



*Annual ~ 100 Hour ~ Repairs ~ Modifications ~ STC's ~ Restorations ~ Top Overhauls ~ Engine changes
~ Emergency Recovery*

MacArthur Airport
2111 Smithtown Avenue
Ronkonkoma, NY 11779
Inspector



Edward Libassi
President
Licensed A&P/IA

Brian C. Rayner

June 18, 2019

Senior Air Safety Investigator

NTSB - ERA

45065 Bles Park Drive
Ashburn, VA 20147

RE: Beechcraft A36 Bonanza
N8014T
June 8, 2019
Fatalities: 2

Summary of Interchange / Interactions in RE: N8014T

Robert Mark enjoyed to borescope his cylinders, and also of friends who owned Beech A-36 airplanes. He would also occasionally do compression checks. These maintenance functions were done without any mechanics, A&P's, or me a licensed A&P/IA. These borescope inspections were later reported to me, accomplished by Robert, if he had high temperatures, etc.

February 2019

A few weeks prior to bringing me the aircraft for his annual inspection, Robert said he borescoped and did a compression check. He said one cylinder was holding about 25 or 40 lbs., and said cylinders #1 and 5 were no good. He needed to use his plane at this time, so he wanted the cylinders to be replaced during the annual in a few weeks.

Approximately two weeks later Robert gave me the aircraft for annual. Compression check was accomplished, and I found cylinder #1 with 10 lbs. compression, and cylinder #5 with 12 lbs. When Robert stopped by the hangar, we told him about the cylinders. He gave us two cylinders that were pulled and repaired when the previous year's annual was performed. Robert's annual was completed 2/21/2019 @ Hobbs: 4695.

April 17, 2019

Prop seal was leaking, replaced the seal @ Hobbs: 4717

May 17, 2019

Robert called us to take a look at the aircraft. The previous day's flight home on May 16th, the oil temperature was slightly higher than usual, the oil pressure was slightly lower. Additionally, the tach needle sometimes jumps.

Robert said there's no need to change the oil yet, it only about 20 hrs. on the mineral oil, that we put in with the annual/cylinder replacement.

I performed a run-up, and found the oil pressure to be 40 lbs. @ 2,000 RPM or higher, and in the yellow arc when the throttle was reduced to ground idle.

I felt it was low, checked the Hobbs time on the oil. The Hobbs now read 4731. When I checked the records, it was actually 36 hrs. on this mineral oil. We would change the oil and filter, cut open the filter and inspect for metal. This was our regular every day oil and filter routine.

With new oil and filter in the engine, ran the engine and found same pressure and tach needle occasionally would bounce.

I called Robert and told him something's not right. I told him we changed the oil and filter, will cut the filter open. He said he spoke to some friends about the tach needle and they found the nut loose on the tach cable, and that we should check that.

We cut open the filter and found metal. We called Robert to come to the hangar. He arrived a few hours later, and said now was not a good time to have an airplane problem. He said find what's wrong and fix it. He said he needed his aircraft. We agreed to start with a borescope of the cylinders, and pull the starter adapter.

Robert called us later that day and asked me to find an engine on the shelf at some overhaul shop. He too would be looking for an engine.

May 20, 2019

Robert called the shop and said he does not want a Continental engine as an exchange. His friend Anil Sangwan used Power Master Aircraft Engine, and they could do an engine in three weeks. Robert asked my opinion. I stated that the company told Anil the same thing last year, and two months later we were still waiting for the engine.

Robert asked me to continue to call around for an engine, but it must be with millennium cylinders.

I told him I would call Ram Engines. I did, they said 4 to 6 weeks.

I called Western Skyways, the engine shop he's sending his cylinders to. They said 4 to 5 weeks, and will send me a quote. I explained the situation with the metal in the filter, and they said to send the engine for inspection. But with travel time it would still take 4 to 5 weeks.

We borescoped the cylinders, and found some sidewall scuffing on two cylinders. I told Robert of our findings. I told him I was not comfortable with the engine, and instead of working on it, allow me to send it out, or order an engine.

May 21, 2019

I received a quote from Western Skyways. I told Robert about the Ram Engine conversation, and about the quote from Western Skyways. I told him he was family, and I was going to send the Western Skyway quote to him. He could get the engine at my cost – that I didn't want to make money on the engine.

Robert told me to keep looking for metal cause, and Robert would decide what to do.

