



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: April 14, 2021
Person Contacted: Lee D. Babcock
NTSB Accident Number: ERA21LA170

Narrative:

Mr. Babcock contacted NTSB by phone on April 8, 2021, at 1102 EDT. The phone call was answered via Teams and the phone number was not recorded. Also present on the call was Federal Aviation Administration (FAA) inspector Kenneth Crowder. Mr. Babcock's cellular phone is [REDACTED] and his e-mail address is [REDACTED]

At the beginning of the interview he was advised that the NTSB is a federal agency mandated by Congress to investigate aircraft accidents, and NTSB has no authority to take any action against any individual. He was also informed that the purpose of an NTSB investigation is for safety only, and any person NTSB talks with has the right to representation. He indicated that he is willing to speak about the event to the FAA but was concerned about implicating other people. Because of that the FAA inspector indicated he would check with his legal department and other personnel.

Mr. Babcock asked about the status of the airplane. He was informed that a piece of equipment would need to lift the nose and then the airplane could be moved. The airplane was located at the present time next to the police hangar. He was also informed that the NTSB was attempting to locate an independent airframe and powerplant (A&P) mechanic with inspection authorization (IA) to conduct an examination of the engine assembly. He provided the name of the insurance adjuster as Daniel Armstrong of McClarens Aviation who looked at the airplane the day before. The maintenance records were with him (Mr. Babcock) in Kensington, Maryland about 20 minutes away. He has all the maintenance records since the airplane was manufactured.

FAA inspector Crowder dropped off the phone call at 1128 EDT.

Mr. Babcock provided a date of birth, address (exact as FAA SPAS data), and certificate number. He has airplane single engine land rating issued March 17, 2013. He holds a 3rd class

medical certificate issued January 21, 2021, with a limitation, “must have available for near vision”; he did have them with him. He has 229.7 hours total time, of which 42.2 hours in make and model. In the last 90 days and 30 days, he accrued 2.5 hours over two flights of which all were in the accident airplane. His last flight review date was June 24, 2019 which was performed in the accident airplane.

The airplane was purchased on October 26, 2019.¹ Since then, he has flown it 42.2 hours. The last annual inspection was in June 2020.

He was asked the following Questions –

Since the annual inspection have there been any engine issues?

There was 1 issue. The airplane has a manual landing gear retraction system and retraction and extension is accomplished using a Johnson Bar. The Johnson Bar goes into a block on the center below the instrument panel. A sensor is located in the block which turns a red light to green when the gear is down and locked.² In their airplane, when the throttle is reduced for landing and the sensor is not activated indicating the landing gear is down and locked, a “really loud horn” is activated. There was something wrong with the cable/horn because the gear warning horn went off at altitude when the landing gear was retracted and the engine power was at a high setting. They told the mechanic about this and he said he would get to it at the next annual inspection. He indicated that the mechanic became sick, and he told them not to worry about it. The last time he flew the airplane he had trouble getting the engine rpm above 2,350. He added that going down the runway the engine rpm was good, but once the airplane was airborne and the propeller control was moved, he would have trouble getting to a higher power setting. He added that the mechanic was not aware that the engine was failing to produce full power.

He indicated there was 1 airframe related issue since the annual inspection and that was related to a fuel tank.

He was asked what was the maximum red line rpm?
2,700.

What was the static maximum red line rpm?

He did not recall. The performance tables highest value is 2,600. The recommended rpm range is between 2,300 and 2,500. He had trouble getting the engine rpm above 2,350. It would be OK for takeoff and then after getting airborne and adjusting 24/24, he would have trouble getting above 2,350.

¹ According to FAA records the Bill of Sale was dated November 1, 2019.

² According to the Owners Manual the position of the landing gear is indicated by lights on the panel which warn of an unlocked condition. The red indicator light will come on if the handle on the retraction lever is not sufficiently engaged in the down and locked position indicating an unsafe to land condition. The green light comes on when the handle is properly engaged in the down position and the landing gear is in the landing configuration.

The other thing he noticed was an abnormal reading on the fuel pressure gauge. The red line radials on the gauge are at .5 and 6.0, with the green arc between .5 and 6.0. He noticed that when he started the engine and began taxiing for the accident flight, the fuel pressure was at 6.0 psi, and when he turned on the auxiliary fuel pump the reading went over 6.0 psi. He did an engine run-up and turned on the auxiliary fuel pump and it went, “way over 6 psi almost pinned.” He turned the auxiliary fuel pump off because that was not right, and made a mental note to turn it on for takeoff of the accident flight, but he forgot to do so. He was convinced he had enough fuel pressure only allowing for operation of the engine-driven fuel pump. The flight manual does require the auxiliary fuel pump to be on for takeoff and landing.

