



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: July 8, 2022
Person Contacted: Steven Burrill
NTSB Accident Number: ERA22LA270

Narrative:

Mr. Steven Burrill was left a voicemail message on his cell phone on July 6, 2022, at 1427 EDT. He was also sent a text message to his cell phone on July 7, 2022, at 1917 EDT, asking for him to contact NTSB. He contacted NTSB by phone on July 8, 2022 at 0910 EDT. He called from [REDACTED]. He provided an e-mail address of [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 agreed to the interview without representation.

Since he had provided a written statement, I indicated that I wanted to ask him some questions to get more detail about the accident flight.

He was asked the following questions –

During your preflight inspection how much fuel was on-board?
6 gallons

How was the fuel distributed in the fuel tanks?
3 gallons on each side.

When was the fuel mixed last?
The same day as the accident. He drained the airplane's fuel tanks that day since he had been in Florida. He obtained fresh fuel that day.

NTSB Questions Continued –

Was the fuel ethanol free?

No.

What is the total capacity of the airplane's fuel tanks?

10 gallons. There is a five gallon fuel tank in each wing.

Did you find any water in the fuel tanks as part of your preflight check?

No. He has a drain valve at the lowest point of the airframe and checked it and did not find any water during his preflight check.

Explain the engine run-up before takeoff/

His airplane is equipped with a single carburetor and dual ignition. During the run-up he checked the ignition system and reported a little rpm drop that was normal, but did not cite what the drops were. Following the engine run he performed a full throttle pass on the runway, reduced throttle and taxied back to the departure end of the runway then initiated takeoff. He indicated that he had flown the airplane earlier that day about 15 minutes then after landing added more fuel.

Confirm the time of the accident?

1500 hours local.

What time did you fly earlier?

1400 EDT.

On that 15-minute flight was there any issue with the engine?

No, there were good temperatures.

What was the source of the fuel added after the 15 minutes long flight?

It was the same fuel that he obtained earlier that day and was the last 2 gallons of fuel mixed at 50:1. He used a chart to determine the 50:1 ratio based on 8 gallons of fuel purchased.

During the 1400 flight, did he do the full power taxi down the runway before departing?

Yes.

Explain the accident flight?

He taxied to the end of the runway, applied full throttle and noted the rpm was 6,300. He became airborne, turned to the left, but during the start of the turn the engine began to "die out", and was losing power, then quit. At that time the airplane was 50 ft above the tree tops. He glided but when the flight was 20 ft above the tree tops, the airplane dropped and descended into a tree. The airplane descended to the ground in a near vertical nose-low attitude (Figure 1). He shut off the fuel, got out of the airplane and sustained a scratch on his neck from the shoulder harness.

Was he wearing the seatbelt and shoulder harness?

Yes. It was a 1 seat airplane.

NTSB Questions Continued –

Explain the loss of engine power?

It wasn't sputtering. The engine rpm started to decrease, sped up a little, then "died to nothing" and stopped.

In light of the postaccident examination of the engine that was performed by the FAA with him present, what do you think was the reason for the engine to lose power, increase a little, then quit?

Carburetor Ice.

Is there anything else you think we need to look at?

Possibly water. During the inspection they drained fuel from one of the fuel tanks into a plastic bottle (Figure 2). At first it appeared ok but after settling there were a few drops of water in it.

Does the airplane have an airframe fuel strainer at the lowest point?

No. there is a drain valve at the lowest point but no strainer.

Postaccident after the engine inspection was completed he installed a different propeller to replace the impact damaged propeller and plumbed the fuel into the fuel filter inlet. He ran the engine to between 4,000 and 4,500 rpm. There were no discrepancies during that engine run. He did not want to run the engine at a higher rpm due to safety concerns.

He was asked about the location of his fuel pump?

It is a pulse type pump installed on a plate beneath the engine (Figure 3).

When the engine was operated was it run on the fuel purchased and mixed that day?

Yes.

Explain how the engine "died down."?

Based on the tachometer, the engine rpm dropped to 4,000 at first, then increased to 5,000, then decreased to 3,000 then quit. All that happened in 10 seconds.

Was the engine equipped with an air filter?

Yes, attached to the silencer. It was a big filter that was new.

As part of the postaccident examination was the exhaust free of obstructions?

Yes.

When you ran the engine postaccident did you check the ignition systems?

No.

When you said the flight was 20 ft above the tree tops then descended did the airplane stall/mush?

Yes.

NTSB Questions Continued –

What carburetor was installed?

