

The

JANUARY 2013

TWIN CESSNA

Flyer



FEATURING:

O&N TURBINE 340 SILVER EAGLE

ICE, WIND, CLOUDS AND MOUNTAINS

303 CRUSADER AFTER ONE YEAR

PIREP: STRAKES & HUBCAPS

READERS WRITE AND MUCH MORE.....

Supporting Twin Cessna Owners Worldwide since 1988

O&N TURBINE 340 SILVER EAGLE

By Bob Thomason, TTCF Editor



Who among us hasn't made a dream list of improvements we'd like to make to our airplane. "If only Cessna had done 'this' or 'that'." Once upon a time, back in the 60's, 70's and 80's, there was a small industry devoted to this

precise concept-modifying GA airplanes to improve the performance of stock models. For Twin Cessna owners, names like Colemill and Riley come to mind. Many of the men from this era are no longer with us, but one is and he has staked a claim in the turboprop conversion arena. Myron Olson is the President of O&N Aircraft, makers of the Silver Eagle 210 and, now, the Silver Eagle 340. Both airplanes are turboprop conversions using Rolls Royce (formerly Allison) turboprop engines.

O&N (www.onaircraft.com) was founded in 1986 by Myron "Ole" Olson and Richard Newell. Both men had aviation modification experience, having worked with the likes of Jack Riley and other well know mod companies. They founded O&N to specialize in auxiliary fuel tanks. They developed, and still sell, a number of different aux tanks for Twin Cessnas. In 1989, O&N launched its first turboprop conversion program with a Cessna P210. In 1992, the Silver Eagle 210 was certified by the FAA. Since that time 114 210's have been converted to Silver Eagles.

Of interest to us, of course, is the new Silver Eagle 340- O&N's latest project, which received FAA certification in July of last year. I recently spoke to aircraft dealer, Robert Nicholas, who sells Silver Eagles for O&N.

TTCF: Why did O&N decide on the

340 for its second turboprop conversion project?

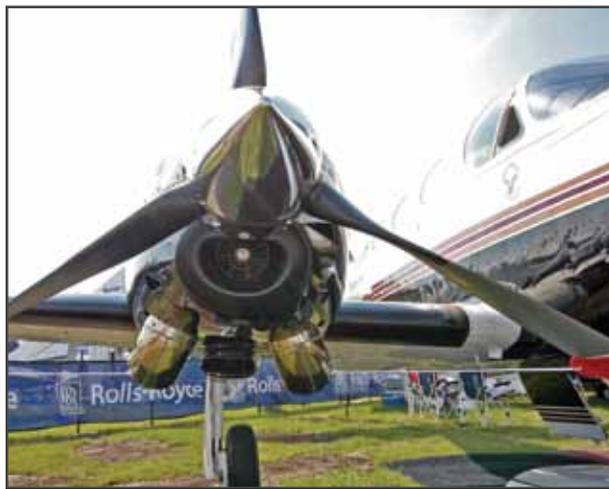
Robert: *Silver Eagle 210 owners love their airplanes but for many there comes a time when they want to move up to a*



The 340 was a natural addition to the original O&N 210 Silver Eagle. The 340 has always been a step up, entry level cabin class twin. Plus, it's just a darn good looking airplane!

twin. What aircraft could be better for them than the 340? It's a Cessna and the piston version is the natural step up for a piston-powered 210 owner. Plus, it's a great airframe- well built and easy to work with. All this made the 340 the natural choice for us.

TTCF: What particular technical



The Rolls Royce 250-B17F/2 is tried and true with over 200 million flight hours. At 450 shaft HP at sea level, it's one of the smallest turbine engines available for GA aircraft and perfect for the 340.

challenges did O&N encounter during the certification?

