



Record of Conversation

Date/Time: September 28, 2022 at about 13:00 EDT

Mr. Keith Cordera, mechanic

Location: Telephone

Participants: NTSB, Shaun Williams; NTSB, Gregory Borsari

Representation: Mr. Brian Truelock

NTSB Accident Number – CEN22FA419, Aircraft type, Piper PA28-28R-201

Registration N62FC

On September 28, 2002, beginning at about 13:00 EDT, Mr. Cordera agreed to speak via telephone and to have notes taken, which follow. These notes are not a verbatim transcript.

After introductions were completed and a brief explanation about the NTSB investigative role, Mr. Cordera was asked what position he holds with the company. Mr. Cordera stated he is an A&P (Airframe & Powerplant mechanic) and primarily works avionic installs.

Asked what certificates or licenses he had, he responded that he has an airframe & powerplant certificate and has a private pilots license.

He has been with the company just under three years. Regarding previous employment he was with Myrtle Air Services for approximately two years. Before that he was with Honda Jet up in Greensboro for about a year and prior to that Chippewa Aerospace for about fourteen years. Prior to that I was helicopter mechanic, Marine Corp.

Asked typically how many aircraft are being worked on at any given time he responded four to five at a time. Asked how many hangars are there, he told us they have two maintenance hangars.

Have you ever worked on any aircraft that have been involved in either an accident or incident before? No sir.

Have you had any FAA or FCC violations or certificate action? No sir. Any on the job incidents or injuries? No sir.

Who do you report to? Reports to Branden Crisp, the director of maintenance. How is he to work for? Great. How many mechanics work there? Six, I believe. Any problems working with any of the other mechanics? No sir, everybody gets along fine here.

Does the facility have the tooling and the manuals you need in order to perform the maintenance? Yes.

Asked if any avionics work was performed inhouse, at least on the installation side, is that correct? Yes sir. Any component work performed inhouse? No, usually if any components need rebuilds or something like that, they are sent out.

How is your workload, is it manageable? Yes.

Can you tell us about any maintenance training you have had? Most of my training received was in the marine corps, 1997 to 2002 and when I got out I went to work for Chippewa Aerospace whose primary work was building and manufacturing wiring harnesses and doing installs. Used that experience as OJT and got my sign off to go and get my certificate. I went to Bakers Academy and received my A&P license.

Does the company have any training they provide for maintenance? No sir.

Who do you report to? The director of maintenance. Have you ever reported a problem? Such as something you were concerned about. If I see something that doesn't look right, I go to my director of maintenance and have him come out and look and a decision is made. I would assume between him and the customer what was going to be done to rectify it. Does it get handled to your satisfaction? Yes.

Have you worked on any airworthiness directives? No, not personally here.

How do you know the manuals or service bulletins you are working with are up to date? All of our manuals are online. We have the latest version of everything online.

What about tooling calibration? Is that taken care of or something you have to keep an eye on? We have a calibration program and all of our tools are kept up and sent out for calibration when needed.

At a high level can you tell what work you performed on the accident aircraft (N62FC)? That aircraft I installed a three-servo autopilot system. A GNS430 and dual G5's.

When looking through the records I saw the vacuum pump and the old gauges were all removed. Did you do any of that work? Yes, I did. I removed the attitude

indicator, removed the directional gyro, and install the dual G5's in those position and I did eliminate the vacuum system off of the engine.

You did remove the vacuum pump? Yes. And the lines? Yes. Did you install the cover plate that was where the vacuum pump was? Yes I installed it. Did you have clean the mating the surface? I did use a piece of Scotch-Brite to clean the surface. The gasket was still attached to the vacuum pump. I did Scotch-Brite the surface and I put on a new blanking plate. Was a gasket installed with the blanking plate or sealant? I thought I had replaced the gasket. Were the nuts self-locking? No, they had lock washers under the nuts.

When all work was done was an engine runup performed after installation of the modification? Yes, I personally did the engine run. I ran it up for approximately thirty minutes. For calibration of the G5's I have to go out and do a compass swing. Calibrate the magnetometer. I also ran an interference test which you operate all of the electronics, lights in order to make sure nothing interferes with readings you are getting with the G5s. Also, a vibration test is required where I ran the aircraft from idle up to full power and back to idle in approximately two-minute cycles. To make sure no interference with any of the readings you are receiving. I did do all of that.

