



RECORD OF CONVERSATION

All persons listed were interviewed by Zoë Keliher (unless noted)

The following is a summary of conversation:

MILITARY PILOTS

Security: Fat 1 and Fat 2:

While maneuvering in the vicinity, the pilots received a notification that an airplane was not talking to anyone. They began to communicate with ground control that a Lancair had overflowed their destination and was not in contact with anyone on the ground. They got rid of contact of the airplane and intercepted the accident airplane within about 10 minutes. The airplane was heading westbound (about 260°) in the sun was low on the horizon trending toward dark. One pilot recalled that the strobe was flashing but nothing else appeared unusual. The pilots were unable to see anybody inside the airplane which they thought was highly unusual. The windows were up high in tinted and the sun's glare made it difficult to see inside, but from what they could observe (on both sides) there was nobody in the airplane. The windows were not frosted, They sent off numerous flares in an attempt to get a response from the airplane, but it continued on the westbound course at 25,000 feet. They returned at dark and estimated they were out for about an 90 minute flight.

The second pilot noted that he was in front and slightly higher than the first pilot and when he looked in the cockpit area he saw nothing in the back seat. In the front seat he could see what he believed to be a seatbelt fully forward and extremely tight (he was only able to observe this because of the contrast of the dark material). He was closer (about 200 feet from the airplane) and off the left wing looking down through the window. Neither pilot saw lights or anything that they can discern in the cockpit area.

Record of Conversation from Deborah Eckrote, NTSB

I met with Major Benjamin Leestma and SSGT Tony Sanders.

The video that was reviewed was from the F15 that was in trail behind the accident aircraft. The other F15 was the aircraft that maneuvered close to the accident airplane and was attempting to get the accident pilot's attention. This pilot was not recording.

The trailing aircraft (FAT 1) remained about a ½ mile to a mile behind the accident aircraft and the other F15. The views from this recording showed only the horizon. The HUD of the recording identified altitude, heading and airspeed.

Both F15 pilots were in radio contact and I was able to listen to their conversation. The highlights of the conversation are summarized.

The F15 pilot nearest the accident airplane reported that he was able to see the lights flashing (assuming anti-collision and rotating beacon). The airplane was a low wing, single engine. The F15 was level with the accident airplane, but he could not see inside too well and was maneuvering up to the right side. The pilot was trying to get the accident pilot's attention by flying close with no luck. The F15 pilot's then discussed the use of flares. The flare deployment was authorized and subsequently deployed. The F15 pilot reported there was no reaction from the pilot and the accident airplane continued on heading and altitude.

The F15 pilot then reported that he was going to try and see into the cockpit with the use of NVG. After maneuvering, the F15 pilot reported that he could see an extended seatbelt (assuming the shoulder harness). It appeared there was no one inside the airplane up front or in the back. He could not see anyone in the cockpit. There was nothing else he could do and maneuvered to trail the accident airplane.

The conversation between the two F15 pilots then concluded with them maneuvering to shadow at a distance behind the accident airplane. Maj Leestma reported that the F15s remained in a shadow mode for about 20-30 minutes before they were recalled to base.

The meeting was then concluded.

COAST GUARD PILOTS

Lt Alison Major

He was in the C-130 and they were directed to intercept the airplane on night vision goggles. There was a KC 135 following behind him. The accident airplane was beginning to descend and they were able to see the airplane on TCAS. The airplane began a 1500 feet per minute descent in a level flight attitude. As the airplane got closer to the ocean it flared and made a smooth landing. He noted that there was a white light on the outside of the airplane.

David Corey

the accident airplane was already in a descent as he approached. The sky conditions were overcast and he was using night vision goggles. They matched the descent rate and kept the accident airplane about 3 to 5 miles away. It descended at about 1500 feet per minute and appeared to make a slight flare as it went into the ocean.

Lt. Cornel Hal Bradley

he was in a KC 135 and directed to intercept the accident airplane. He launched from March Air Force Base and was directed to tie in to F-15s that were following the airplane. He used the TCAS to tag the airplane and found it heading due west at 26,000 feet. He departed about 2015 local and got a visual on the airplane about 2115; he noted the conditions were dark and he was only able to see strobe lights. He configured his airplane at 220 kn and was doing as turns behind to stay with the airplane. The descent started and a C-130 came in at about 14,000 feet. The accident airplane descended toward the ocean and they stayed up altitude and orbited overhead. He approximated the whole flight to be about 4.5 hours. He further noted that it was pitch black and he was about a mile off of the left-wing. He was only able to see white strobe lights and could see no lights inside the cockpit.

