

Paul Basti  
Air Safety Investigator  
Western Pacific Region

**Date:** August 24/2023  
**Subject:** WPR Memorandum for Record  
**Contact:** Cory Bagley  


The following is a synopsis of an interview with Cory Bagley.

Mr. Bagley spoke with the accident pilot shortly after its first flight which was just prior to the accident flight. Mr. Bagley was at his hangar across from the accident pilots when he briefly came over to discuss the flights event and commenting that the engine oil temperature had overheated to approximately 280 degrees, and expressed concern he may have forgotten to adjust something related to oil cooling configuration possibly causing engine damage – which was too uniquely technical for Mr. Bagley to properly understand. The accident pilot did comment that the cylinder temperature was below 400 degrees and its context was not one of a temperature exceedance.

Mr. Bagley also noted that the accident pilot mentioned that the pilot racing the airplane would be performing a conditional inspection on the engine.

Stephen Stein  
Senior Aviation Accident Investigator  
Western Pacific Region

**Date:** August 25, 2023  
**Subject:** WPR Memorandum for Record  
**Contact:** Jeremy Heidinger

According to Mr. Heidinger, he was scheduled to race the accident airplane in the Reno Air Races.

The witness noted that the had pointed at the fuel tank before the pilot left on the accident flight and the pilot responded that he had 8 gallons of fuel. At the time the pilot also noted that his oil pressure was 10 psi.

**Date:** August 28, 2023  
**Subject:** WPR Memorandum for Record – Interview 2  
**Contact:** Jeremy Heidinger

According to Mr. Heidinger, the airplane had a prop strike in 2019 during a midair collision. The pilot told the witness that he saw flakes in the engine oil screen.

**Date:** September 1, 2023

**Subject:** WPR Memorandum for Record – Interview 3

**Contact:** Jeremy Heidinger

Mr. Heidinger reported that he knew the engine had an oil pressure of 10 psi when it was cold. He did not know the intent of the accident flight because they never talked about it. He believed that the accident pilot would have taken the airplane away from the airport because its typically busy there. The pilot was also familiar with the airport and knew there were soccer fields beyond the end of runway 16 because he had gone there to assist other downed airplanes. According to the witness, the airplane had been down for the last 1.5 years, so the pilot had no flights in it. The accident pilot had also told Mr. Heidinger that he hadn't flown the accident airplane in 1.5 – 2.5 years at the time of the accident.

Mr. Heidinger noted that whatever the pilot was troubleshooting in the traffic pattern happened during crosswind and may have diverted his attention from flying the airplane. He opined that perhaps the airplane got slow and the pilot saved it after the wing dropped, but did not have enough altitude to recover and arrest the descent before it impacted the ground.

On the day of the accident the witness looked over the airplane, but did not know the accident pilot was going to fly that day. The pilot returned home after his first flight in the airplane (the previous day), mowed his yard and then told Mr. Heidinger that he flew the airplane, which is where the witness learned that the oil temperature was more than 280° F because the needle was pegged, indicating the temperature could have been much higher. When the witness arrived at the airport he noticed that the accident pilot was getting ready to take off and noticed that the oil pressure was 10 psi. He also learned that the pilot had changed the oil that day after he saw some flakes in the oil screen. Mr. Heidinger noted that the pilot appeared rushed that day and that he had learned from the pilot's wife that the pilot had woke up before the sun came up and went to the airport on the day of the accident. The pilot told his wife that if he "messed the engine up" it should kill him instead of Mr. Heidinger. The accident pilot had asked another mechanic to build the engine for him, but the mechanic had to decline because of other work.

Paul Basti  
Air Safety Investigator  
Western Pacific Region

**Date:** August 24/2023

**Subject:** WPR Memorandum for Record

**Contact:** Jeremy Heidinger  
440-622-6295

The following is a synopsis of an interview with Jeremy Heidinger.

Mr Heidinger stated his association with the accident pilot was to fly the airplane at a later date in an air race. He had never flown the airplane, and made arrangements the day of the accident to familiarize himself with the airplane and its mechanical state, and mentioned that the accident pilot had flown the airplane earlier in the day and complained of an engine overheat condition but did not know of its cause.

Mr. Heidinger was standing parallel to the runway, approximately one thousand feet from the threshold and observed the accident airplane takeoff. He mentioned that the engine sound was not consistent with audible full power but assumed this could have been normal since the engine was configured for racing application. Once the airplane became airborne, it turned right into the crosswind leg, when the right wing dropped an estimated 45 degrees of bank to the right in a nose down upset attitude, eventually losing sight of the airplane as it descended below his field of view.



