A BRIDGE BETWEEN DEPARTMENTS: DOUG HOPKINS Continued from page 2

Attention to details and being flew was in a Soloy AS350 SD2. observant are two of Doug's best qualities which he uses when coordinating between departments. A good memory for part numbers also helps. Someone can describe the part, and he'll say, "Yes, we do have that," knowing right where to find it.

moved from Battle Creek, Michigan in 1998 where he developed a wide range of skills and versatility in diverse industries from zoological to commercial and residential facilities support. As bridges connect, Doug connected to Soloy through a friend who knew a long time Soloy employee and Doug was hired in the stockroom. Doug's meticulous attention to detail and work ethics quickly moved him into a managerial position.

Asked about aviation, Doug finds it fascinating. He flew in his first helicopter being rescued from a mountain hiking accident when he and his wife were dating. The next time he

A typical work day for Doug begins in the morning with Doug receiving and inspecting parts that arrive - checking to see that the received parts have the quality and accuracy of documentation and certification. By the afternoon he's arranging logistics and ways to ship Doug is in his 9th year at Soloy. He products. This could entail designing containers for fragile, odd shaped objects or completing the paperwork for carriers or customs of global shipments.

> When it comes to his work, Doug explains as he organizes and oversees the stockroom and shipping employees, "Soloy has done a good job of diversifying." That diversification is a good blend for Doug's scrupulous and conscientious work habits. "I like the variety of tasks and being involved in many aspects of Soloy." Doug is also proud of Soloy's reputation for quality and support and his part in being a bridge that makes it work.

> Outside of Soloy, Doug's focus is on family. He and his wife like to take



The Hopkins on a nature walk with Nico

their four-year old daughter camping and hiking. At the ocean or east of the Cascade Mountains, being in nature is important to this family that will be expanding in the spring with the arrival of their second child. 🐔

1999 Soloy Cessna T206H MKII,

N766ST, S/N T20608100

5 hours on new 250-B17F/2 engine

AIRCRAFT FOR SALE



1994 AS350SD2 S/N 2789, N350ST

Zero time since conversion and 12 year, Gold LTS101-700D-2, Soloy EEMS engine panel. Cargo swing hook with load cell, Squirrel cheeks, VR window, AFS filter

UPCOMING SHOWS

HAI Heli-Expo	
Sun 'n Fun	
ALEA Expo 2014	
EAA Airventure	

Feb 24 – 27 Apr 1 – 6 Jul 16 – 19 Jul 28 – Aug 3

Anaheim, CA Lakeland, FL Phoenix, AZ Oshkosh, WI



FOURTH QUARTER | 2013

SOLOY AVIATION SOLUTIONS 2013 -A YEAR IN REVIEW

By Dave Stauffer

With 2013 officially in the logbook, I found myself glancing into the "rear view" mirror and reflecting on what can only be described as a very solid and positive year for all of us here at Soloy.

An improving economy appears to be giving the global flying community a tailwind. Worldwide production appears to be on the upswing and with individuals and companies increasing aircraft use, decisions to invest in their fleets are on the rise. Soloy spent 2013 answering this demand and we're optimistic the trend will continue.

From rotor wing to fixed wing to our project engineering divisions, Soloy has been firing on all cylinders. Here are a few 2013 highlights:

Helicopter

- 12 SD2 conversion kits were delivered to AVIC International Corporation, the Chinese manufacturer of the AC311.
- 3 SD2 conversion kits were delivered to Airwork in New Zealand.
- Air Inuit purchased one SD2 conversion kit with a Gold Honeywell LTS101-700D-2.
- Angel City Air purchased their third Soloy conversion kit for one of their AS350B2's. The installation was performed by Heli Tender in Pacoima, California.
- Heli Dunn of Phoenix, Oregon purchased a Soloy SD1 kit which was installed in the company's AS350BA by Heli-Parts Nevada.
- Soloy Helicopters of Wasilla, Alaska

Olympia, Washington.