Robert: *Very few. The FAA requires dual elevator trim tabs so those were added. We also had to add a spring to the elevator to meet pitch stability requirements but that was about it. The airframe is well suited for the conversion. We were even able to use the stock engine rails, although we shorten them a little.*

TTCF: Since the Rolls Royce engines are 270 lbs. lighter than their piston counterparts, didn't that create some weight and balance issues?

Robert: *As you know, turboprops require a large battery for starting. The one for the Silver Eagle 340 weighs 85 lbs, so we put it in the nose under the baggage compartment, along with the air conditioner. That helped offset the CG impact of the much lighter engines.*

TTCF: One of the problems with other turboprop conversions has been range. The smaller airframes just can't hold enough fuel to get decent range. What about the Silver Eagle 340?

Robert: *Remember, O&N is the expert in fuel tankage for Cessna twins. We reengineered the fuel system so it holds 258 gallons giving the airplane a 1,300+ nautical mile range. Not only that, but there is no need for complicated tank switching anymore. There are two fuel tanks on each wing- the tip tank (main) and a single O&N designed fuel bladder inside the wing. Fuel is always drawn from the tips. Once the pilot starts the engines, he turns on a fuel pump and the fuel inside the wing tank is pumped into the tip tank. That's it. There is a backup pump in case of a pump failure.*

(continued on page 8)

340 Twin Turbine Specifications

Engine:	Rolls-Royce 250-B17F/2 (450 hp each)
Propeller:	Hartzell 3-blade reversible with de-ice
TBO (Engine & Prop):	3500 hours (hot section 1750 hours)
Rate of Climb:	3500 ft/min
Take-Off Distance:	500-600 Feet
Landing Distance:	500 feet
Cruise Speed	240 Kts
Fuel Capacity	258 Gallons
Fuel Flow @ 22,000	44 gal/hour
Range (as equipped)	1326 Nautical Miles
Maximum Altitude	25,000 feet
Max Gross weight	
(w/gross weight increase)	6300 lbs.
Useful Load	2,175 lbs
Useful Load w/full fuel	400 lbs
Passengers	6-place cabin class



TTCF: How does all that fuel impact the useful load?

Robert: Check the numbers. Lighter engines plus stronger performance gives the Silver Eagle 340 a useful load of 2,175 lbs which is a considerable

Complete Standard Conversion: Includes all Materials, Labor, and Warranty (Customer Provides or Funds Purchase of 340 or 340A Airframe)

2012 Positions.....\$1.6 MILLION

- >
- > **New Custom All-Metal Instrument Panel**
- > S-TEC 55 Autopilot with Altitude Preselect , GPSS
- > **New Air Conditioning & Gas Heater (Jet A)**
- > Auxiliary Fuel - 96 Gals Added – Total 258 Gals.
- > **Super Sound Proofing**
- > Dual Elevator Trim Tab Actuators
- > **New Wiring Throughout Aircraft**
- > Emergency Standby Radio Master Switch
- > **New Tires, Brakes & Rotors**
- > New Clock - OAT & Volts
- > **Low Fuel Quantity Warning system**
- > Low Voltage System
- > **New Annunciator**
- > Overhaul Landing Gear
- > **Factory Training**
- > New Custom Paint & Clear Coat of Complete Aircraft
- > **New Interior ~ Side Panels / Headliner / Carpet / Seats – Customer's Choice**
- > Current Annual Inspection

GLASS ENGINE GAUGES
TOT Indicator
Torque Indicator
Propeller RPM
Volt/Amp Indicator
Oil Pressure/Oil Temp
Fuel Flow/Totalizer
Fuel Pressure Gauge
Annunciator Lights
Gas Gen RPM
Overspeed Warning

It wouldn't make much sense to engage in such a major renovation without installing the latest and greatest avionics. It's included in the Silver Eagle package. Note the absence of mixture levers.

improvement over the piston version.

TTCF: Other than current 210 Silver Eagle owners, who is your target market for the Silver Eagle 340?

