



How to Build a **BETTER-THAN-NEW** **SENECA II** & Overcome the ^{unexpected} Challenges of *an Aircraft Refurbishment*

Story and photos by Roger Battistoni

As the price of new aircraft continues to increase, the option of completely refurbishing an older aircraft becomes more attractive—not only from a financial sense, but also from an investment point of view. Purchasing an aircraft at the right price and being smart about the refurbishment can yield a completed project that costs less than the plane is worth, thus yielding immediate equity in the plane. Of course this process can be very daunting for an individual buyer to undertake; hence MultiCorp Aviation

(multicorpaviation.com) has been assisting buyers find and refurbish the right aircraft for nearly 15 years.

Such was the case about 10 months ago when a client contacted us to help locate a plane for his family and business travels. He already had a single-engine, four-place aircraft, but after reviewing his requirements and completing the necessary research, it was deemed that a six-place twin was really what he needed.

The initial recommended aircraft was the Cessna Crusader, a cabin class “light twin.” However, since so

few were produced and the sellers of these aircraft were demanding “retail plus...plus” prices for their aircraft, finding one that fit the customer’s needs was difficult. After a failed pre-purchase inspection on one such aircraft, we went back to the drawing board and this time settled on a tried and true model, the Piper Seneca II.

We located a Seneca II that had been extremely well taken care of by a Midwest-based corporate flight department who had been using it for executive transportation. A low-time airframe and run-out engines,

combined with the need for new paint and an interior makeover made it a perfect candidate for refurbishment. With the aircraft secured, the refurbishment schedule was set and the options were selected.

Our first step was to send the plane off to Texas for mechanical and avionics upgrades at a small facility that

has served our customers very well for several years. There, the engines were serviced to factory new tolerances and all accessories were overhauled.

The bulk of this first phase of the renovation was to take place over the November/December holiday season, so there was a push to get parts on order as soon as possible.

Once established, sticking to the schedule is crucial in all refurbishment projects. Slots for paint and interior - usually the final phase of such projects - tend to be fixed dates. Consequently, if you run into problems or delays on the first phase, it will have cascading effects on the rest of the schedule.



Because Seneca II turbocharged engines tend to run hot, a TurboPlus (www.turboplus.com) intercooler system was added to help bring down the temperatures. In addition to the intercooler upgrade, a wastegate from Merlyn Products, Inc. (www.merlynproducts.com) was added to decrease the sensitivity of the throttle changes on manifold pressure and reduces stress on the turbos. This will not only help to extend engine life, but will make things easier on the pilot as well!



The owner opted for new Lopresti cowls.



Since exterior lighting on the Seneca II's is lacking, HID wingtip lights from Knots-2-U (www.knots2u.com) were fitted.

Before



After



The plane's panel was already fitted with the Garmin 530, so we added an Aspen PFD 1000 PRO, Garmin GTX 330 Transponder, Garmin 340 audio panel, JPI 760, and a Garmin 796 to round things out.

The first such delays encountered with the Seneca II project was with the avionics: It took almost 6 weeks for the JPI760 to arrive. During this time of the year, things slow down and many manufacturers go into what I like to call "island time."

The next issue was with the engines. Normally turned in 3 weeks, the engines took almost 6 weeks to turn; and when they arrived, additional work was needed because some fuel lines and baffles were incorrectly attached and routed.

In this case, however, the major delay was with the facility that was doing the work. Unbeknownst to us, the owner's wife was diagnosed with what was thought to be terminal cancer. In response, the shop owner laid off all of his employees so that he could divert funds to his wife's care. In essence, he attempted to take on the entire refurbishment himself. A very proud person, he never asked anyone for help nor did he inform anyone of the true situation. Hanging an engine with two people normally takes a day or two, but hanging an engine alone takes about 10 times longer. This is a fact that would continue to negatively affect the schedule.

As time continued to pass and expected completion dates continued to fly by, we became increasingly concerned as to what was taking so long and why our calls to the shop went unanswered. In reality, trying to balance between caring for his wife and doing the job he had in front of him was simply too much for him to handle given the allotted time. This, combined with additional vendor issues (JPI sent the wrong transducers and it was not discovered until we were ready for the install; and the Turboplus NACA air scoops did not conform to the inside of the cowling) further compressed the situation.

However, as stated before, all of this takes 10 times longer when you are trying to do it all by yourself. At the end of the day, vendor delays are somewhat expected—delays with the facility are not.

A few months behind schedule, the plane was finally moved to the paint and interior facility. Naturally, the owner was excited to get the plane going on to the next phase, but the paint and interior shop was now booked up because of the delays. Fortunately, they rose to the occasion and were able to work on the plane in between projects.

A custom paint scheme was developed and the customer worked with our designers to pick out colors for both the interior and exterior. The Seneca II was stripped; new, thicker, tinted grey windows were installed,



and the door and window seals (two places where noise really enters the cabin) were replaced making for a much quieter aircraft.

On the inside, the side panels were remade with a much more durable PVC plastic and all of the interior plastic was wrapped with fabric. To finish off the paint and interior re-

furbishment, all new door locks were installed for added security.

Vendor issues continued to plague the project even after the completion of paint and interior. As the owner was flying the plane back to his home base, he experienced a failure of the Aspen PFD. Because of a supply issue with circuit boards,

Before



After



Interior plastic is rather expensive to replace. To save the customer time and money, we wrap existing plastic with fabric. The wrapping not only makes for easier repairs, but also covers up any such repairs for a clean, modern look.



Aspen did not have any replacements available, and it took them almost two weeks to send a replacement.

Refurbishments are always a challenge. As you peel back the layers, you encounter the unexpected. The key, however, is properly managing these challenges—and that's something MultiCorp takes pride in. Whether it be applying pressure to vendors or looking for other alternatives, there's always a solution.

In the end, the project took much longer than expected and, like us, the customer was sometimes frustrated and anxious. Fortunately, he was understanding of the issues and worked with us through the situation. The plane is now in his hanger undergoing final work and will be ready to start final test flights this week. ➔

ABOUT THE AUTHOR



Roger Battistoni is owner and president of MultiCorp Aviation (www.multicorpaviation.com). He has 30 years of aviation experience including being a Senior Falcon 2000 Captain. He has undergraduate and graduate degrees in Aeronautical Science and Aviation Business Management from Embry-Riddle Aeronautical University and has been a CFI/CFII/MEI for 20 years with more than 10,000 hours of flight experience. In 2001, Roger founded MultiCorp to help buyers of aircraft through the very complicated, and often treacherous, aircraft purchase process. In 2009, MultiCorp Aviation adopted the tag line, Aviation Intelligence, Do It Right, describing their commitment to excellence, while keeping a careful eye on the bottom line for their customers.

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