



# Aviation Investigation Final Report

<b>Location:</b>	BURKBURNETT, Texas	<b>Accident Number:</b>	DEN93LA079
<b>Date &amp; Time:</b>	July 15, 1993, 17:45 Local	<b>Registration:</b>	N4834M
<b>Aircraft:</b>	PIPER PA-11	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor, 1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

AFTER SIGHTSEEING FOR ABOUT 30 MINUTES, THE PILOT INITIATED A RIGHT BANK TO RETURN TO THE AIRPORT. THE AIRPLANE BEGAN DESCENDING AND FULL BACK PRESSURE WOULD NOT ARREST THE DESCENT. THE PILOT LEVELED THE WINGS AND APPLIED FULL POWER. THE AIRPLANE IMPACTED A RIVER SAND BAR. POST-ACCIDENT EXAMINATION DISCLOSED THE UP ELEVATOR CABLE WAS DISCONNECTED FROM THE CONTROL HORN. A BOLT, SEVERAL CASTLE NUTS, WASHERS, SHEET METAL SCREWS, A SPACER AND A REMNANT OF A COTTER PIN WERE VACUUMED FROM THE FLOOR OF THE AIRPLANE BENEATH THE ELEVATOR CONTROL HORN. THE AIRPLANE HAD ACCUMULATED 142 HOURS SINCE THE LAST ANNUAL INSPECTION 10 MONTHS BEFORE THE ACCIDENT.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE DISCONNECTION OF THE UP ELEVATOR CABLE FROM THE CONTROL HORN. A FACTOR WAS THE INCORRECT INSTALLATION OF THE BOLT AND CASTLE NUT BY UNKNOWN MAINTENANCE PERSONNEL.

## Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: MANEUVERING

Findings

1. (C) FLT CONTROL SYST,ELEVATOR CONTROL CABLE/ROD - DISCONNECTED
2. (F) MAINTENANCE,INSTALLATION - IMPROPER - OTHER MAINTENANCE PERSONNEL

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. TERRAIN CONDITION - SAND BAR

## Factual Information

On July 15, 1993, at approximately 1745 central daylight time, a Piper PA-11, N4834M, was substantially damaged when it collided with terrain near Burkburnett, Texas. The pilot sustained minor injuries and the passenger was not injured. Visual meteorological conditions prevailed at the time and no flight plan was filed for the local personal flight.

The pilot of N4834M was also an Air Force pilot stationed at Sheppard Air Force Base, Wichita Falls, Texas. The following is based on a verbal statement he gave to a Federal Aviation Administration (FAA) inspector and a written statement he submitted along with his accident report. The pilot and his passenger had been flying along the Red River at about 300 feet AGL. They decided to return to their home airport at Wichita Falls, Texas. The pilot said he made a 30 to 40 degree right bank at an indicated airspeed between 55 and 60 MPH. The airplane began descending and he applied back pressure to arrest the descent. Instead, the rate of descent increased. The pilot applied left rudder, leveled the wings, and applied full aft elevator and full throttle. The descent continued until ground impact.

The passenger, an Air Force maintenance officer also assigned to Sheppard AFB submitted a written statement that read (in part): "...the pilot...made a steep diving turn. After approximately 360 degrees of turn, an immediate loss of lift was felt and the aircraft entered a nose low attitude. The wings were immediately leveled, however, altitude was not sufficient to recover from the ensuing dive. The aircraft impacted the ground in full throttle, stick aft, and nose level attitude. The aircraft seemed to be operating normally throughout the entire flight."

The FAA inspector examined the airplane after it had been taken back to the airport. The inspector reported that the bolt and castle nut that attaches the up elevator cable to the control horn was missing. A bolt, several castle nuts, washers, sheet metal screws, a spacer, and a remnant of a cotter pin were vacuumed from the floor of the airplane beneath the elevator control horn.

The airplane's maintenance records indicated the last annual inspection was performed ten months before the accident, on September 21, 1992. At the time of the accident, 142 hours had elapsed since the annual inspection.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	24, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	March 9, 1969
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	283 hours (Total, all aircraft), 6 hours (Total, this make and model), 245 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N4834M
<b>Model/Series:</b>	PA-11 PA-11	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	11-345
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	September 21, 1992 Annual	<b>Certified Max Gross Wt.:</b>	1220 lbs
<b>Time Since Last Inspection:</b>	142 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1217 Hrs	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	A-65-8F
<b>Registered Owner:</b>	RENTON, PAUL N.	<b>Rated Power:</b>	65 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	RENTON AVIATION	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	180°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	35°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	WICHITA FALLS , TX (SPS )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	16:45 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Minor, 1 None	<b>Latitude, Longitude:</b>	34.069961,-98.560569(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Scott, Arnold
<b>Additional Participating Persons:</b>	LOUIS E VARGO; FORT WORTH , TX
<b>Original Publish Date:</b>	June 22, 1994
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=11094">https://data.nts.gov/Docket?ProjectID=11094</a>

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