- company's fleet.
- system.

Additionally, Soloy sold several of our portable heliports to customers in Alaska and Australia.

2013 was a monumental year for the fixed wing division at Soloy. Our Rolls-Royce converted MKII Cessna 206 is clearly gaining global popularity as a go-anywhere, "do it all" luxury workhorse for private aircraft owners as well as a fast, reliable and heavy-hauling airplane for business and government operators demanding performance day in and day out.

A milestone was marked by the production and delivery of the 12th Soloy C-206 MKII in 2013. Number 13 is currently in our facility in production and available for sale.

Airplane



purchased a SD2 with a Gold LTS101-700D-2. The conversion was carried out at Soloy Aviation Solution's facility in

• Sunshine Helicopters in Hawaii purchased a spare Gold LTS101-600A-3A to be used to support the

 Soloy completed a conversion and a 12 year inspection of the company's AS350B2. The helicopter has been used throughout the year to develop and certify our new electronic engine management

A Minnesota customer has purchased a Soloy Cessna MKII and is currently having new Aerocet model 3400 floats installed



and approved at Park Rapids Aviation.

- GoXtreme, a Portuguese skydive organization purchased a Soloy Cessna MKII.
- Arizona's Pima County Sheriff's Department purchased a Soloy Cessna MKII Sentinel (see accompanying story).
- A Soloy Cessna MKI was sold to a skydive operation in Quebec, Canada.

Many of Soloy STC'd fixed wing kits were sold this year as well, including items such as observer windows, headliner kits, wing camera mounts, and observer seats.

Our elite engineering team also STC'd a Dual LED Recognition and Landing Light kit for Cessna 206 G-H models as well as Turbine MKII 206H. This kit then received the European Aviation Safety Agency (EASA) certification. These kits are in stock and available.

Yes, looking back at 2013 was an exciting year for Soloy and we couldn't have had the success without the hard working and dedicated employees we are so fortunate to have on our team. And of course without our customers and supporters we wouldn't get very far at all...so thank you from all of us at Soloy.

As I put away my rear view mirror and pick up my crystal ball, I have to say our cautiously optimistic 2014 forecast looks to be similar...blue skies and a gentle tailwind. Happy New Year!



From left: Jim Grisham, Sean Semonsky and Christopher Janes of the Pima County Sheriff's Department take delivery of the Soloy MKII Sentinel for aerial surveillance.

FIRST SOLOY LAW ENFORCEMENT MKII SENTINEL SOLD

Arizona's Pima County Sheriff's Pima County chose the Sentinel. "The Department has bought a Soloy Mark II (MKII) turbine Cessna 206 "Sentinel" edition aircraft for law enforcement surveillance and patrol support. The Rolls-Royce powered Soloy 206 is replacing one of two aging Helio Courier Lt. Murphy stated. aircraft for the department.

Pima County is the nation's seventh largest county and requires fast deployment of law enforcement surveillance over long distances with the ability to slowly loiter once on station. "We couldn't ask for a better mission-suited aircraft than the Solov Sentinel," stated Lt. Jim Murphy, Pima County Sheriff's Air Unit Commander. Murphy likes the way the turbine 206 can be airborne in under seven minutes, travel over 170 knots true air speed to get on-scene, and then quietly and fuel efficiently loiter at remarkably low speed for hours. "The traditional helicopter platform can't come close to being this versatile for our mission," he added, "Plus the MKII Sentinel is more affordable for us."

Turbine reliability and easy maintenance were other reasons

EASA Approves LED

Landing Light Kit

optional specialty equipment for the Tactical Flight Deputy (TFD) Station that came already installed on the aircraft will provide us the perfect work environment for aerial observation,"

Dave Stauffer, Soloy's CEO, commented, "Our airborne observation platform is designed as much for the Observation Officer riding in the back as the pilot in front." The Sentinel provides a 270° articulating seat and full length observation window in the back along with a redesigned headliner for more room to work and includes comfortable four-point harnesses for the pilot and co-pilot.