Everything was okay? Everything was fine. When it was all done was the engine area checked for any oil leaks? Yes. Did you do that work? Yes, I did it. I inspected everything when it was pulled back in the hangar. There were no oil leaks.

Did you check the oil level before the engine run? Yes I did. Was it in the normal range? Yes approximately 7.5 quarts. Did you happen to check it after the work was all done? I don't believe I checked the oil directly after the run. A few days after the run I put the cowls back on the engine and I did check it then. It was still above seven quarts.

Was both the top and bottom cowl off for the engine run? Yes. Notice any oil leaks? No.

Was the aircraft test flown before giving back to the customer? No, we generally do not fly customer aircraft. Do you know if the customer did a test flight? I don't know if he did a test flight. I know we recommend to the customer that when they pick up an aircraft after having new equipment installed that they remain in the pattern for a couple laps around the pattern. He did not do that.

I know Brandon is an IA. Is he the only IA there that signs off all the work? Yes. Does he come back behind you and double check things or is he there sporadically throughout the installs? How does that work? He comes and checks things. I will generally go to Brandon and ask him to come and look things over before I close-up a section of the airplane. Just to have a second set of eyes on it.

You didn't notice any oil on the ramp, or on the airplane or anything like that after the run? No. What about when they left? No, there was nothing on the ramp. They started the aircraft in front of the hangar and they sat there for quite a few minutes. Both of the gentlemen flying did a preflight. While the pilot in command was in the office finishing up his paperwork with Brandon the gentleman flying right seat was doing a walk-around of the aircraft. I was out there talking with him and when the pilot got out there he also did a walk around. I did see both of them checking oil, checking fuel while doing their walk around. Once they had gotten started up I came back into the hangar and I guess the pilot had called or texted Brandon because Brandon asked me to go out and help the pilots.

I went out there and the pilot said his radio was not working. The actual issue was that his radio was not on. He was looking at his ADF and the radio was turned off. I sat there another minute and went through his number one's, number two's audio panel with him. They sat there for a few more minutes and I just stood at the opening of the hangar and waited for them to roll off. They gave me a thumbs up and I gave them a thumbs up. He taxied out maybe thirty yards from where he was parked next to the hangar out to about where our fuel truck is parked and that is where he did his runup. He did a full runup there next to our fuel truck. There was no evidence of an oil leak next to the hangar or next to the fuel truck.

When he did his runup did you hear him cycle the prop? I believe he did cycle it once. I am not complex indorsed, but I did hear it and I believe he cycled it once.

How did you hear about the accident? After he took off, I actually pulled up live ATC on my phone and I was listening to it. I can't hear the pilot speaking but I can hear the tower frequencies. I was listening to them and heard they were trying to bring him back in. Then things went quiet with his tail number.

What happened around the shop after that? Did you quarantine any records? Put things off to the side? Shutdown for the day? Not that I know of. I know we did not shut down. I was a little upset and I know I left early after it was confirmed that they had gone down.

To follow up, have you done this modification before? Yes. In the three years I've been here on different type of aircraft I would say I have done eight to ten. G5's, autopilots, and GPS installs.

Have you ever had to remove another vacuum system? Yes. Same type of setup where you had to take a pump off and install a blanking plate? Yes, but I could not tell you I did it on every single one. I could have been busy with the install and another mechanic did the vacuum pump. I can't say I've done everyone.

Asked if he typically worked alone on these modifications or if there are a couple of you working on it? He said that there are other mechanics that come in and help me out. They work other things while I concentrate on the wiring.

You talked about the owner being out there with the airplane running parked near the hangar before going out to where the fuel truck where he did his runup. After he taxied away from that spot did you notice if there was oil or excess oil on the ground? There was not. There was not any major spots anywhere the aircraft was. Is it an asphalt ramp, or concrete? I believe concrete. He added that, If there was a major oil spot under the aircraft it would be very noticeable. He added that when he was listening to ATC and I watched him takeoff. I didn't see anything, no major oil leaks.

Conversation concluded at about 13:30 PM EDT.



