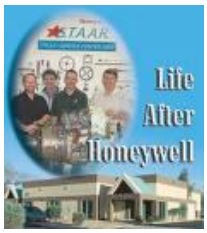

(L-R) Executive Aircraft Maintenance's VP Customer Support/Sales John Phoenix, VP of Operations and the Director of Maintenance Mike Croye, Senior Engine Shop Technician Sam Haught and President/General Manager Jim Nordstrom with a TPE331-10 engine in final stages before delivery to its owner, Bruce's Flying Service in Arlington, Georgia. Below: EAM's new offices adjacent to the Scottsdale Municipal Airport where TPE331 engine services are conducted. EAM also has a hangar facility for airframe maintenance on the Scottsdale Municipal Airport.

Life After Honeywell

by Bill Lavender

Scottsdale, AZ—Nothing in the business world can take the place of experience. This is especially true when it comes to working on an aircraft gas turbine engine. High dollar costs are replaced with reliability, making the turbo prop engine a viable alternative in ag-aviation. However, not just anyone can be considered qualified to work on these engines.

Inherently a simple concept of operation, they are conflictingly complicated. With far less moving parts than their counterpart piston engines, the gas turbine engine still requires a finesse of expertise during scheduled or non-scheduled events; e.g. hot section inspection (HSI), Continuous Airworthy Maintenance (CAM), Gearbox Inspections (GBI) or Time Between Overhaul (TBO) extensions.

Who does the ag-operator turn to for maintenance on his turbo prop, specifically a TPE331 engine? If he's smart, he'll select a maintenance facility with plenty of experience working on this type of engine. Does over 100 years of combined TPE331 engine experience seem like enough? You bet it is, especially when this experience was earned behind the doors of Honeywell Aerospace, and AlliedSignal before that and Garrett Turbine Engine Co. and AirResearch even before that, all on the same reliable TPE331. That's where the three principals and employees of Executive Aircraft Maintenance (EAM) got their 100+ years of experience.

Based in Scottsdale, Arizona at Scottsdale Municipal Airport, virtually next door to Honeywell in nearby Phoenix, Executive Aircraft Maintenance is owned and operated by three ex-Honeywell employees; Jim Nordstrom, John Phoenix and Mike Croye. Jim had already retired from Honeywell when John and Mike got their pink slips two years ago. Jim saw an immense opportunity in bringing John, Mike and himself into a partnership that would service and maintain the TPE331 engine, and hopefully the TFE 731 turbo fan engine that is installed on numerous business jets. Thus, the formation of EAM became a reality in April of 2002. Since then, EAM has serviced over 154 engines with more than half of these engines coming from the ag-market.

However, this volume of business can largely be attributed, in part, to the three partners' excellent relationship with Honeywell. The formation of EAM gave Honeywell an excellent resource for outside and field maintenance for their engines. By making EAM an approved Honeywell Major Service Center, Honeywell knew the work from EAM would carry with it the reputation of Honeywell's support, and why not? EAM consists of three key people that were responsible for Honeywell's support and sales for many years, even before the company was Honeywell.

EAM President and General Manager Jim Nordstom retired from Honeywell six years ago after over 33 years in just about every facet of the organization from a mechanic on the shop floor to holding many managerial positions in aftermarket support. Jim recognized the opportunity for the TPE331 engine in the ag market early on. Working with Sandy Moeur, Manager of Sales and Administration, and Bruce Baker, Installation Engineer, they were able to develop program pricing and engine configurations that met the ag market's needs.

John Phoenix, Vice President of Customer Support and Sales at EAM has over 22 years of TPE331 customer support and sales experience. John was working in customer support administration at Honeywell when Sandy Moeur was advanced to MSP sales and support.

After Sandy's departure, John took on all responsibilities of the agricultural engine program and the TPE331 program development for Honeywell's repair and overhaul facility. John supported the agricultural customers for over 13 years prior to his departure from Honeywell. His duties included all trade shows, pricing, sales, support and customer visits.

Mike Croye, Vice-President of Operations and the Director of Maintenance, brings with him over 20 years in engine build, testing and technical training. Mike began his career at Honeywell as a TPE331 engine mechanic. From there he moved to the training school as a Technical Training Instructor. It was Mike who traveled the world providing training in the service and operation of the TPE331 engine. Even today, Mike fields tech support calls from several TPE331 engine shops, including Honeywell, utilizing his many years of hands-on TPE engine experience. At the end of his Honeywell career, Mike was the Repair and Overhaul Operations Manager.