The new Pima County Soloy Sentinel MKII is currently being outfitted with its camera, electronic mapping and air-conditioning systems and is expected to be operational in early 2014.

Pima County Sheriff's Department also expects to replace its other aging Helio Courier aircraft in early 2014. "We're happy to talk about another they contact Doug. Sentinel for them," added Stauffer.



The European Aviation Safety Agency (EASA) has issued a STC certification for the fabrication and installation of the Europe to experience the benefits of this Soloy wing mounted LED landing and taxi light kits for the Cessna 206G and Stauffer, Soloy CEO.

206H model aircraft. "We're off to a good start for 206 operators throughout popular Soloy kit," commented Dave



A BRIDGE BETWEEN DEPARTMENTS: DOUG HOPKINS

Doug is Soloy's Shipping & Receiving and Stockroom Manager. As a FAA-trained Receiving Inspector, Doug Hopkins sees himself as a bridge between sales, production and the customer. When a customer needs a part, the sales department contacts Doug. When production is ready to build,

Continued on page 4

HONEYWELL ENGINE COMPRESSOR PROTECTION

By Nick Parkinson

The compressor is the heart of the engine. To allow maximum efficiency, it must compress a huge volume of air (20,000 pounds per hour) while consuming the lowest amount of energy possible from the Ng turbine (1000 horse power at max. rated power). An efficient compressor will meet its requirements at Ng speeds and T4 temperatures well below the approved limits, ensuring maximum engine efficiency.

Each 100 hours of operation in harsh environments exposes this assembly to huge amounts of airborne particles which will erode or corrode the most robust components causing an increase in Ng rpm and T4 temperatures for any given power setting. As this condition advances, damage will eventually be found on all components that are exposed in the gas path throughout





Rear bearing support housing.

the engine. Temperatures will increase leading to turbine damage and eventual loss of minimum required power. As turn faster to produce rated power. The increase in speed will further lead to cycle penalties and the early retirement of cycle limited components that may not have been directly affected by erosion. The slow erosion-caused loss of power can occur *instantly* in the event of a foreign object damage incident. FOD is often not limited to the parts shown but can occur throughout the

the stator at \$11,665 and the Impeller at \$48,698. The diffuser, RBSH, scroll and inlet housing are all exposed to the compressor loses efficiency it must FOD or erosive materials and together could cost around \$60,000 to replace. It is not uncommon to find erosion at levels that require replacement in 1800 hours. When very expensive parts that should not require replacement for many thousands of hours are scrapped, the potential for low operating costs and accurate forecast of engine operating cost is destroyed. The investment in the powerplant and the potential for

SOLOY AVIATION SOLUTIONS



Compressor, first stage

engine including the combustion and turbine sections

First in line for erosion or FOD is the axial compressor rotor. It is expensive - \$25,225 - and has a long life of 15,000 hours and 25,000 cycles. If retired in a 1.5 cost is \$1.65 per hour. If scrapped due to erosion at 1800 hours, the component cost is \$14 per hour. Next in line is

Compressor, inter stage stator vane.



Compressor, second stage

low cost operation is too valuable to be lost due to operation without adequate inlet protection. Effect on performance with a barrier filter is negligible and with a clean element, does not affect the power check result when compared cycle per hour operation the component to a standard inlet. The system gives advanced warning that the element needs cleaning, well before any effect on performance is noticed. While barrier filter cleaning requires additional maintenance, when compared to the self cleaning sand filter, the sand filter imposes a greater weight penalty and performance loss.

> Regardless of the configuration of the available filters, all provide excellent levels of compressor protection. When compared to the costs of repair, the inlet barrier filters are a very low priced insurance.

> The inlet barrier filter should be considered as a standard feature of the engine installation rather than an optional extra. 🔫

Cross section of the AFS Donaldson inlet barrier filter for the Honeywell powered AS350's.