Were there any other engine issues?

No other issues, other than the fuel tanks leaking water.

He was asked to explain that comment?

They had the mechanic check the right fuel tank because of a fuel leak. That was done at the annual inspection and no corrosion was noted. When they purchased the airplane both fuel tanks were leaking water when it rained. His plane partner and himself, “...replaced the seals on the fuel tank caps, as part of our owner/pilot preventative maintenance.” Additionally, because the airplane was stored outside, they purchased wing covers to try to keep water out of the fuel tanks. He was diligent about installing the wing covers after flying but following a flight about 2 weeks ago by the other co-owner, the wing covers were left off. He found this out when he went to the airport for the accident flight and noted neither wing cover was installed but the tail cover was installed.

As part of his preflight inspection for the accident flight, he sumped the right fuel tank and found a piece of orange paint. He sumped the right tank twice, and both samples were clear of water. He then sumped the left fuel tank and found, “a bunch of water.” He sumped it 5 times before he got all the water out of it. He dried out his sump tube, and sumped the left tank twice more and the sample was clear with no water. For safety concerns he placed the fuel selector on the left fuel tank, and left it there for the entire flight. After engine start he taxied to the runway, did an engine run-up and believed because it was a wet wing, water sloshed and made it to the engine.

His plane partner told him that he had sumped water from the fuel tanks in the past after it had rained without the wing covers on.

He was asked to describe the fuel strainer/gascolator and how he checked it?

He indicated there is no way to check it because of the low wing. In the Owners Manual, it indicates you can pull the knob to drain the line, but there is no reference to draining that as part of the preflight inspection in either the Owners Manual or commercially developed checklist.³

³ The Owners Manual indicated that both wing tanks are to be drained as part of the preflight inspection, and information contained in “Entering the airplane” indicated, “Drain the fuel selector valve on the floorboard and turn the selector to the proper tank. Be sure the drain returns to ‘OFF’ position and that the pull ring is properly positioned in the cavity provided.”

NTSB Questions Continued –

He was asked to explain in detail what occurred from his arrival at the airport to the accident? He arrived at the airport and the weather was clear. He removed the tail cover and did not that the pitot cover was not installed on the pitot tube. He looked for it on the ground in case it came off but did not find it. He verified the pitot opening was clear. The preflight was going OK until he sumped both wing fuel tanks. He cleared the water from the left fuel tank, and finished his preflight. After engine start he taxied to the runway and did an engine run-up, which he reported was normal. He checked everything during the run-up including the magnetos, carburetor heat, proper engine idle, propeller governor, instruments, and noted the fuel pressure was above red line with the auxiliary fuel pump on. He turned it off and announced his takeoff intention. A person in the fixed base operator (FBO) provided him the altimeter and windspeed, which, “which threw him off” because normally someone would not respond with that information. He read back the information and verified final approach was clear and taxied onto the runway.

He applied full throttle and at 83 mph, lifted off. He got airborne and when above the runway, heard the engine “cough/sputter.” He looked to his left and thought to himself do not turn go straight ahead. The next thing he knew he heard a bang and was on the ground. The airplane came to rest. The time span from the cough/sputter to the ground contact was 3 to 5 seconds. He indicated there is a video that depicted the event. From that video it shows the airplane at 50 to 70 ft above ground level, in a normal takeoff climb, and then the engine lost power, followed by a stall/mush.

He was asked the following questions:

Was he injured?

No.

What restraint was he wearing?

The airplane was only equipped with a lapbelt, and he was wearing it snug.

During the engine run-up what were each magneto drops?

The magneto and carburetor heat rpm drops were each 80 to 100 rpm.

When he applied full power for takeoff did he do so with the brakes applied or was he rolling?

He was rolling when he applied full power. He did not recall what the maximum rpm reading was at that time. But to him the engine rpm sounded good. The throttle control was full forward, and the engine sounded OK.

When did he first notice the problem?

From the time he lifted off to the sound of sputtering was 2 seconds.

NTSB Questions Continued –

What was the 1st symptom manifested on the engine gauges?

He did not switch tanks or turn on the auxiliary fuel pump when the engine began coughing/sputtering.

What did the engine gauges depict when the engine lost power?

He was not sure. He did not look at the engine gauges.

What was the position of the landing gear during the flight?

He left it down.

What was the position of the flaps for the flight?

15°.

Was either fuel cap sealing area corroded?

No, nothing obvious.

What is the mechanics name and phone number?

