

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN24FA179

EXAMINATION SUMMARY

May 16, 2024

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A. ACCIDENT

Location: Marianna, Arkansas
Date: May 12, 2024
Time: 1956 CDT
Airplane: Piper PA46-500TP, N241PM

B. EXAMINATION SUMMARY

IIC	Brian Rutt NTSB Aurora, Colorado
Party Member	Kris Wetherell Piper Aircraft Vero Beach, Florida
Party Member	Sean Holloway Piper Aircraft Vero Beach, Florida
FAA Inspector	Dan Butler FAA Memphis, Tennessee

C. SUMMARY

On May 12, 2024 about 1956 CDT, a Piper PA46-500TP, N241PM, was substantially damaged when it was involved in an accident near Marianna, Arkansas. The pilot and passenger were fatally injured. The flight was conducted under Title 14 *Code of Federal Regulations* part 91 as a personal flight.

The flight departed Pensacola International Airport (PNS), Pensacola, Florida about 1721 central daylight time (cdt) enroute to Batesville Regional Airport (BVX), Batesville, Arkansas on an instrument flight rules flight plan. About 1945 the airplane began its descent out of FL280. The pilot was cleared to descend to 6000 ft mean sea level (msl) and reported continuous moderate chop while descending through FL240. About 1955, The airplane entered a rapid descent and right turn. Loss of radar contact and communication occurred at 7800 ft msl. An ALNOT was issued at 2006. The wreckage was discovered about 2300 in a bean field.

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The main fuselage was located in an open, flat, agricultural soybean field, with a newly planted crop of approximately 4 inches tall. The main fuselage was located at 34.661442 and -090.596506. The outboard portion of the left wing was located at 34.66169 and -090.59654. The inboard portion of the left wing was located at 34.6651 and -090.59663. The fuselage was resting oriented toward 010 degrees true. The left wing was detached at the wing root. The left wing was in two pieces. The left inboard portion of the wing was found about 30 ft and 281° from the main wreckage, and the outboard portion of the left wing was found about 80 ft and 353° from the main wreckage. The inboard right wing was fractured at the wing root and found partially under the fuselage. The engine was attached to the engine mount and embedded in the ground. The propeller assembly was embedded in the ground and only two propeller blades were visible. An odor consistent with jet fuel was present.

The left horizontal stabilizer, vertical stabilizer, rudder, elevator, right aileron, right flap, and the outboard portion of the right wing were not located at the accident site. A search for the missing components utilizing a state police drone was conducted on 5/15/24. No additional components were reportedly found during this effort. There were no reported ground injuries or ground structure involved. The wreckage was recovered by Dawson Aircraft of Clinton, Arkansas.

Two small dogs were reported to be on board but were not found on scene or within the wreckage.



Figure 1. Wreckage at accident site.

2.0 Airframe Examination

2.1 FUSELAGE

The fuselage came to rest on the right side. The nose and right forward cabin area were compressed up and aft. The right side of the fuselage revealed compression damage. The right-wing inboard section was found under the fuselage. The left wing separated from the fuselage at the wing root. The carry-through spar was fractured in two locations near the left side of the fuselage. The engine remained attached to the fuselage and was partially embedded in the field soil. The main cabin door top and bottom remained attached to the airframe. The bottom portion of the door could not be opened easily due to deformation of the door frame. The main cabin door latch was in the closed position and the end of the latch was broken. The emergency window was detached from the fuselage and was resting near its normally mounted position. The aft cabin and aft fuselage displayed compression buckling. The buckling was more pronounced in the aft fuselage on the top and bottom surface. The nose landing gear was found in the retracted position. The landing gear

selector handle was broken from the instrument panel. The flap actuator displayed one thread exposed on the jackscrew, consistent with a flap retracted position. The fuel pump switch was found selected to auto. The propeller heat switch was found selected off and the pitot heat switch was found selected on. Black witness marks consistent with leading edge wing de-ice boots were found on the right side of the aft fuselage (Figure 2).



