Duke

FLYERS ASSOCIATION NEWS

Number 05-1 **May 2005**

SUSAN COCO FLEW P408 497 HOURS LAST YEAR. SEE HER STORY ON PAGE THREE.

2005 Fly-In will be at Beech Field Sept. 15th – 17th. Tours of the factory and a hangar party, courtesy of Raytheon/Beech are on the agenda. Details and registration form will be sent in early August – save the dates!

PRESIDENT
Mike Greenblat
P-590

VICE PRESIDENT
Max Cohen
P-412

NEWSLETTER
Jim Gorman
P-596

SPARE PARTS FOR YOUR DUKE

(2) Generators
(2) Starters
(2) Flap Motors
(1) Tach Generator
(2) Magnetos
(2) Landing Gear Motors

Above are located at Aircraft Systems, 5187 Falcon Road, Rockford, IL 61109. They will ship item to you by UPS or Federal Express. You return your part (same day) to them. They will overhaul charging you for work done and then item becomes Association emergency part. Phone 815-399-0225.

(1) T10541 Cylinder Assemblies (New)
(1) Pilot Hydraulic Seat Control
(1) Lycoming Exhaust Pipe #77429
(4) Prop Brush 3E1206-2
(1) Nose Wheel Tire
(1) Main Gear Tire
(1) Main Gear Tube
(4) Recognition Light Bulbs DN25-5

Above - contact Jim Gorman @ 419-755-1223 (OH) a.m.

Oil Coolers and Windshields Contact Gary Bongard @ 952-944-2628

At the San Diego Meeting, it was determined a rebuilt turbo should be acquired as a spare. Through th efforts of Earle Olson, we now have one on hand. Contact Earle at P. O. Box 1043, Medina, OH 44258 phone 330-723-3210 (O) or fax 330-723-9977.

Just in case you have forgotten how to access the website:

www.dukeflyers.org

Message Board - User Name: Duke
Password: plane

The D in Duke must be upper case.
Plane – all lower case.

THE DUKE DIVA

Just one of your Duke Pilots' Association members singing the phrases of the Beech Duke.

Susan Coco holds an ATP CFI CFII and MEL CFI with over 2500 hours and is the company pilot for Pedal Valves, Inc. in Luling, Louisiana. She bases the B60 SN P408 (N11VC) at Atlantic Aviation (New Orleans) MSY. Susan has been the company pilot since 2003. When she was approached by Pedal Valves owner, Mr. Pete Gilbert, about acquiring a company aircraft, she asked what the mission would be. He told her that Pedal Valves (a water conservation company) had business from Pennsylvania to New Mexico. During her discussions with Mr. Gilbert, she asked what price range and capability he wanted in an aircraft. He said he would like the best performance for the dollar. Some of the other items were speed, pressurization, radar and well built. Well, we all know the Duke fits all of those categories.

The company already owned a Cherokee Six. Susan had taught Mr. Gilbert and his son Robby to fly. They had both obtained their Private Licenses. When she started searching for a Duke, there were quite a few on the market. During the hunt she had talked to several brokers and individual owners. All were very informative and helpful answering her questions.

She finally decided on P408. It was a basic B60 that had been well maintained. Some of the other good things were it had the long range tanks, alternators, winglets, VG kit and aft body strakes, Cleveland wheels and a fairly nice interior. She had a satellite phone installed to replace the old flight phone. Both engines were previously overhauled and were running nicely.

In 2004 Susan flew the Duke over 497 hours. She has made stops from New Jersey to Cabo San Lucas, Mexico. Late in 2004 she had the right engine overhauled by Firewall Forward. Since then she has flown about 200 hours. Later this year she hopes to install an upgraded avionics package, overhaul the left engine and maybe get a paint job, that is, if the flying slows down. It looks like Susan is on track for another 500 hour year.

If you are out and about and have the pleasure of meeting Susan (the red headed Duke Diva), I know she will tell you how much she likes the Duke. Her boss has banned her from airplane racing. She keeps passing old King Airs!

"WHY I'M GLAD I OWN A DUKE"

FAA has issued an emergency AD for the Cessna 414A. This ad requires more frequent inspections for Wing-Spar (Racks).

ITEM OF INTEREST

Duke P-336 was owned at one time by Steven F. Udvar-Hazy, also known for the National Air and Space Museum at Dulles Airport.