Joseph “Mack” Macmillon Phone [REDACTED]

Did he have any questions for NTSB –

Was I aware the airplane was involved in a gear-up landing in January 2020?

Yes.

He indicated that on April 7th, the insurance adjuster was at the airplane and in his presence, he sumped the left fuel tank and got a little water. There was no water in the right fuel tank. He indicated that it did not rain between 4/3 and the inspection on 4/7.

NTSB Questions Continued –

Did he turn the fuel selector off?

Yes, it was positioned on the left tank since engine start but he turned it off after the accident.

How much time elapsed between engine start and takeoff power application?

About 5 minutes. The approach end of the runway was not adjacent to the ramp his airplane was on.

What runway did he use?

33. He had full length available. He indicated there is a fire training facility past the end of the runway. He knows to scan and when he was airborne he looked down at the roof of the helicopter hangar. He perceived he did not have enough runway distance remaining vs. altitude to land on the runway.

NTSB Questions Continued –

Did he check the fuel vent as part of his preflight procedure?

No, he was not aware of the location of the fuel vent.⁴

The call ended at 1242 EDT.

The digest was e-mailed to him for review on April 14, 2021. He replied on April 20, 2021, at 1223 EDT with comments that were incorporated into the narrative. The corrected digest was e-mailed to him on April 21, 2021. He replied the same day at 1256 EDT with, “Mr. Monville, these changes look fine to me. Thank you for making them.” The corrected digest was e-mailed to him on April 21, 2021.

⁴ A review of the Owner’s Manual revealed no mention to check the fuel vent system as part of the preflight check.



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: April 14, 2021
Person Contacted: Evan Howell
NTSB Accident Number: ERA21LA170

Narrative:

Mr. Evan Howell was contacted by phone on April 8, 2021, at 1321 EDT. Also present on the call was Federal Aviation Administration (FAA) inspector Kenneth Crowder. The call was made to [REDACTED] Mr. Howell provided an e-mail address of [REDACTED] His phone number is [REDACTED]

At the beginning of the interview Mr. Howell was advised that the NTSB is a federal agency mandated by Congress to investigate aircraft accidents, and NTSB has no authority to take any action against any individual. He was also informed that the purpose of an NTSB investigation is for safety only, and any person NTSB talks with has the right to representation; he agreed to the interview without representation.

He indicated that he holds a commercial pilot certificate with airplane single engine land and instrument airplane ratings. He has about 373 hours total flight time. He indicated that he has 11.1 hours of complex flight time, and an hour of Mooney M20 riding around as a passenger. He works at College Park Airport (CGS), College Park, Maryland, and his title is Manager on Duty.

With respect to the accident airplane (N2953L), he indicated that he had just secured the engine of his airplane and noted the pilot perform a preflight which took about 45 minutes to 1 hour. After it was completed he started the engine and taxied to the runway estimating that it took about 8 minutes from engine start to the start of the takeoff roll. He did not hear the pilot check the magnetos or cycle the propeller, which he thought was unusual. He was intently watching.

At the time of takeoff he was at his airplane located at 38.980476° North latitude and - 076.923596° West longitude, which was about 628 ft and 166° from the accident site location. During the takeoff the airplane was in front of him. At about 1/2 way down the runway while

still on the ground, he noted an engine problem first develop. He described the engine problem as, “really running rough all three wheels [were] on the ground at that point.”

He was asked the following Questions by NTSB –

Explain the sound he heard -

It was not sustaining maximum continuous power sound, it was “hunting” rapidly, losing power, running rough, surging to higher rpm, running rough. He further described it as the engine would not sustain a steady engine rpm, or, “[for] lack of a better word was dying.” He put the tow hook of his airplane on the ground and the person that was with him said oh that’s not good. He noticed the elevator made a nose-up deflection after the bad engine sound occurred.

Did the poor engine sound continue?

When it became clear the airplane was going to crash he started running towards the car. He couldn’t tell if the bad engine sound continued. He did watch the airplane level off at 25 ft above the runway. He could see the pilot had full aft elevator input applied, and noted the wings buffet.

At the 1/2 way point could the pilot have aborted?

Yes, if he pulled the mixture and applied full brakes and the 1st sound of a problem he could have aborted safely. By his estimate the airplane was doing 60 mph.

Did you see any smoke trailing the airplane?

No, he did not see any smoke or fluids.

During the pilot’s preflight did he see the pilot focusing his time in any specific area?

He was talking with Chris therefore he did not observe if the pilot focused on any one area.

There were no questions from FAA.

The call ended at 1340 EDT.

