



Aviation Investigation Final Report

Location:	MIDLAND, Texas	Accident Number:	FTW88LA076
Date & Time:	March 3, 1988, 14:00 Local	Registration:	N8496P
Aircraft:	PIPER PA-24-400	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE PLT RPRTD THAT WHILE HE WAS CRUISING AT 13,000 FT ON AN IFR FLT, THE ACFT WAS SKIMMING THE TOPS OF RAGGED CUMULUS BUILD-UPS. HE ESTIMATED THE ACFT WAS APRX 200 TO 300 FT BELOW THE TOP OF ONE SUCH CLOUD WHEN SEVERE TURBULENCE WAS ENCOUNTERED. DURING THE ENCOUNTER, A 1500 TO 2000 FT LOSS OF ALTITUDE OCCURRED & THE ACFT WAS SUBSTANTIALLY DAMAGED. AFTER THE OCCURRENCE THE PLT NOTED THE 'GEAR UP' LIGHT WAS NOT ILLUMINATED, THE AIRSPEED INDICATOR WAS INOP, & SOME RIVETS WERE POPPED ON THE WINGS. AT THE DESTINATION, HE WAS UNABLE TO EXTEND THE LANDING GEAR WITH EITHER THE NORMAL OR EMERGENCY SYSTEMS. HE THEN DIVERTED TO REDBIRD ARPT & MADE A WHEELS-UP LANDING WHICH RESULTED IN MINIMAL ADDITIONAL DAMAGE. THE PRE-FLT WX BRIEFING CALLED FOR TURBULENCE ALONG THE ROUTE WITH OCCASIONAL LIGHT TO MODERATE ACTIVITY BELOW 8000 FT. THE PLT RPRTD HE EXPERIENCED SMOOTH CONDITIONS PRIOR TO THE ACDNT. AFTER THE ACFT WAS PLACED ON JACKS & THE LANDING GEAR MOTOR RELEASE HANDLE WAS 'JIGGLED,' THE NORMAL & EMERGENCY GEAR EXTENSION SYSTEMS OPERATED NORMALLY.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: ENCOUNTER WITH SEVERE TURBULENCE WITHIN TOPS OF CONVECTIVE CLOUDS. LEADING TO THIS WAS THE PILOT'S FAILURE TO PROPERLY EVALUATE THE POTENTIAL DANGER OF THE CONVECTIVE ACTIVITY, WHICH HE CHOSE TO PENETRATE.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: CRUISE - NORMAL

Findings

1. (C) WEATHER CONDITION - TURBULENCE IN CLOUDS

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: CRUISE

Findings

2. (C) DESIGN STRESS LIMITS OF AIRCRAFT - EXCEEDED

3. WING,SKIN - OVERLOAD

4. LANDING GEAR,GEAR LOCKING MECHANISM - JAMMED

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

5. WHEELS UP LANDING

Factual Information

Pilot Information

Certificate:	Commercial	Age:	46, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Unknown	Last FAA Medical Exam:	October 28, 1987
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2050 hours (Total, all aircraft), 170 hours (Total, this make and model), 2050 hours (Pilot In Command, all aircraft), 58 hours (Last 90 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N8496P
Model/Series:	PA-24-400 PA-24-400	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	26-76
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	50 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3060 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-720-A1A
Registered Owner:	HOUTAN, SEPAHPOUR	Rated Power:	400 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	
Lowest Ceiling:	Unknown	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	EL PASO , TX (ELP)	Type of Flight Plan Filed:	IFR
Destination:	DALLAS , TX (DAL)	Type of Clearance:	IFR
Departure Time:	12:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	REDBIRD	Runway Surface Type:	Concrete
Airport Elevation:	0 ft msl	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	5452 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): Mcfall, Tommy

Additional Participating Persons: SAM PRINCE;

Original Publish Date: January 31, 1990

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=22622>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).