Figure 2. Right side aft Fuselage

2.2 LEFT WING

The left wing separated from the fuselage at the wing root and was further separated at the wing splice wing station (WS) 107.5. Both portions of the wing displayed buckling along the top and bottom surface. The buckling was more pronounced at the wing tip. The leading edge of the wing root was compressed, consistent with forward rotation of the wing during separation. The entire flap remained attached to the inboard end of the wing. The outboard end of the flap separated from the mounting hinge. The left aileron remained attached to the outboard portion of the wing and displayed buckling along the top and bottom surface. The aileron sector remained attached to the wing. Both aileron cables remained attached to the sector. The sector aileron control rod was broken. The two aileron cables were separated near the wing root. Both cable ends displayed fraying and unraveling consistent with overload separation. Some residual fuel/water mixture came out of both portions of the wing then they were rotated to view the bottom surfaces. Rain had occurred the night before the on-site investigation. The left main landing gear was found in the retracted position and was free to move when the wing was lifted.

2.3 RIGHT WING

The right wing separated at the wing splice at WS 107.5. The separated portion of the right wing was not located during the on-site investigation. The top spar cap of the right wing displayed downward and aft bending with upward bending at the last two inches at point of separation. The separated end of the wing displayed upward and downward deformation of the wing skin and buckling. The right main landing gear was in the retracted position.

2.4 EMPENNAGE

The vertical stabilizer, rudder, elevator, elevator trim and the left side of the horizontal stabilizer had separated from the airframe in-flight and were not located during the on-site investigation. The right side of the horizontal stabilizer remained partially attached to the empennage and was bent approximately 90 degrees upward. The vertical stabilizer main spar was separated below the fuselage skin and from the forward attachment. The vertical stabilizer main spar and the forward attachment both displayed aft bending. The elevator trim actuator rod was found with

0.5 inches of extension on the forward end of the rod, exposing 5 threads, consistent with a slight nose down trim position. The rudder trim actuator is located in the vertical stabilizer and was not recovered for examination. At the on-scene investigation, control cable continuity was confirmed from the empennage to a position at the main wing spar for the rudder and elevator cables. The cables were bound forward of that location due to impact deformation.

2.5 LANDING GEAR:

The right main gear was found under the right wing in the retracted position. The left main gear was found with the inboard portion of the left wing in the retracted position. The nose landing gear was under the main wreckage and appeared to be in the retracted position.

2.6 FLIGHT CONTROLS:

Both rudder sector attachments at the rudder bar were broken. The rudder cable ends at the forward cabin were bound in a location about 40 inches from the rudder bar due to deformed and compressed structure. One broken sector portion was visible with a rudder cable attached. The rudder cables were separated near the main spar about 60 inches from the control column. The separated cable ends displayed fraying and unraveling consistent with overload separation. One rudder cable remained attached to the broken rudder sector at the empennage. The other rudder cable separated from the sector.

The elevator sector at the control column was broken. The elevator cables remained attached to the broken portions of the sector. One cable could be moved through the deformed portion of the wreckage. One cable was bound about 15 inches from the rudder bar due to metal deformation in that location. The elevator sector in the aft fuselage remained intact with both elevator cables attached. The elevator cables were separated near the main spar, about 60 inches from the control column. The separated cable ends displayed fraying and unraveling consistent with overload separation.

The left aileron cables remained attached to the sector. The aileron control rod from the sector to the aileron was broken. The drive cable measured 9 foot 6 inches to a separation. The separation displayed fraying and unraveling consistent with overload separation. The balance cable was separated 12 feet 6 inches from the sector. The separation displayed fraying and unraveling consistent with overload separation.

The elevator trim cables remained attached to the control wheel in the forward cabin. Both elevator trim cables were separated about 60 inches from the control wheel. The separated ends were frayed and unraveled consistent with overload separation. One trim cable was separated about 14 inches from the trim actuator drum. The other cable remained attached to the drum.

The left control column round tube (external) separated from the column square tube (internal). The separated square tube remained attached to the left aileron sector. A 6-inch portion of aileron cable remained attached to the sector. The drive portion of aileron cable had separated from the sector. The right control column remained intact with the aileron sector attached. Twenty-two inches of aileron cable (from right control column to the left control column) was attached to the right side. The separated ends displayed fraying and unraveling consistent with overload separation.

Flight control continuity was established to the extent possible by the condition of the wreckage. All observed separations were consistent with impact or overload damage.

Both pitot static tubes were tested with a 12-volt battery. Both pitot tubes produced heat when electrical source was applied. The pitot heat switch in the separated overhead switch panel was found in the on position.

A test of left side fuel pump was not successful due to impact damage. The internal components of the pump revealed rotational scoring.