We removed and inspected the starter drive and alternator. We found no cause of metal. I called Western Skyways and asked Justin if we could send pictures of the filter. He said yes, but his computer system was down, so I should send it to his phone.

The next morning at 6:41, I sent photos of the filter, and asked Justin to call me. Later that day I called, and asked if he looked at the photos. Justin said yes, it looks bad, and asked what have we inspected so far. I told him the starter adapter and alternator, and borescope. I inquired if I should pull the governor and inspect the gasket screen on the governor. He said yes. I told him I was going to send the filter and oil sample out, and I asked Robert if I can pull the engine.

May 22, 23, 24, 2019

We performed another borescope, and advised Robert that all work done so far produces no definitive cause of metal.

We told Robert that cylinders #1 and 3 show signs of sidewall scuffing and we should pull these cylinders. Or, we can stop here and pull the engine.

Robert had the two cylinders repaired from February's work, and we should pull #1 and 3, and use the two cylinders he has. He wants us to look inside the engine for damage, wash out the engine, and put all the parts that were removed back on.

We started to work on May 28 to May 31st.

We pulled cylinders #1 and 3. Found sidewall material missing. I told Robert we were not comfortable, and want to send the oil filter and oil sample to Blackstone Labs for evaluation because we did not discover the source of the metal.

Robert agreed to send the sample out, and to assemble the engine, so he can fly local to see how it feels. The sample was sent out May 29th.

May 31, 2019

I called Robert to let him know the engine was ready to run. He asked us to run it, and when he comes to the shop

(in approximately one hour) he would run it again. My mechanic ran the engine, and said he didn't like it. We didn't find any cause of metal and the oil pressure was still the same. I personally ran the engine and found the pressure to be

40 to 45 lbs., no difference. I shut down the engine, and announced while walking back through the hangar, that I was not comfortable, the engine is no good.

I asked one of my mechanics to sit-in on a phone call to Continental Engines.

I spoke with tech service, Tim Owen. After explaining all that transpired, he recommended to pull the oil pressure relief valve, and look for chips that may be causing low pressure. If that was okay, then fly it for 10 hours, and pull the filter, or just pull the engine.

I called Robert, told him of my conversation with Continental and would need additional work time. He said he would arrive in half an hour.

We pulled the relief valve, no findings, and installed it.

One of the mechanics said Robert has arrived, and is talking to my wife in the back office.

I told Robert we didn't find anything, and I was not comfortable. He wanted to run it and fly the plane local. My wife gave him a company logo golf shirt. He gave it back to her, and said let me fly first, in case I crash you don't lose a shirt! He described to her how he would gear up while crashing so as not to flip over.

Robert told her he would keep it in the pattern so that I would not have to go far for the recovery!

I asked if he wanted me to sit in on the run-up. Robert said no, if he likes it, he will fly the pattern for a while.

I sent one of my mechanics to sit and observe the run up, Robert asked him to leave, that he was going flying.

Robert flew for 30 to 45 minutes, came back to the hangar, shut down, got out and said it felt great. The temperatures were cooler than before. We looked under the cowl, no leaks, we told him let's wait for the oil sample report because I was not comfortable. Robert said no, he needed the aircraft.

June 3, 2019

Approximately 7:30 am, we saw Robert at his hangar and told us he flew Friday night. All the temperatures are cool and the pressure is going higher. I told him no results yet on the oil sample. Robert said that's ok, he needed the airplane.

June 5, 2019

Received the oil sample report, nothing specific.

The filter was not inspected yet, and they will send a written report.

June 7, 2019

Received an email from Blackstone Labs, only read the first page, and forwarded it to Robert @ 2:42 pm.

Later when I was shutting down the shop, I printed the written report, and a copy of Lycoming Service Bulletin 480F, which was referenced in the report.

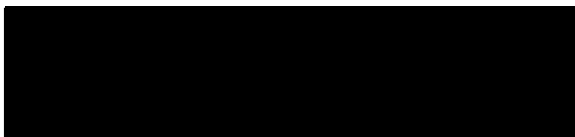
At 8:30 that evening I read the report.

June 8, 2019

On this Saturday morning, I received a call from Robert Mark's friend.

He asked if I knew where Robert was, because there was an aircraft crash, eastern Long Island.
And he thinks it was Robert.

Sincerely,



Edward Libassi
President