The digest was e-mailed to him for review on April 14, 2021. He replied on April 21, 2021, at 1244 EDT with comments that were incorporated into the narrative. The corrected digest was e-mailed to him on April 21, 2021.



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: April 27, 2021
Person Contacted: Dave Stanton
NTSB Accident Number: ERA21LA170

Narrative:

Mr. David Stanton of Mid-Atlantic Aircraft Recovery was contacted by phone on April 20, 2021, at 1420 EDT. The call was made to [REDACTED] He provided an e-mail address of [REDACTED]

He indicated that as part of the recovery which occurred on April 13th, 1/4 quart of water was drained from the left fuel tank. As part of the NTSB request after draining the fuel tanks he inspected each wing fuel tank sump drain and noted different part numbers. Also as part of the request he took fuel samples from various parts of the airplane (Figures 1 and 2).

He provided an e-mail on April 13, 2021, at 1719 EDT, indicating, "The recovery went well. We took the samples as requested and capped/stowed the lines. I have attached the fuel samples we took. The left wing sump from the cockpit had 1/4" of water in the sample. The fuel line disconnected from the firewall was mostly water. I have attached a few pictures of the samples and will give you a call if you have time to talk."

During the phone call on April 20th, he indicated that the carburetor bowl contained about 5 ounces of fluid, which was about equal parts water and fuel (Figure 3).



Figure 1: Photograph Taken by Dave Stanton. View of the Fuel Samples Taken During Recovery of the Airplane. 3rd Jar from the Left is the Fluid Drained From the Flexible Hose From the Firewall Fitting to the Inlet of the Engine-Driven Fuel Pump.



Figure 2: Top View of Sample Jars in Same Orientation as Figure 1 Depicting Labeling of Jars. 3rd Jar from the Left is the Fluid Drained From the Flexible Hose From the Firewall Fitting to the Inlet of the Engine-Driven Fuel Pump.



Figure 3: Jar on Left Depicts the Fluids Drained From the Carburetor Bowl. Note The Total Drained Amount was About 5 Ounces and was About Equal Parts Fuel and Water.

The digest was e-mailed to him for review on April 27, 2021. He replied on April 29, 2021, at 1239 EDT with comments that were incorporated into the narrative. The corrected digest was e-mailed to him on April 29, 2021.



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: June 30, 2022
Person Contacted: Joseph W. "Mack" McMillan
NTSB Accident Number: ERA21LA170

Narrative:

Mr. Joseph W. "Mack" McMillan was contacted by phone on June 30, 2022, at 0912 EDT. He was called at [REDACTED] and left a voice mail message. He returned the call the same day at 0957 EDT, from the same phone number. He provided an e-mail address of [REDACTED]

He indicated that he does not have the Airworthiness Directive (AD) compliance list for the annual inspection of N2953L¹.

He was asked the following:

Whether he complied with AD 85-24-03 at the airplane's last annual inspection or is that a one-time inspection?

He did comply with the AD at the airplane's last annual inspection and when he blew into the vent tube by mouth he did not notice bubbles in the Windex he applied to the fuel cap area. He indicated that when he performs annual inspections on Mooney airplanes, especially for airplanes that are left outside, he always complies with that AD every annual inspection. He indicated that Mooney requires an inspection of the airframe fuel strainer every 100 hours, and that the accident airplane had been operated between 116.2 or 116.8 since the fuel strainer had been inspected².

¹ According to the entry in the Airframe Logbook for the inspection, it was not dated, but the AD's were checked as of 7/19/2020, and that was the date provided on the NTSB Pilot/Operator Aircraft Accident/Incident Report for the annual inspection.

² According to the submitted NTSB Pilot/Operator Aircraft Accident/Incident Report, the airplane had been operated 106 hours since the last annual inspection was signed off as being completed.

More often than not when an airplane is left outside, there is problems with water in the fuel tanks.

When performing an annual inspection, before commencing the inspection he performs a search of AD's using airworthinessdirectives.com. And before signing an airplane off he runs another AD search to make sure no new AD's have been released.

With respect to AD 85-24-03, he performs the pressure test by applying Windex to the upper part of the wing at the fuel cap and surrounding area and by blowing into the vent tube by mouth pressure. He does not have a regulator that can go as low as .5 psi. He indicated that if that procedure was inadequate please advise.

He confirmed he does not have any maintenance record copies or AD Lists.

The call end time was 1023 EDT.

The digest was e-mailed to him for review on June 30, 2022. An amended digest was e-mailed to him later that same day. He did not reply. The FINAL digest was e-mailed to him on July 1, 2022.