The throttle lever was found in the idle (beta) position, and the propeller condition lever was found near the full forward position. The emergency fuel lever was in the OFF position. The friction lock was 2 inches aft of full forward. The throttle and condition lever control cables remained attached to their respective control arms on the engine. Engine control continuity could not be established due to impact damage.

The main spar box was broken at left and right wing root. The spar box was pushed aft on the right side during the impact sequence. The spar box displayed upward bending on about the last 12 inches near each end and is relatively unbent along the center span. Fractures and bending are consistent with positive loading. The left side of the spar box is further fractured about 9 inches inboard of the wing root fracture. From the right wing root fracture to the 9 inch fracture the spar box measured about 47 inches.

The separated left wing root main spar displays upward bending consistent with positive loading.

3.0 Engine Examination

The engine was a Pratt and Whitney PT6A-42A, serial number PCE-RM0161. The engine was found embedded in soft mud and remained attached to the engine mount. The exhaust duct exhibited torsional buckling consistent with torque production. The engine was retained for further examination.



Figure 3. Engine and propeller as found at the accident site.

4.0 Propeller Examination

The propeller assembly was partially embedded in the ground at the scene. 2 blades were visible and exhibited S-bending. The propeller was recovered to a secure facility. All 4 blades remained attached to the propeller hub. The blades exhibited bending progression from forward to aft in the direction of rotation consistent with thrust production. There was rotational scoring and polishing on the blades. The propeller was retained for further examination.

5.0 Pilot Information

The pilot was a 72-year-old male. This pilot reported civil flight experience that included 5058 total and 60 hours in last six months as of exam dated 9/20/2023. This pilot was 74 inches tall and weighed 210 lbs. at the time of the last exam. The last exam was conducted by Aviation Medical Examiner (AME) 1334. This pilot was issued a Third Class Medical Certificate with the following limitation: "Must use hearing amplification. Must use corrective lenses to meet vision standards at all required distances."

6.0 Aircraft Information

Piper PA46-500TP, Serial Number 4697150, manufactured in 2003
Owner: Bryants Aviation, Inc.

The airplane was maintained by Edmund Aviation, Searcy, Arkansas.
The last annual inspection was completed on March 9, 2023.

The logbooks were collected by Dan Butler (FAA - Memphis FSDO) and presented at the wreckage examination at Dawson Aircraft. The logbooks were documented and remained with the wreckage.

7.0 Meteorological Information

METAR KUTA 130015Z AUTO 14007KT 10SM FEW110 24/18 A2987 RMK AO2 T02360181
METAR KUTA 130035Z AUTO 13007KT 9SM BKN100 23/18 A2987 RMK AO2 T02330184
METAR KUTA 130055Z AUTO 16008KT 9SM FEW100 SCT120 23/19 A2989 RMK AO2 T02300185
METAR KUTA 130115Z AUTO 18005KT 10SM BKN120 23/18 A2989 RMK AO2 T02320178
METAR KUTA 130135Z AUTO 17007KT 10SM OVC110 23/17 A2988 RMK AO2 LTG DSNT SW
T02300173

**KUTA 130155Z AUTO 18008KT 10SM BKN110 OVC190 23/17 A2988 RMK AO2 T02320170
Accident 0158Z**

METAR KUTA 130215Z AUTO 17006KT 10SM SCT110 OVC190 23/17 A2987 RMK AO2 T02270169
METAR KUTA 130235Z AUTO 19007KT 10SM OVC190 23/16 A2990 RMK AO2 PRESRR T02290164
METAR KUTA 130255Z AUTO 21014KT 10SM SCT110 BKN130 OVC190 22/17 A2990 RMK AO2 LTG
DSNT SW
T02230170
METAR KUTA 130315Z AUTO 21009KT 10SM OVC110 22/17 A2991 RMK AO2 T02150174
METAR KUTA 130335Z AUTO 22009KT 10SM OVC100 21/17 A2992 RMK AO2 LTG DSNT SW
T02110171

A detailed weather report is pending.

8.0 Insurance and Recovery

Insurance adjuster: Shane Phillips, USAIG

Recovery Company: Dawson Aircraft, Clinton, Arkansas

Wreckage was recovered by Dawson and taken to their facility in Clinton, Arkansas for storage.

Submitted by:

Brian Rutt

Air Safety Investigator