Record of Conversation

Date/Time: September 28, 2022 at about 14:30 EDT

Mr. Brandon Crisp, Director of Maintenance

Location: Telephone

Participants: NTSB, Shaun Williams; NTSB, Gregory Borsari

Representation: Mr. Brian Truelock

NTSB Accident Number – CEN22FA419, Aircraft type, Piper PA28-28R-201

Registration N62FC

On September 28, 2022, beginning at about 14:30 EDT, Mr. Crisp agreed to speak via telephone and to have notes taken, which follow. These notes are not a verbatim transcript.

After introductions were completed and a brief explanation about the NTSB investigative role, Mr. Crisp was asked what position he holds with the company. Mr. Crisp said he is the director of maintenance (DOM). Asked what certificates or ratings he has? I have an A&P license with an IA¹.

Regarding the IA there is a two-year recurring activating, do you attend the refresher course or demonstrate your activity. I complete the requirements through annuals and 337's.

Asked how long he has been the DOM he said almost a year. How long with the company? Going on nine years.

Regarding aircraft maintenance can you tell us about your background at high level? All of my experience has been with this company. I graduated in 2014 from Pittsburg institute of Aeronautics and immediately started my career with this company. I have been here the entire time have been an A&P mechanic. Did you have you're A&P before coming to work here? I received my A&P in school and then got hired on after graduating.

As the DOM can you describe your duties and responsibilities? I handle all of the work orders. They come in for customers. I do the administrative side of the annuals, such as researching AD's. We also have a 135 that I am the DOM for as well. I

¹ A&P - Airframe and Powerplant. IA - Inspection Authorization.

am in charge of the 145 (repair station). I am in charge of training, hiring and firing. Basically the day to day operations.

Has the company either expanded or contracted during the period of time you have been there? Or has it been stable? For the most part it has been pretty stable. We did grow slightly in my earlier years here. We moved to a larger hangar facility. Brought in a few more mechanics then when I originally started. Pretty much remained stable.

How many mechanics do you have? Nine. Not all of them use their A&P's as some are facility workers. I have about six or seven that stay on the floor daily.

How many aircraft typically are being worked on at any given time, on average? Four.

Have you had to deal with any on the job incidents or injuries? No.

Asked if he performs any of the hands-on maintenance himself? Yes. About what percentage? You have to do administrative work, right? I would say maybe five percent. I will get out and change a nav light, do an oil change or change a tire every now and then. Mostly just inspections is what I do now.

What percentage of work is avionics related? 30 percent.

Is any component work done inhouse or is it sent out? Sent out. We don't do bench testing or repair anything.

Do you have a source of training that you utilize for your mechanics? Or is it all hands-on training? It is all hands-on training.

Do you maintain any training records? Yes, we are required to both with the 135 and the 145.

When it comes to hiring mechanics that is your area of responsibility? Some of it, we do have an HR department.

With your mechanics how do you ensure they are confident with the maintenance procedures, using the manuals, how you keep an eye on how things are going? I evaluate my employees. I've been through the Garmin training and AI training so as far as avionics go I know a little bit about what I am looking at. So I make sure when they are doing jobs there are not doing anything improperly.

If an employee is going raise an issue they are going to come to you? Yes.

Have you ever had someone come to you and raise a problem? That is daily. They come daily with issues and I have to clear it up as to if it is a real issue or not. We do get issues that are airworthiness issues and at that time I take over and discuss options for the customer. You are open to your mechanics coming to you with I have a problem, or I have concern? Yes, my door is never shut.

How is your relationship with your leadership? They are great. That is why I have been here so long.

With the 145 regarding airworthiness directives how do ensure the airworthiness directives are up to date? We do not do any of that. We are a limited 145, solely for our IFR cert. We do the 24-month pitot static cert. Only reason we have the 145.

How about manufacturers service bulletins or their technical manuals, AMM's WDM's, do you have access to those? We have up to date subscriptions with ATP and with being a Garmin dealer we have online access to all their manuals.

Method of record keeping. Is that logbooks or electronic? We have logbooks for all of our aircraft. We do keep the work orders electronically and a paper trail, files are locked in a separate office.

How about tooling and calibration requirements? Such as torque wrenches? Tooling that has to periodically be checked? Yes, we have quite a few tools that are on a calibration program. Our part department handles tooling calibrations and tracking.