54.

What octane fuel was purchased?

93.

How long have you owned the airplane?

He finished building it in 2006.

Have you had any similar issue since building it?

In 2010, he decarbonized the pistons, then put the head back on. He started the engine to check it, but 1 wristpin clip separated which scored the cylinders and damaged the internals of the powertrain. He rebuilt the engine installing a new crankshaft and pistons. That was done at 246 hours total time.

What was the airplane total time at the time of the accident?

537.6.

What was the purpose of the accident flight?

He was getting ready for the season. He had flown a local 15 minute flight earlier that day remaining in the traffic pattern. He intended to fly locally for the accident flight.

He did indicate that during the postaccident engine examination, when they took the carburetor bowl cover off they noted the gasket was broken (Figure 4), though he never saw any associated fuel leaks from the carburetor.

Do you have Basic Med?

No. He does not have a current medical. He flies as Sport Pilot using his driver's license.

What is your total flight time?

About 600 hours. The airplane had 537.6 hours, all of which was flown by him.

Do you have an engine monitor?

There is a cylinder head temperature (CHT) and exhaust gas temperature (EGT) gauges installed but they are dials and do not record and retain data. The usual EGT reading is 1,150°F, and the usual CHT temperature is between 275°F to 300°F.

Did you notice the EGT or CHT gauge readings during the accident flight?

I didn't.

Was there any water in the in-line fuel filter during the postaccident examination?

No.

NTSB Questions Continued –

Does your carburetor have the hose with the hole in it?

Yes. It was a new carburetor recently installed.

Do you have any questions for NTSB?

No.

The call end time was 0957 EDT.

The digest was e-mailed to him for review on July 8, 2022. He replied verbally on July 15, 2022, at 0818 EDT with comments that were incorporated into the narrative. The FINAL digest was e-mailed to him on July 15, 2022.



Figure 1: Digital Photograph From Owner. View of the airplane at the accident Site.



Figure 2: FAA Digital Photograph. View of Fuel Sample From Wing Fuel Tank Taken During Postaccident Examination.

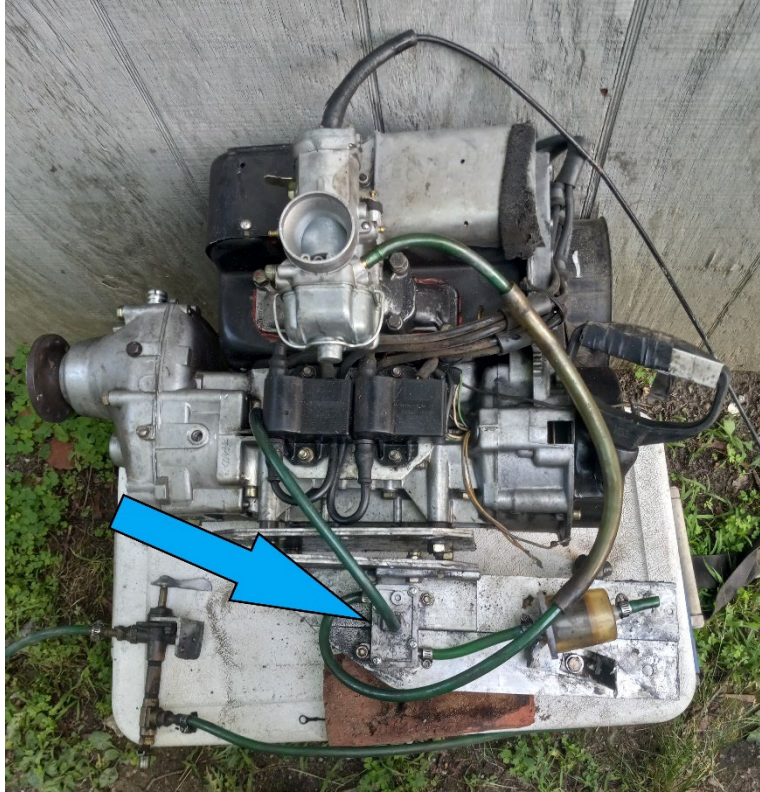


Figure 3: Digital Photograph From Owner. Arrow Points to Pulse Fuel Pump.

