

The

JANUARY 2011

TWIN CESSNA

Flyer



FEATURING:

DOOLAY'S CESSNA 404 TITAN

340 MT PROP CONVERSION

LIGHTWEIGHT STARTERS

READERS WRITE AND MUCH MORE.....

Supporting Twin Cessna Owners Worldwide since 1988

MY CESSNA 340A MT PROP CONVERSION

By Phillip Mattison, TTCF Member

In recent years, my mid-western based business, Core Products International Inc., has been experiencing solid growth and my travel demands and aviation needs have been increasing. About 4 years ago I developed a need to haul trade show exhibits and sales reps reliably and quickly to all parts of the country. It was time to upgrade from my beloved Bonanza to a more capable all-weather airplane. The selection and evaluation included twins from Beech, Cessna and Piper.

The Midwest winters and springs are mostly overcast and icing conditions are a common and serious problem. My trips would be 600 or more miles and I needed to make them non-stop. The loads were bulky, so side cargo doors would be nice. Seats should be able to be installed and removed with ease. I also wanted the comfort of a pressurized cabin.

The Cessna 340 fit the criteria better than any other model considered. Here's what I liked most about the 340A: large cabin, known ice, air conditioning, pressurized, turbo-charged, cabin class, air stair door, lots of storage lockers, easy to manage CG, 1700+ lb useful load, reasonable to maintain, and last but not least, fun to fly.

My Airplane

N6311X is a 1978 Cessna 340A powered by a pair of TCM TSIO-520 NB engines, with Ram IV upgrades, producing

325 hp per side. I fly about 200 hours a year, mostly for business. It now has 5400 hours total time on the airframe



The addition of MT composite props made a superb 340A even better. Check out these before and after shots. (Above) That's me on the right and Larry Schlasinger from Flight Resource on the left.

and is on the third set of engines since new. This 340A had no damage history and the paint, interior and panel, were average at best when I got it.

Upon purchase, I had the plane delivered directly to TAS Aviation in Defiance, Ohio for a new panel,

windshield and an oil heated fuel manifold. The prior owner had installed the Ram IV engines with 600 hours on them then. Last year, with 1200 hours SMOH, I had GAMI injectors installed and did the top end changing all cylinders to ECI Nickel and stainless steel exhaust crossover. These changes allowed me to run at lean of peak and the new jugs and exhaust got rid of an AD. My theory: "treat your engines like taffy; stretch them as long as you can before replacing them." The new jugs, GAMI injectors, and fuel flow setup to run a bit richer at full power improved cooling as originally they ran quite hot in climb and cruise.

My typical flight is between 16,000 and 21,000 feet running LOP and burning 14.9 GPH each side with a TAS just about 180 kts, or ROP at 17.9 GPH per side with a TAS about 190 knots.

The instrument panel was removed to change the windshield and hot plate and while it is out we decided we may as well upgrade the panel. After painting the panel a handsome cream base color, the following equipment was added: Garmin 430 and 530 GPS/Com,

Garmin GTX327 transponder added on top of the King transponder in place, Avidyne EX500 color MFD display that is linked to the Ryan TAS 600 TCAS and the existing on-board weather radar, StormScope WX500, and a new PS Engineering stereo intercom and audio panel. The stock auto pilot works



MT props in the box.....like opening a great birthday present!

great so I didn't replace it.

The interior was removed and re-upholstered with leather by a local craftsman I know. It turned out great!



Installing the slip ring.

My Shop

I am involved with the Osceola Wisconsin (KOEO) Airport Commission and have contributed my time to airport improvements including: runway extension, resurfacing and developing and leasing new hangar sites. One of the biggest improvements has been the addition of a top-notch maintenance facility, St. Croix Aviation, owned and operated by Darrel Gibson. They maintain several Twin Cessna's in addition to mine. I highly recommend them to any TTCF members in the area.

When I bought my 340 the paint was fair, but it had lost its luster and had lots of chips and scratches. Darrel referred me to a local paint technician, Mike Blechinger, that used to do the inspections and retouch of the final paint at the Ford plant in Minneapolis. He knew all the secrets to bringing

out the shine and cleaning up and retouching scratches. It took about 3 weeks, but when the plane was done, it looked like it had been freshly painted at a fraction of the price!