I believe you performed some of the maintenance on the Piper Arrow, can you tell what portion of the work you did? I did not do any of the work, I did the inspections of the work, behind Keith. Keith did all the install, the maintenance.

Part of the modification is to remove the vacuum system, including the vacuum pump. Did you have to order the blanking plate? Are familiar with the vacuum pump needing to be removed and the blanking plate needing to be installed? Yes. Our parts department would order the material. We do keep blanking plates on hand as we do quite a few installs. We do quite a few installs, so we keep them on hand.

So, this is not the first time the company has done this modification on an Arrow? I can't answer how many times we have done this on an Arrow, but we've done 20 plus GA installs.

After the installation was all done, they did an engine run. Were involved in that or after it was run did you look things over? I did look over the aircraft after the initial engine run, checking flight controls. Looking at the basic install before we

started putting the interior back in. We typically just put the left seat back in so we can the runs. After the initial run, I did look over the aircraft.

And you didn't notice any oil leaking? No.

I know the airplane was moved a couple of times. When it was moved did you notice any oil leaking? No.

Regarding the FAA, has the PAI or PMI ever visit the facility? Between the 135, the 145 and everything else they are here quite regularly.

I the FAA has avionics and maintenance inspectors I was wondering if they come around. Yes, I think our PMI just changed. How is the relationship with the FAA? Good.

Which FAA office has oversight? Our FSDO is in Columbia. Local FSDO? Yes.

Looking at the work order it says baking plate Lycoming. Do you know when you order the blanking plate does it come with the gasket? Or is a separate line item? That part I cannot answer, I do not know.

Walk me through when you go back and check the work do you go through periodically or how much do you look at before you feel comfortable before signing off the logbook? I look it at it all. If it is a big job like this one where it is conducted in different stages I do my inspections in stages. If Keith is doing panel work and gets that done and starts moving aft end of the aircraft to wire servos I will inspect that panel and give him the green light to carry on and move to another section of the aircraft. Instead of staying out there looking over his shoulders the whole time I give him the opportunity to get a section of work completed and I will look at it and give him the green light to move forward.

How long does that normally take? How long does it take going over it? That depends on the job scope. Do you remember on this one about how much time you spent? This was one of the larger installs so it would be a substantial amount of time because there is the auto pilot going in which is crucial characteristic of flight. That takes longer to inspect, we have to do cable tensions, and verify flight control movements. So it takes a while.

How did you hear about the accident? Keith came into my office and told me we possibly have a problem. He was listening to it on ATC Live and it sounded like the tower lost communication with him. Not really sure what he said. We went outside to see if he was still in the pattern area. We were unable to see him. I tried to pull him up on Flight Aware which he was not pinging at that time. We did not know what was really going on.

When you found out that it was this aircraft that was down, what happened next? What actions did you guys take? By that I mean did you guys stop working? Start quarantining any records? What if anything did you guys do? Our records are basically locked up anyway, so there is nothing I would have to do there. There are limited people at this company that have access to the records room. Those were locked up. I immediately went and had a meeting with the president of the company which we discussed what was happening and didn't get very far as we did not have any information. We didn't know what was going on, so it was a waiting game at that point. Exactly what had happened, what went wrong and what the outcome was as at that point we were still in limbo. All we really knew was that ATC lost communication. It wasn't until we got a news report pop up that we actually knew that the plane went down.

To follow up, Keith did the majority of the work, correct? Technically he did all of the work. I was the second set of eyes. How is eye as far as an R&E and a mechanic? What caliber of a mechanic is he? Someone you trust, someone you have to keep an eye on? Or somewhere in the middle? He is very trustworthy. He is one of the good ones. I feel confident he is doing his best and I am not going to have to go behind him and correct anything.

He's worked for you for a while now? He has been here going on three years. Does he come in ready to go to work? Yes. No personal issues with him? No sir.

This project gets done on multiple airplanes, what about weight and balance? Looking at the records it looks like it was a mathematical exercise and you didn't actually weigh the airplane? Correct.

Again, was there any issue that came up that Keith came to you that he needed a little help, that something is not right? No sir.

Sounds like this mod has been done on similar type airplanes. Yes.

Conversation concluded at about 15:05 EDT.