

Pilot Report:

Western Skyways

by Mike Brannigan

I just concluded a maintenance and warranty episode and want to share some lessons and findings with the ABS group.

Western Skyways in Montrose, Colorado, (www.westernskyways.com) is amazing, not just “for an aviation company,” which is a low bar, but for any service provider in my recent memory. You never really know how good a company is until you get tested, and this episode tried everyone. They’re great people, and they have earned a customer for life.

My story: In late January, I invited a friend of mine on a cross-country flight in my D55 Baron. My friend flies an SR-22 Cirrus and has been twin-curious. I myself have been Cirrus-curious, so we thought some cross-flight time would be enjoyable. I was to bring him along on a business flight from Oakland, California (KOAK), to Philadelphia, Pennsylvania (KPNE), over a pleasant weekend of flying, hangar stories, and comparison of our choice in fly-a-ma-jigs.

Our first leg over the Sierras into St. George, Utah (KSGU), was pleasant and as enjoyable as could be. My left engine was a fresh IO-550C built up by Western Skyways, broken in and covered with 170 hours of trouble-free operation. The right is an older reman, but mid-life with 1,100 hours on her. Both run lean-of-peak EGT (LOP) with GAMInjectors and are watched with a JPI-790. The cool air gave us a lovely 2200 fpm climb out from Oakland, and we soared over the snowy peaks near Mammoth with aplomb. We landed, fueled, and refreshed ourselves at the Utah FBO.

With the benefit of hindsight, this stop was our first hint of mischief. The left engine showed down two quarts from her normal 10. The right side remained unchanged. This was the first abnormal oil consumption since overhaul and break-in, and in hindsight should have raised more than an eyebrow. But the weather was nice, the morning was young, and the pilots were engrossed in committing aviation, so we pressed onward without a second thought after adding in two fresh quarts of XC 20W/50.

For our second leg we intended to get over the Rockies and land in eastern Colorado or, if the winds were favorable, maybe Kansas, for a bite of lunch and a crew car.

After crossing Taos, New Mexico (KSKX), an airport I have visited numerous times, we were happily cruising at 11,500 and looking ahead. I usually find it convenient to cross over Angel Fire, New Mexico (KAXX), and follow US-64 and Eagle Nest Lake. The passes are benign and the turbulence usually tame. Today, though, a cloud layer at around 11,000 feet made things dicey. We both pondered and agreed that we would prefer a better view of the rocks just below. We decided to climb to 13,500 and hop onto oxygen.

This is when the engine started talking; surprisingly, not loudly. As the throttles were already full forward, and being slightly impatient, I decided to roll the propellers up for that little extra climb rate – and took them from 2400 to 2700 RPM. The right engine responded immediately. The left

dwelled at 2400, then lazily walked up to match its companion, taking two, maybe three seconds to get to full RPM. This was a new phenomenon. I cast about every gauge looking for signs of distress. Oil pressure was high and normal. CHTs and EGTs were normal. The plane was not yawing; in fact, she was climbing normally. The general light chop we were flying through added to my ill-ease, but with no evidence to support anything else we pressed onward. I briefed my companion, and we both agreed. “Weird” — probably a lazy prop governor; we can look later.

It was while we were crossing Cerro Vista that I took a moment to drink in the winter Rocky Mountains in their majesty. Snowy, broken peaks, a definite tree line, a trail of smoke from the left propeller spinner, signs of recent snowfalls and even what looks like a mini-avalanche in progress, and.... wait, what?

Sure enough; a thin plume of white smoke, streaming from the left side of the left propeller spinner. No other drama, engine purring, I cast about at the gauges again in disbelief. Everything looked nominal. We discussed that lazy propeller governor. I theorized that maybe it was now leaking and spraying oil and causing our uncommanded smoke show. It seemed reasonable and non-lethal. And we could see the eastern plains past the Rockies beckoning us onward.

But the spidey sense continued and bothered us both.

The engines were cruising and making great power. We had no reason to believe there was anything but an accessory problem. Presumably, an oil leak would give ample warning through pressure and temperature indications. Right?

All were plausible. All were good theories, and we were satisfied with this diagnosis. But we were bothered. And the pointy rocks were just underneath us. I took a long and contemplative inhale from the onboard oxygen and channeled the horse from the Ren & Stimpy Show: “N^o si[!] I don’t like it!”

I turned us back to Taos. I ran the pre-emptive shutdown checklist. I feathered the propeller. I shut off all the left side systems. I declared an emergency with Albuquerque Center. They confirmed, somewhat surprised, that I wanted to declare. I sighed and confirmed, annoyed at my future FAA interview over this abundance of caution and what was certainly a loose bolt or two.

We landed with no incident whatsoever, keeping high until the commit, gear down, then flaps, then a short rollout and miserable taxi on one engine. My companion called Albuquerque on his mobile phone to let them know we were unhurt. Albuquerque had already called ahead to the FBO to check on us, and they offered on UNICOM to tug us to the ramp. We were grateful, and that made the declaration worthwhile on its own.

After securing the plane, we went looking for the misbehaving prop governor and nuisance puddle of oil. Imagine our surprise at finding what’s in the photos instead. That is our #6 connecting rod, found lounging on top of the #2 and #4 cylinders. The hole it left behind was still steaming with oil vapor.