DON BLITZ

Mr. Blitz was the president of Unmanned Systems Inc., based in Henderson, Nevada. He stated that he founded the company in 2004. He helped with testing and development of the Predator system. Recently they were exploring the idea of diversifying and breaking in to the smaller unmanned aircraft market. As part of this development they were seeing if an optionally piloted Lancair would be a potential airplane to help fulfill the need for trainer unmanned airplanes. The accident pilot, Troy Johnson, was doing the testing and development for the Lancair.

Unmanned Systems purchased the airplane in March of the year prior. They had made an agreement with Lancair. Troy was updating the airplane and was in phase 2 of converting it to be able to be flown unmanned. It was different than any other design they had used and there was a lot of research and development that was occurring.

The airplane was last up at Oshkosh where they had it modified with different equipment including the latest Cloudcap Pace 500 imaging camera that was mounted on the belly (done by the pilot). The pilot was traveling back and forth between Phoenix and Hesperia and then to Bend Oregon for airplane modifications.

He stated that he thought Troy might have worked all night and never went to bed prior to the accident. Someone had left the master switch on the airplane and the time when he intended to go to bed, he had to recharge the battery and then pick up his children. He had planned to do a meeting in Phoenix at 2000 with the software engineer (coding and interface).

Elite Pilot Service did the training for the Troy in December. Troy was building time in the airplane. They were exploring the feasibility of stripping the airplane to carry more fuel and using a touchscreen inside the cockpit for controls. They installed and completed the camera modification in July 2015 and then went to Oshkosh between July 18-27. Thereafter, Troy went to Phoenix and would work 10 to 12 hours to complete phase 1. He had mapped out all the steps that had to occur in the next six months and was pushing ahead to get government contracts with the bid that included a companion trainer. The intent was to make the Lancair a trainer for unmanned aircraft pilots phase 2 began after Oshkosh and he received a message from Troy on August 11 that said he had reached a major milestone and he needed more funds.

On the day of the accident the new Garmin navigation database was released , which he would've updated.

DAVID ROBINSON

Wed:

Thursday 13: local time

12:32am are you up?

12:34 is there a trick to charging the evo battery when dead the lineguys left it on

12:44pm turns out the gpu wont close the battery contact if the battery voltage is below 14

David -meaning that it only powers the airplane?

David -as gpu power on, ship power on but you can't charge the battery

12:51pm Ya, I ended up having to jumper a battery charger to the battery directly and got the contacts to close. Then the gpu can charge the batteries.

The pilot was using the Kollman environmental system outflow valve. He was flight testing for the touchscreen which he was developing in Phoenix in lieu of using the Moritz/Radiant touchscreen. There was a default audible setting for pressurization and when switching the outflow valves they would need to reprogram the touchscreen. There would be a manual or automatic CPCS and when reprogrammed it just provided differential pressure and Calvin altitude. Troy had a failed Moritz and put it in series or parallel with his system. The pilot always flew with his oxygen mask out in his lap or next to him.

BOB CONTI

Mr. Conti stated that he met with the pilot a day or two before the accident where they talked about the evolution airplane. They discussed the Moritz panel that the accident pilot was remanufacturing. He stated that there was issues with the touchscreen and that went out every once in a while due to heat buildup. He stated that he was doing all the work in Bend, Oregon.

JEFF GELEZAF

Mr. Gelezaf was helping develop the software and hardware for the Lancair's touchscreen project. The pilot would come to Phoenix and stay at the local Hilton and be based out of Cutter Aviation. The weeks prior to the accident they had two prototypes from Lancair. On the day of the accident he called at 1654 and said that he would be ready for a meeting in Phoenix with him at 2000 where he stated he would drop off the prototype to load the software. He stated that in the accident airplane the Moritz was hooked up, which controlled the cabin altitude and differential pressure. The pilot was using the failed more it's that it overheated; if the unit stops working then it just becomes a monitoring device (the breaker toggle is adjacent to the armrest).

The night prior to the accident, Cutter Aviation moved the airplane and left the master switch on. The pilot had to the airport about 2000 to 2100 to go charge the airplane the pilot accidentally called him at 3:45 AM. The pilot had never expressed a problem with the airplane. He stated the pilot would fly in heading mode. The pilot would spend late nights working.

Ms. Carlson had known the pilot for about 2.5 years. She was his girlfriend and they would see each other every other week either in Phoenix or she would travel with him. The day before the accident he let her know that he was going to have to get the kids. On the day of the accident he contacted her about 0100 and let her know that the battery was dead on the Lancair. At 1600 he told her that the battery was fixed. In his last text at 1739 and he was going to pick up the kids. He stated that they are going to go back to Phoenix because he was not done with the touchscreen.

She stated that the cutter aviation hangar was immediately across from the FBO and he would regularly park the rental car there, occasionally napping.

