level twin turboprop by making substantial increases to its performance and some minor avionics and styling changes. Deliveries of the $3.65 million King Air C90GTi will begin early next year. The GTi will offer significant increases in payload and range along with improved turbulence-detecting Doppler weather radar and Waas GPS capability as standard equipment.

The GTi replaces the current $3.3 million C90GTi, which was launched in 2007. The aircraft are remarkably similar save for the addition of avionics upgrades and BLR composite winglets on the GTi. The new winglets render some significant performance improvements: maximum ramp weight and stow both increase by 385 pounds, to 10,545 pounds from 10,160 and to 10,485 from 10,100, respectively, and maximum payload with full fuel increases to 737 pounds from 387 pounds. Range also increases. With four passengers the GTi will fly 200 miles farther than a GTi at both long-range and high-speed cruise power settings. High-speed cruise range increases 1,260 miles from 865, while long-range cruise increases to 1,195 nm from 980. The winglets also are expected to improve climb performance. The GTi currently can climb to FL240 in 17 minutes at 140 knots.

Initial-run GTi C90s will have some minor interior changes. In the cockpit, the pilots’ control yokes will be changed and replaced with the more ergonomic version from the Premier 1A jet. The multi-function display will be LED backlit and video capable. Plans are also in the works to upgrade the avionics with synthetic vision. The one-hour cockpit voice recorder will be upgraded to record for two hours. In the cabin, 110-volt electrical outlet plugs will be available for laptops and other personal electronics.

—M.H.
Ruag Dornier 228-212-NG

Ruag is moving closer to placing the Dornier Do-228 back into limited production. The first ship set of structural components for the Dornier 228-212-NG was completed by India’s Hindustan Aeronautics Ltd. (HAL) in February after it received EASA production organization approval in January. Ten of the aircraft are currently on order from customers in Australia, Mexico and Japan.

The aircraft will be assembled at Ruag’s plant in Oberpfaffenhofen, and first customer deliveries are scheduled for next year. The NG features five-blade composite propellers and glass-panel avionics. More than 150 older-generation 228s remain in service worldwide from a production run that spanned from 1982 to 2002. HAL built and sold 80 of those under license.

NAL Saras

India’s home-grown turboprop, the NAL Saras, suffered another setback earlier this year when the second prototype crashed and killed the crew on March 6 during an engine re-light test. The National Aerospace Laboratories (NAL) is well into its second decade developing the Saras, a twin-turboprop pusher designed with input from Russia’s Myasishchev, which later pulled out of the project. The first prototype flew in 2004, the second flew last year and a third was scheduled to join the test fleet later this year until the crash prompted a halt and review.

Nevertheless, NAL insists that the aircraft will be certified by next year. So far, the Indian Air Force is the only confirmed customer for the $9 million aircraft, designed to compete with the much less expensive Hawker Beechcraft King Air 350.

The IAF has ordered 15 aircraft. Production is expected to be transferred to HAL-Kanpur, the same facility making the components for the Do-228-212-NG.

Prototype number 3 will have more powerful 1,020-shp P&W PT6A-66 engines and composite structures, including the wing and tail, to address weight and performance problems. Unit price of the aircraft is expected to drop if production increases to more than 30 aircraft annually.

Viking 400

Viking is buttoning up certification of the installation of Honeywell’s Primus Apex avionics in its refreshed version of the Twin Otter, the $3.9 million Viking 400. The first new production aircraft flew in October 2008. British Columbia-based Viking Air acquired the type certificate and production rights to the de Havilland Canada DHC-6 Twin Otter from Bombardier in 2006.

The next step is a set of structural enhancements, followed by delivery to Switzerland’s Zimex shortly. In preparation, Viking appointed Altenrhein Aviation, a subsidiary of Pilatus Aircraft, as an authorized service and support center for the aircraft in Switzerland. Options for the 400 include executive interior, four-blade propellers, wing de-ice, floats and amphibious landing gear. Viking plans a gradual production ramp-up for the aircraft, with full-run annual production of 18 by 2011.

Gippsland Nomad

Australia’s Gippsland Aeronautics acquired the type certificate for the twin-engine Nomad last year, but plans to restart production remain under development. The Nomad carries 12 to 13 passengers, has a range of 600 nm and cruises at 168 knots.

A research study commissioned for Gippsland concluded that there is likely a limited—though steady—demand for 200 Nomads over the next 10 years. Gippsland says it has letters of intent from two Australian operators: Curry-Kenny Aviation and Aircr크 Solutions.