Time for New Props

Now I have a great looking airplane, with modern panel, interior and solid engines. The props were 3-blade Hartzell Q-tips. Enter Larry Schlasinger from Flight Resource (www.Flight-Resource.com). Larry is the founding partner and technical specialist of Flight Resource as well as an A&P, IA and airshow pilot. Flight Resource is the world's largest volume distributor of MT composite propellers and holder of several STC's that provide for the installation of the MT composite props to hundreds of different models of aircraft. Larry and I go way back. One day recently Larry suggested we should really have the new MT 4-blade props on my great looking plane. I said I would buy them if they provided better performance and a reduction in weight. Flight Resource then got a set delivered to Darrel's shop in Osceola for a day of back to back propeller testing.

The Prop Test

With the plane fully fueled with 163 gallons, and three of us on board, a timed climb and speed run was performed with the stock Hartzell props. The climb test began with the airplane in an established and stable climb at a constant 120 kts IAS from 3000' MSL to 17,500' at 2500 rpm, 35"

MP, 30 GPH per side. The hottest CHT was 390F and most of the CHT's were at about 380F degrees with the cowl flaps open.

Then a normal cruise speed test was done at 17,500' 2300 rpm, 32" MP, 17.9 GPH per RAM specs.

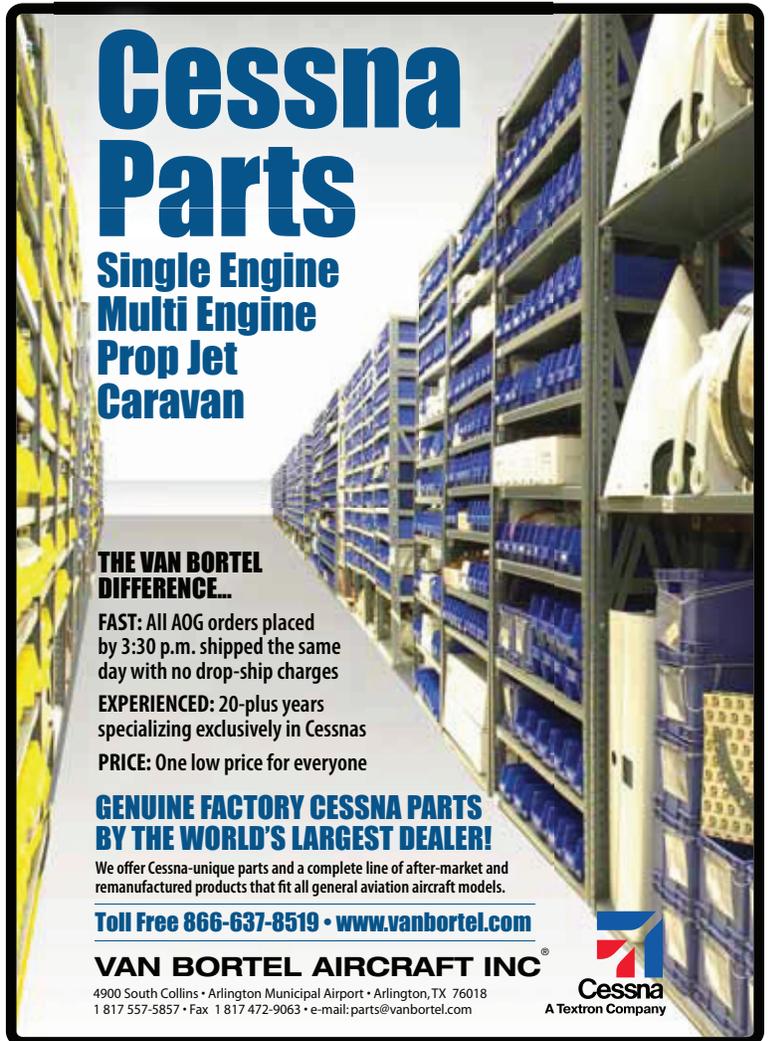
We returned to St. Croix Valley Aviation where Darrel and his crew changed the props with some help and guidance from Larry. Then the same runs were made again.

Test Results

Time to climb 3000 to 17,500 feet:

- 12 min 25 sec with the Hartzell 3-blade Q-tip props (1161 fpm average).
- 10 min 25 sec with the MT composite

(continued)



Cessna Parts

Single Engine Multi Engine Prop Jet Caravan

THE VAN BORTEL DIFFERENCE...