She stated that he was lately working on a metal piece to hold the software screen because he had to redo it several times he had the deadline to get something to Lancair by the 14th and didn't think that that would be possible. He had several issues with the airplane including an incorrect filter in the landing gear and the piece of wood on the fin. He generally was not happy with the Lancair mechanics and was getting someone to check on their work.

She stated he had no health issues and had recently run ½ marathon. He was in good health. A doctor checked his blood and it came up borderline high blood sugar. In order to clear for his medical he ended up going to another Dr. when he ran the test he came up fine. In between the Dr. Appointments he checked it himself a few times and it came out fine, so he knew that he most likely not borderline diabetic. The Dr at the second appointment told him that the reason it could have come up borderline with the first Dr was due to old/bad strips.

He had been working very long hours but that was not uncommon and he would know his limits enough to take a nap. He was a light sleeper and it would not take much to jar him. When they were in the airplane they would regularly listen to music on the way to the destination but would wait until they reached altitude. He was always on his headset. One time they flew without oxygen and he stated that his legs will start to feel heavy and that he feels drunk when he becomes hypoxic. While on the flight, she would normally take a nap or read a book. The oxygen masks were in little baggies in the pocket behind the seat. She recalled him mentioning that he had a break in the door seal when he was in New Mexico and had to put a plastic bag in the door but did not recall when that occurred. He would always wear a seatbelt.

Excerpts of texts:

Troy Ok. Redesigning the back shell Aug 12, 2015 1:14:18 AM"
Becky Oh Wow. Send me a Pic when u get it done. Aug 12, 2015 1:15:05 AM
Becky "Hey. Good morning Aug 12, 2015 11:16:57 AM"
Becky Hey. I bet ur glad u did not park at the Chandler airport...." Aug 12, 2015 12:44:25 PM"
Becky Hey. How is it going Aug 12, 2015 9:55:59 PM"
Becky Hi. How is it going Aug 13, 2015 1:45:47 AM"
Troy "Hey. " Aug 13, 2015 1:46:25 AM"
Becky "How is it going?" Aug 13, 2015 1:46:54 AM"
Troy ="=D/" Aug 13, 2015 1:47:11 AM"
Becky "Is that good?" Aug 13, 2015 1:47:58 AM"
Troy ="What?" Aug 13, 2015 1:48:36 AM
Becky ="Was that a Happy face?" Aug 13, 2015 1:49:21 AM"
Troy Accident. Aug 13, 2015 1:49:56 AM"
Troy Anyway. The boys at Cutter left my battery on and killed it. So I'm out here at the airport figuring it out. Aug 13, 2015 1:51:10 AM"
Becky Oh no!!! Sorry babe. Are u trying to fly out tomorrow morning?" Aug 13, 2015 1:52:45 AM"
Troy Was. Aug 13, 2015 1:57:16 AM
Becky < Oh. Wow. !!! U cannot see to catch a break...." Aug 13, 2015 1:59:01 AM"
Becky How is it going?" Aug 13, 2015 9:35:14 AM
Troy I think I got the batteries fixed. Aug 13, 2015 4:53:31 PM"
Becky Oh wow. It took that much time?...Wow. can u fly tonight?" Aug 13, 2015 5:37:18 PM
Troy "Going to go pick up the kids because its my week and Kim can't seem to handle it. Lol. We are coming back here because we are not done with touchscreen yet. Plus I missed the big event today which was a meeting at

lancair. " Aug 13, 2015 5:39:08 PM

Becky "Oh no.... Are u departing soon?" Aug 13, 2015 5:40:29 PM

AARON BROOK

Mr. Brook was friends with the pilot and had flown with him once. They had flown from bend to Hood River and back in June. They only reached an altitude of 17,500 feet. The pilot had his oxygen mask between his legs and noted that he had the bigger oxygen tank.

CRAIG FLOYD

Mr. Floyd work for Cutter Aviation. He stated that the accident pilot had been coming into the FBO for about two months and the pilot would regularly talk about his airplane. The day of the accident the pilot was upbeat, which was his normal attitude. He said that he was going to pick up his children and would be back at 2200. He did his preflight and avionics updates for about 20 minutes. He started the airplane and removed the ground power unit and taxied out. He commented that it was very hot outside and the pilot arrived about 1700 where he asked for the fuel to be top to full.

KIMBERLY JOHNSON

Ms. Johnson was the ex-wife of the pilot and they had divorced a few years before. He completed National Test Pilot School and was the only civilian at the time to have gone through the program. He was a meticulous pilot and a very intelligent person. If he ever had a doubt of the safety of the flight he would not fly. She stated that he was detail oriented and methodical.

Ms. Johnson stated that she talked to the pilot on the morning of the accident. He stated that he would plan to pick up the children around 1915 to 1930. He sent a text at 1815 saying that he was departing and expected to land at 1915 to 1945. She stated that he could operate on very little sleep.