Some interesting things of note here:

1. There was no detectable or unusual vibration. We were in light chop so the missing #6 connecting rod did not make a loud exit.
2. The left engine was still pulling power at 13,500. Presumably the power level at that altitude was low enough that the yaw was not noticeable.
3. Without the smoke trailing from the crankcase (night, or IMC, both planned for our flight), we may not have noticed or shut down the engine until things were critical.
4. The JPI trace showed normal EGTs with the smoke trailing from the crankcase, so the engine fought to the last. No CLD (cold cylinder) warnings to rely upon.



Connecting rod found lying on top of the engine.

5. The engine’s oil sump still held eight quarts.

A friend in the Beech community was exceedingly generous and grabbed us with his 58P and flew us to Albuquerque, as Taos has no services and not even Uber. (Thank you, Vance!)

Response

Now, I write this because of something important. We all choose our aviation vendors based on their reputations and the tribal knowledge fostered by the Beech community. But there are a lot of cases where we have no idea if our choice is worthwhile until the relationship is tested. I can’t tell if an engine overhauler will be any good until the second thousand hours of operation – all of them can get me to mid-time. Same for paint, avionics, all of it. In so many cases, I am 10 years away

from knowing if my vendor selection was any good. These leaps of faith happen in \$50,000+ increments and carry high stakes. It’s difficult being an aircraft owner!

I think a wayward connecting rod on a new IO-550 would test any engine builder. I called Western Skyways on Sunday and, tongue in cheek, mentioned I may have a warranty claim coming their way. Monday morning, first thing, General Manager Eric was in contact and asking how they could help. To be honest I did not know. Here were my cards, as dealt:

- My Baron was parked at an airport with no services and no airline connections, three hours’ drive from the nearest Class C service.
- The left engine had a superfluous chimney hole rendering it unfit for its purpose.



Exit wound.

- I was driving a hateful rental car to Philadelphia to catch my client meeting, and onward I had meetings up the eastern seaboard, making me not very helpful for logistics.

Eric listened carefully and had a very simple proposition. Taos is a five hour drive from Montrose, Colorado, and the Western Skyways shop. He could dispatch his star mechanic, Ryan, with a team, pull the engine, return it to Montrose, build up its replacement, and reinstall, all in-situ at Taos. I could not imagine a more perfect suggestion. I enthusiastically agreed.

Upon arrival, Ryan's team had the engine pulled in five hours and returned it to Montrose. The Taos FBO called me in amazement. They left a weight installed, and reinstalled the cowling so the airplane could be moved on the ramp as needed. Ryan discovered a nick on the backside of my propeller, something I had overlooked, and took the propeller to Montrose for repair as well.

That week, Eric indicated they had crankcase, crankshaft, and other sundries ready and on-hand. Note that this was at

the height of the parts/logistics headaches – IO-550 cranks were six months backlogged! Someone in Montrose is surely missing a kidney to get at those parts. The propeller blade took some time to track down, but it was replaced.

Larry, Ryan, and team were able to build up a replacement engine in just under three weeks, burned in and ready to install. Amazing. The propeller took a little longer, as Hartzell had its own supply chain problems, but it was soon sorted out.

Ryan and team drove down and hung the new engine, ground-tested it, and gave their blessing to test fly and begin the break-in anew. Eric even offered to fly a multiengine pilot down in his personal aircraft to ferry my plane to Montrose for final inspection and fit/finish. This was an immense help, as Montrose is served by the airlines while (again) Taos is not.

PIREP

After all was said and done I was handed a new Baron, ready to fly, and despite several betterments and improvements that were surely mine to pay for I was handed a \$0

invoice and a hearty, empathetic handshake. Simply Incredible Service in the worst possible circumstances.

At the risk of gushing, this would be great, above-and-beyond service from a Lexus dealer. To encounter it in aviation is stunning. In my 20 years and 26 airplanes, I've never encountered anything close. Eric, Ryan, Larry, and the other folks at Western Skyways earned a customer for life in this episode, and I feel extremely fortunate to be their customer. Thank you, everyone!

Looking back at it all, the empathy, willingness to help, and get-it-done-ness of it all were priceless. And it is these bright spots that will keep me in aviation as long as I'm upright.

Addendum

It looks like Continental was to blame for my engine mishap, and Skyways owned it entirely even though it's a victim in this also. The issue was actually rather fascinating. My IO-550C was supposed to receive a camshaft with an oil plug, however, they shipped one with the plug missing. That's the correct part on certain 550 variants, but not mine.

Because the oil pressure gauge is plumbed between the oil pump and the camshaft, all indications were that oil pressure was great. This means it was missed by Continental's run-in, missed by my break-in, and missed during over 170 hours of operation, four oil changes, and an annual. But the poor engine was bleeding internally the entire time, with what amounts to basically a ¼ inch or so uncontrolled oil leak inside of the engine. Ultimately it robbed the #6 main bearing of needed oil pressure, which eventually wore down and spun the bearing, tossing the connecting rod out of the engine case. It was a real one-in-a-million situation, and one of those little tribal-knowledge things that you never think of.

Punchline: If your oil pressure acts weird, or your prop governor...you might wish to look a little deeper.



Mike Brannigan is an A&P mechanic and BPPP instructor based in Alameda, California.