EAM is a full service TPE331 engine shop that also offers airframe service. ("TPE" represents "Turbo Prop Engine" and "TFE" represents "Turbo Fan Engine") However, the heart of EAM is its dedication to the maintenance and support of the TPE331 engine, whether it is on a general aviation plane or an ag-plane. But, Jim and John are quick to state the ag-market is where their true love is. They feel a kinship for this market, since they were instrumental in developing it.
"We have been very fortunate in the fact that our business growth has stemmed from repeat customers and referrals. At EAM, we pride ourselves on the fact that we provide quality work at a price that meets or exceeds our customer's expectations. We believe that this is the fastest avenue towards becoming a premier support entity for ag-operators and general aviation customers," states John.

Because EAM is an Approved Honeywell Major Service Center, it can perform HSI, GBI and TBO extensions for the TPE331 engine. It can also perform prop strike inspections and low power restoration. In some cases, specific jobs, like the fuel and electronic systems, are outsourced. However, this is typical for a turbine engine shop. Magnaflux (checking ferrous steel parts for cracks), FPI (Fluid Penetrate Inspection for cracks in aluminum and magnesium) with an on-site engine test facility (making shaft horsepower) are all standard operations at EAM.

Engines enter the teardown shop where they are cleaned and inspected. From there, they are tagged and work orders are prepared indicating the required maintenance. EAM can do many services to the engine, depending on the ag-customer's needs.

For a CAM inspection, the turn around time is usually 30 days. HSI or GBI inspections take two to three weeks. However, EAM keeps an inventory of Honeywell-owned rental engines for the operator that can't afford to be shutdown. Rental costs can be $89 an hour or $58 a day, whichever is greater.

CAM engines come with a one year or 1,000-hour warranty, which ever comes first. The CAM program spells out engine life-limited components to be at least 5,000 hours. At 2,500 hours the CAM engine

receives a HSI. Although the CAM engine's components are not warranted for 5,000 hours, the life cycle components should complete this number of cycles. An engine cycle on a TPE331 engine is one start and shut down. A takeoff and landing is considered a 1/4 cycle. Ag operators typically do not cycle out within the 5,000-hour time frame. The TPE331-1, -5 and –6 each have up to 6,000-hour cycle limits, while the TPE331-10 has even higher limits. All things considered, the TPE331 engine operator should maintain an engine reserve of $30 an hour.

Now that you know that a turbine engine is an oxymoron of simplicity and complexity, it is equally important to know the value of being a Honeywell Service Center with a S.T.A.A.R. (Service Target Authorization Approval Rating) certification, like Executive Aircraft Maintenance. When AlliedSignal became Honeywell, it had numerous service centers throughout the world. The company decided to initiate a program whereby it could improve the customer support experience for Honeywell Aerospace products through the worldwide service / repair center network by developing and managing an approval rating program with metrics and incentives.

The S.T.A.A.R. program is based on input from operators and service centers and on benchmarking studies of the automotive and aviation industries. Performance on most items is tracked monthly and scores are compiled quarterly to determine the overall service center's rating. Half of the rating is based on operator feedback through 10 survey questions.

To achieve the S.T.A.A.R. designation, these service centers, like EAM, must demonstrate compliance with Honeywell minimum requirements, but also provided service excellence to the operator to enhance the operator's service experience. As of February 2, 2004, 36 Honeywell Service Centers had achieved a S.T.A.A.R. rating, including EAM. Honeywell, furthermore, has reduced authorization levels or terminated eight service center agreements of which four were TPE331 engine facilities. An operator can go to the Honeywell web site, www.e-engine.honeywell.com and determine the S.T.A.A.R. status of a Honeywell Service Center.

When it becomes time to decide where to have your TPE331 engine serviced, the criteria should include years of experience, a relationship with Honeywell and if the company is an approved Honeywell Major Service Center with S.T.A.A.R. achievement. Executive Aircraft Maintenance meets all of the above with an inherent desire to serve the TPE-331 ag-aviation operator. There must be life after Honeywell afterall…

John Phoenix at his office in Scottsdale, Arizona waiting for your call.

Mark Kaltved repairing a TPE331 gear box housing on his Devlieg precision boring mill.

Jim Nordstrom standing next to one of the pieces of equipment that is utilize for cleaning engine and airframe parts.

Executive Aircraft Maintenance is also a recognized full service maintenance facility for Aero Commander aircraft and their Honeywell engines.

http://www.agairupdate.com/aau/articles/2004/June2004.html