Texts:

Wednesday August 12, 2015

22:16 sorry kim still having battery issues with the plane. Okay, sorry

22:17 im having problems with the battery in the airplane I may have to pick you up in the morning working hard to fix this now.

22:27: I almost had you put them on a train earlier tonight!lol thay would be here by 5am, sorry. I mentioned the battery problems early this afternoon but thought the mechanic would have it fixed by the time I was ready to leave.

Thursday August 13, 2015 (accident day)

12:02 am- going back to the airport to try one more thing to fix the airplane. Ill text you before I go to sleep if it worked and we can go early. If not we may need to order battery and that may not happen until later in the afternoon if at all. Ill keep you posted.

3:31- hey girls we aren't going early I need to get some sleep and work on this some more in the morning.

12:58 I was up until 5am working on the airplane then I had to sleep I am going back to work on the plane and may have to change batteries will keep you updated.

13:51 making progress still working.

14:57 Trying for this afternoon at

14:58 6pm is probably the soonest.

17:28 Finishing up after all the mx, I think I will be able to fly let you know shortly.

17:46: everything is working so far and if checks are good when I'm airborne I'll keep going and pick you guys up. Love you and see you soon.

17:47 everything is working so far. Im going to attempt to fly and if the checks are good when im airborne ill keep going to pick up the kids. Should land around 7 if everything goes well.

18:15 departing. 7:15-7:30 landing

TIM ONG

The accident airplane was Evolution's company airplane and originally began as being equipped with the piston engine before converting to a turboprop. The customer highly modified the airplane with two

pressurization controls: a Duke and Kollsman. The accident airplane had the Kollsman auto sequencing valve which didn't require any extra equipment to operate normally. The sequencing will give a climb and descent at 5000 feet per minute an automatically control the rate, with the scheduling based off of the field elevation.

When installing the camera on the belly they had made various penetrations at the bottom of the fuselage and had to do some type of ceiling because of penetrating the pressure vessel. The bulkhead contained the outflow valve in the middle of the bulkhead. There were two doors, the baggage door and the main door. The airplane had all the modifications including the higher strength windshield adhesive. If the bleed air switch is not selected, the airplane will never pressurize and there will be no change in sound as it climbed to altitude. The evaporator makes a quiet so would not sound too different. The bleed air was routed from the turbine to the flow pack to cool and then to the evaporator box from the air conditioner. The compressor is belt driven off of the engine and pushes air through four activated butterfly valves. The more it's panel has a warning.

He stated that the true track autopilot system would maintain altitude and heading

JUSTIN HAWKINS

Mr. Hawkins was technical support for Lancair. He stated that he had flown with the pilot often in the aircraft. He recalled one time when they were flying from Mohave and while climbing through 8500 feet they could not reach 6psi on the Moritz and could only hear hissing. They landed and attempted to repair the leak which was a pinhole in the silicone seal. They flew back at 12,500 feet and maintained a cabin pressure of 9000 feet. He normally flew with the oxygen masks in the seatbacks and the bottle was located in the baggage compartment under the floor. He had an emergency oxygen bottle in his flight bag. If there was a cabin pressurization problem he would get a warning and 10,000 feet and there would be an audible tone.

The airplane was configured with the Moritz in the center. The pilot had the airplane configured where his touchscreen became primary and was mounted on the panel and the Moritz was on the seat. During the installation of the camera, about 30 pounds, he had a hard point mounting form used which was the shape of the belly and sandwiched in between the unit in the aircraft. They did the mounts on July 4 fifth and six and drilled down the center of the hard points with 3/16" bolts.

GARY LANE

Mr. Lane was the repair station manager. He stated that the accident pilot had failures with the touchscreen, where the operator would push a button and the circuit breakers would trip for no reason. The screen would get hot and was working. The pilot had the Moritz repaired at Oshkosh and had swapped with another airplane that had a failed screen. They took the failed screen out and gave it to the accident pilot. The accident pilot had his prototype screen and it worked better than the Moritz. The accident pilot flew back to Phoenix with his prototype and the failed screen in his possession.

DEBRA ECKROTE

On March 8, 2017, at the Air National Guard Station, Fresno, CA, I reviewed the video from the helmet/gun camera from one of the two Air National Guard F15s that responded in an attempt to make contact with the pilot of the experimental Bartels Lancair Evolution, N427LE that eventually crashed into the Pacific Ocean on 8/13/15. NTSB accident #WPR15LA242.

I met with Major Benjamin Leestma and SSGT Tony Sanders.

The video that was reviewed was from the F15 that was in trail behind the accident aircraft. The other F15 was the aircraft that maneuvered close to the accident airplane and was attempting to get the accident pilot's attention. This pilot was not recording.

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