Robert: Our conversion runs \$1.6 million, plus the owner has to supply the 340. So you're looking at \$1.7 or \$1.8 million total. In that price range, you can buy some older twin turboprops but you have to remember the Silver Eagle 340 will essentially be a brand new airplane. We don't just screw on a couple of turboprop engines. We take apart and rebuild the entire aircraft. Everything comes off. The end result is as close to a new airplane as you can get. We install strakes. The panel has the latest technology glass panel with all new wiring throughout. It has a brand new heater which burns Jet A and and electric air conditioner. And

Basic Avionics Package (Included):

- Ⓛ Garmin G600 Flight Display System
- Ⓛ Garmin 430 #1 & # 2 Nav/Com/GPS WAAS
- Ⓛ Garmin GTX-330 Transponder
- Ⓛ Garmin GDL69A with Down-link Weather and Audio
- Ⓛ GTS-800 Traffic System
- Ⓛ L3 Avionics ESI-1000 Trilogy Standby Instrument System
- Ⓛ Castleberry Emergency Battery System
- Ⓛ GMA-347 Audio Panel
- Ⓛ S-Tec 55 Yaw Damper
- Ⓛ Wire Harness / Antenna Package

of course we redo the interior and paint the airplane according to the customer's specifications. And one final thing: the quality of O&N's work exceeds anything you'll see come out of a big factory. Just ask any Silver Eagle 210 owner. They love their airplanes.

We think anyone wanting to step up to a twin turboprop from whatever airplane is in our target market. We expect that might include some of your members.

TTCF: Did the uncertainty around the future of 100LL factor into O&N's assessment of the market for turboprop conversions?

Robert: Of course, but equally important is the price differential between 100LL and Jet A. It's currently about 50 cents on average but with fuel discount programs, it can be as much as \$1.50/gallon. Jet A is cheaper than avgas and we think the differential will only increase over time.

TTCF: How long does a conversion take, start to finish?

Robert: We can do the complete conversion within 5 months. That includes new paint and interior.

TTCF: Most of our members have no experience with turbine engines. How difficult would the transition be.

Robert: Turbines are easier to operate and fly than piston engines. They are much simpler with fewer moving parts. What piston owners who transition to turbines love most is the fact that unscheduled engine maintenance simply goes away. You fly them to 1,750 hours, get a hot section inspection, and then fly to the TBO of 3,500 hours. That's pretty much it. No replacing cylinders or cracked crankcases or any of the other common issues piston engines have.

TTCF: Thanks Robert.

Check out the company provided specs on the facing page. If you are contemplating a move up, have the financial resources, and love your 340, this would be an option to get into a turboprop while keeping your familiar and trusted airframe.



Experimentation continues on the 340 turbine Silver Eagle. Here's one installed with five-bladed composite props. Phenominal climb rates of 3,500 fpm or higher are available. Naturally, most pilots prefer lower rates that allow them to see over the nose, but the performance is there if needed. For more information visit O&N's website at www.onaircraft.com.

Overhauled Continental Starter Adapters Shipped Fast



Or Overhaul Your Own With Our PMA Parts, .015, .030, or .040 Over

At Aircraft Specialties Services we know Starter Adapter failure can be a truly frustrating experience. A perfectly good aircraft that just sits on the ramp. This usually happens at the worst possible time, when it's sitting on someone else's ramp for example. We also know making repairs with a factory new Starter Adapter is a very costly proposition.

That is why we stock a full range of overhauled

Starter Adapters ready for immediate exchange. Our technicians have years of experience rebuilding these Continental adapters, using the highest quality parts. We can also overhaul your own core, if you prefer, and get it back to you quickly.

Give us a call; we can get you back in the air fast and at a price you can afford! That's the Aircraft Specialties Services promise.



DD2R764K

1-800-826-9252
www.aircraft-specialties.com

The Exclusive
Distributor For



2860 N. Sheridan Road, Tulsa, OK 74115 Phone: 918-836-6872 Fax: 918-836-4419