Stephen Stein  
Senior Aviation Accident Investigator  
Western Pacific Region

**Date:** September 11, 2023

**Subject:** WPR Memorandum for Record

**Contact:** Joseph Christoffersen

According to Mr. Christoffersen, he had turned right from 7800 onto 4800 W in West Jordan when he saw the accident from his vehicle. He saw the airplane take off from the runway and then make an abrupt turn to the right. The airplane then turned sideways and fell out of the sky. He was unable to hear the engine because he had the air conditioning running in his car and the windows were up. He noticed that the nose was flat when the airplane started to fall out of the sky about 150 ft above ground level.

Stephen Stein  
Senior Aviation Accident Investigator  
Western Pacific Region

**Date:** October 10, 2023

**Subject:** WPR Memorandum for Record

**Contact:** Tonya King

According to the pilot's wife her husband (the accident pilot) purchased the accident airplane in around 2009 for the Reno Air Races. He then sold it for a couple of years and then after it heard it was in a hangar collapse from a Tornado in Kansas he bought the airplane back in 2013. Her husband flew the airplane around locally, but he would fly his Tri-Pacer and Cub around more frequently. The airplane had a T tail conversion on 2018 or 2019.

At the time of the accident the pilot hadn't flown the airplane since April or May 2023. She was unable to find any mx records around the house. She remarked that the pilot sent her a text after he flew the morning of the accident (he flew for about 30 minutes at 0800). She noted that her husband was very excited that morning. She added that her husband put the engine back together himself, but may have had someone help him occasionally.

Stephen Stein  
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**Date:** September 13, 2024

**Subject:** WPR Memorandum for Record

**Contact:** Ryszard Zadow

Mr. Zadow reported that he was very familiar with the engine on the accident airplane and had helped the accident pilot with some maintenance on the accident airplane prior to the most recent overhaul. He reported that during his conversation with the accident pilot, they talked about clearances and the standard for racing engines. From this conversation Mr. Zadow noted that he wouldn't be surprised if the engine had been assembled tight. For racing, Mr. Zadow had got advice to build engines a little loose rather than tight.

According to Mr. Zadow, the accident pilot wanted the engine build tight. The pilot referred to Formula 1 rules, which allow for tighter clearances, and even the example of Harley Davidson motorcycles suggesting they also use tighter clearances. Mr. Zadow noted some scuffing of the piston skirt after the assembly and at times he saw temperatures as high as 550° F cylinder head temperatures at times.

The engine was overhauled after it ran for 3 seasons (3 races in Reno and international races as well) and he opined that the pilot probably put together the engine the way he did because he was running out of time with the Reno Air Races fast approaching.

Mr. Zadow also commented on how the tail was modified (changed from a conventional tail to a T tail). The accident pilot always liked T tails as his favorite airplane was an F 104 and he knew there were other people who had converted their Cassutts to T tail. The pilot wanted the a swept leading edge type horizontal stabilizer for aesthetics. After the 2017 or 2018 racing season he told Mr. Zadow to cut the tail off. The horizontal turned out to be bigger than the standard horizontal for the Cassutt with a higher moment and all the controls buried in the vertical stabilizer. The

pilot was scrambling to finish the tail prior to an upcoming race and eventually got phase 1 testing approved one week before the race. During the first flight he observed how it handled and the second flight he elected to open up the envelope. During the second flight he got into a turn a little more than he had anticipated and realized the nose was lower than it needed to be and he was at full aft stick, but the airplane was not responding. He shoved the power forward, leveled the wings, and applied rudder, which appeared to return pitch control. After this event Mr. Zadow told the pilot they need to review the design because it seemed like the elevator was completely ineffective. Mr. Zadow even installed two cameras to show the pilot that the elevator did function as designed despite the chosen deflection. Mr. Zadow noted that the chord of the tail in the middle was too big and the pilot's response was "don't fly there" which the pilot told Mr. Zadow after he took the airplane up and experienced the elevator issue.

They never worked on the tail; just trimmed the airplane for race speeds/cruise speeds. When all the work was finished, this deadband (area of elevator ineffectiveness) was narrower, but it was still there. When the airplane was in a turn, the elevator would not work as designed and the deadband was likely exacerbated with the pilot's weight as he was 100 lbs heavier than Mr. Zadow.

Mr. Zadow also noted that the airplane never felt well on final approach and that the tail may have been stalling at slow speeds. The only way to recover from the deadband was to accelerate out of it.