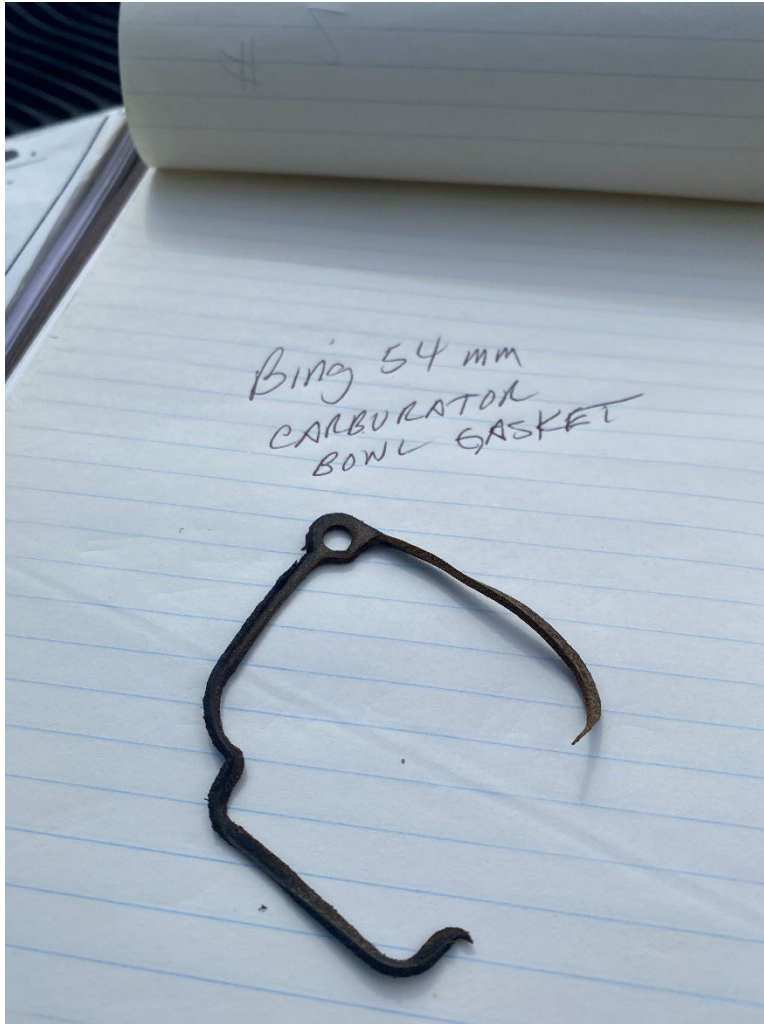


Figure 4: FAA Digital Photograph. View of the Damaged Carburetor Bowl Gasket. Note the Missing section.



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Eastern Region

Date: July 20, 2022
Person Contacted: Steven Burrill
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Narrative:

Mr. Steven Burrill contacted NTSB by phone on July 15, 2022, at 0818 EDT. He called from [REDACTED]

He indicated that he did receive my typed interview notes and the only change is that the pulse fuel pump is located under the plate beneath the engine. He indicated that the fuel sample depicted in the photograph contained in the interview summary of July 6, 2022, was the sample that had drops of water days later. He did receive the NTSB report and his wife sent it the other day.

When he ran the engine postaccident, he plumbed into the fuel filter inlet, which then went to the pulse fuel pump and then to the single carburetor.

He was asked the following questions –

Does his airplane have a fuel vent?

Yes. He has vented fuel caps. He checked them before his uneventful 15 minute flight earlier that day and they were ok. He verified that the fuel supply goes from the wing fuel tanks into the fuel shut-off valve, then to the fuel filter, pulse fuel pump and then the carburetor.

The fact that the carburetor fuel bowl did not have fuel when checked postaccident was not unusual because of the resting position of the airplane. The fuel drained out.

During the call an action item for NTSB was to send him a picture of the carburetor float condition which according to the Rotech representative was deteriorated. It was also discussed during the call to inspect the fuel supply hoses from the fuel tanks to the engine.

The call end time was 0839 EDT.

The digest was reviewed with him during the call and he agreed with the content. The digest was e-mailed to him on July 20, 2022.



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Date: July 20, 2022
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Narrative:

Mr. Steven Burrill contacted NTSB by phone on July 18, 2022, at 1008 EDT. He called from [REDACTED]

He indicated that he inspected the fuel supply hoses from the fuel tanks to the fuel shut-off valve and they were clear with no obstructions. The fuel shut-off valve which was about 1 foot from the fuel filter inlet worked normally and was free of obstructions.

The call end time was 1017 EDT.

The digest was reviewed with him during the call and he agreed with the content. The digest was e-mailed to him on July 20, 2022.