Paul McBride, our retired engine expert from Lycoming writes in General Aviation news:

> **"A pre-heater left on all the time during cold weather is among the worst things you can do to an engine. A pre-heater left on simply becomes a giant condensation generator, resulting in internal engine corrosion."**

Paul also suggests for care and feeding the 541:

- **Pre-oilers are very desirable.**
- **Minimum RPM at start (550-600).**
- **800 RPM until movement of cylinder head and oil temperatures are increasing.**
- **Slow and steady movement of throttles.**
- **Lycoming is aware of lifter/cam problem. Until solved, recommend inspection of lifters every 100 hours. Will probably catch any spalling before it affects the cam.**
- **When asked about use of Shell 15-50 oil, it was his personal opinion if you use the Shell brand of oil, stick with straight weight 100 or 50. Paul was Service Manager of Piston Engines for many years.**

WELCOME NEW MEMBERS:

Jim Thornberry **Lexington, KY**	**P558**	**David Christopher** **Richmond, TX**	**P-506**
Michael Catlin **Encinitos, CA**	**P569**	**James Lyle** **Martinez, GA**	**P-170**
Regan Clark **Sugarland, TX**	**P416**	**Darryl Leyen** **Red Deer, Alberta**	**P-413**
Ron Lang **Middleburg, VA**	**P-11**	**Daniel Hart** **Wilmington, DE**	**P-105**
Stephen Hundley **Dallas, TX**	**P-266**		

CORROSION – THE SUBTLE ENEMY

Your aircraft is remarkable. It flies long distances often to remote locations in short periods of time. As you fly, your aircraft is exposed to all types of environments and elements. And it keeps flying – even at high altitudes when temperatures will drop to -30 degrees to -35 degrees C. cold-soaking the airplane. Yet, warm moist air trapped inside the fuselage will cause frost to build up on the skin and frames. As the aircraft descends through freezing levels, the frost will melt and drain from the fuselage - often creating conditions for corrosion.

Corrosion is a subtle enemy of aircraft and components. Operation in a salt-air environment attacks the external part of the aircraft at skin seams and unpainted surfaces. Normal good freshwater washes and treatment of affected areas will be sufficient to combat the problem externally, but corrosion that subtly develops inside of components as a result of condensation is very difficult to detect and can become costly if left unchecked.

Aircraft components are made with many types of metal, alloys and heat-treated processes to provide the required strength. Because of this, the metals all have different levels of resistance to corrosion. Manufacturers have developed inspection intervals and procedures based on calendar time to check for corrosion that may have developed.

Customers often ask why an inspection is in order when the prop or the gear looks new. I agree that it looks new externally, but the reason for the inspection is that a problem could occur internally.

Internal corrosion is a chemical process that takes time to develop and grow. Lack of utilization normally will cause the condition to worsen. The only way to know for certain if moisture has intruded is to perform an inspection. To overlook or defer inspection for a period of time could allow parts to become unserviceable.

Corrosion around antennas also can cause unusual problems. Key a mic and it may cause fuel indicators and other instruments to be erratic.

Internal combustion engines are very susceptible to corrosion on the cylinder walls, cam and lifters, where condensation can develop inside an engine after shut down and collect in the oil. It takes about one hour of operation with oil temps around 80 degrees C to remove the moisture from oil. One of the worst things to do to a piston engine is to ground run for 15 minutes and put it away. Additional moisture will collect. An engine that is going to be non-operational for 30 days or more should be preserved with dessicants in the spark plug holes and dessicant bags in the exhaust stacks.

Stainless steel screws used on aluminum panels in a salt air environment will set up an electrolysis process from dissimilar metals creating corrosion on panels. There are Teflon washers available to prevent this process if stainless screws are used.

Corrosion will always be with us. With airplanes, the most important thing is to correct it when discovered, keep the utilization up to help keep the corrosion from starting, or keep it to a minimum so it can be corrected without costly part replacement.

By Ron Sanow, V.P., Director of Maintenance, Woodland Aviation, Woodland, CA

Lycoming is not alone with lifter problems:

Continental; IO-520L; Premature Wear on Engine Lifter/Tappets; ATA 8530

Metal was found in the filter of a Cessna 210 during a scheduled oil change. The mechanic investigated further and found evidence the cylinder tappets (P/N 653877) were beginning to fail on the hydraulic lifter's face. "This condition can be a result of improper heat-treating. Without being familiar with TCM's manufacturing process, I cannot recommend a plan for preventative action." (The Part Condition block on the malfunction report has the single word description--spalled. Webster's definition includes "...to break off chips, scales,

Continental; IO-550N; Premature Wear on Engine Lifter/Tappets; ATA 8530

The submitter of this Teledyne Continental Motor (TCM) discrepancy states, "During a recent Cirrus Service Center symposium, the problem of unairworthy lifters in the IO-550N and IO-360E was discussed. TCM engines have not been holding up well in these areas and many SC's are recommending an inspection of lifters during scheduled maintenance. This (particular) aircraft was undergoing an annual inspection and the owners agreed to have the lifters checked as the warranty period ends this month. With 308.5 hours TTSN, we found three lifters spalled and pitted. It is my experience that the cause for this is the use of a multi-viscosity oil since new. I recommend straight-weight oils always--especially in TCM engines. I also recommend 25 hour oil changes regardless of the usage of the aircraft." Part Total Time: 308.5 hours.