FAST: All AOG orders placed by 3:30 p.m. shipped the same day with no drop-ship charges

EXPERIENCED: 20-plus years specializing exclusively in Cessnas

PRICE: One low price for everyone

GENUINE FACTORY CESSNA PARTS BY THE WORLD'S LARGEST DEALER!

We offer Cessna-unique parts and a complete line of after-market and remanufactured products that fit all general aviation aircraft models.

Toll Free 866-637-8519 • www.vanbortel.com

VAN BORTEL AIRCRAFT INC®

4900 South Collins • Arlington Municipal Airport • Arlington, TX 76018
1 817 557-5857 • Fax 1 817 472-9063 • e-mail: parts@vanbortel.com



Cessna
A Textron Company

340 PROP CONVERSION

(cont.)



Mounting the first one. Almost ready to fly.

4-blade props (1383 fpm average).

Cruise speed (at 17,500', 32." MP, 2300 RPM, 17.9 GPH per side)

- 3 blade Hartzell Q-tips : 198 kts TAS
- 4 blade MT Propeller: 205 kts TAS

Noise Level: Interior noise is much lower with the MT props., with a lower frequency that's easier on the ears.

Vibration: The 3 blade Hartzell's were balanced and smooth, but the 4-blade MT's make this ship feel like a turbine!

Take off: The increase in acceleration with the MT props is very significant. As the power went to full on our first take-off, my expression and comment said it all: "Holy S*#@!", this feels like taking off in my Super Cub!" There



Flight test results were impressive. Improvements in climb, cruise speed, noise and vibration were significant. Plus, they look cool!

is a dramatic difference in the thrust provided by the 4-blade MT props.

Speed Brake Effect: Along the same lines, the MT's work as wonderful speed brakes when you want to slow down or descend without getting too fast, just push up the RPM to max and reduce the power and see the difference; quicker descents and shorter landings!

Lower CHT's: We noticed that the MT's make the engines run a good bit cooler. In fact, we reduced our fuel flow in the climb test from 30 GPH per side down to 28.5 GPH per side and still maintained the CHT's below 380F with the MT's. In cruise flight we were also able to see a CHT reduction of almost 30F on all cylinders with similar fuel flows we had previously used with the Hartzell's. Leaning to 1 GPH less per side resulted in still cooler CHT's. I'm very excited to do a cross country trip so I can play with the fuel flows. It looks like running leaner and staying cool will be a big advantage.

Summary

The tests proved to me that the MT 4-blade props are lighter, faster, smoother, and resulted in reduced engine temps --- plus they look real cool. Darn right I kept them! If anyone interested in the benefits of the 340 or the MT's is ever in the area and would like to go for a ride give me a call or send an email. I would be happy to show off my airplane.

Philip Mattison
Cell: 612-803-5574 Email: pmattison@coreproducts.com. If you are interested in purchasing a nice set of Q-Tips for a 340 or a 414 please give me a call.



Flight Resource provides high performance MT composite propeller options to customers around the world for Aerobatic, Certified or Experimental Aircraft. They also participate in IA Continuing Education courses and trade shows. The assembly and installation shop is located in Chetek, Wisconsin (Y23). STC Props are sold with a money back satisfaction guarantee. Most popular props are kept in stock and ready for immediate delivery and installation.

MT Composite Propellers have been designed & manufactured in Germany since 1969. All props are certified, have no life limits or recurring AD's. They are known for light weight, efficiency, smooth operation and vibration dampening. There are now over 40,000 blades in use worldwide on piston, turbine, airship, wind tunnel, military and even warbird restorations. MT supports Flight Resource in the development, testing and approval of the use of the composite propeller on popular general aviation aircraft.

Flight Resource was established in 1998 by Larry Schlasinger. Larry is an award winning airshow pilot with A.C.E. credentials, an A&P with IA. John Nielsen became a full partner in the business in 2005. A private pilot with corporate marketing experience, John made it easy for the world to find and contact Flight Resource.

Twin Cessna Aircraft Approved for MT Props:

C310, C336(7), C340, C340A, C414, C421C.

Look for even more approvals from FR in the coming years and contact them if you have any special requests for certified or experimental aircraft props. www.Flight-Resource.com
Toll Free: 866-717-1117