



Aviation Investigation Final Report

Location:	QUINCY, Florida	Accident Number:	MIA97LA134
Date & Time:	April 10, 1997, 14:26 Local	Registration:	N40FL
Aircraft:	Navion A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The airplane was on a test flight after completion of an annual inspection. The pilot stated that shortly after takeoff, he first smelled an electrical fire, then felt heat on his legs. He remained in the pattern and landed. After exiting the airplane, a fire erupted in the cockpit area. Bystanders used water to help extinguish the fire. Postaccident examination of the airplane revealed electrical arcing on the firewall from a cable that went through the firewall. The electrical cable was routed from the battery relay (aft of the aft seat) to the starter relay, which was on the upper right section of the firewall. The mechanic, who performed the inspection, used the manufacturers checklist. Reportedly, no work had been performed on the instrument panel.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: chafing of an electrical cable that was routed through the firewall, which resulted in electrical arcing and an in-flight fire.

Findings

Occurrence #1: FIRE
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. MAINTENANCE, ANNUAL INSPECTION - PERFORMED
2. (C) ELECTRICAL SYSTEM, ELECTRIC WIRING - CHAFED

3. (C) ELECTRICAL SYSTEM,ELECTRIC WIRING - ARCING
4. (C) FUSELAGE,CREW COMPARTMENT - FIRE

Factual Information

On April 10, 1997, about 1426 eastern daylight time, a Navion A, N40FL, registered to Piggy Bank Motors Company, was substantially damaged by fire after landing at the Quincy Municipal Airport, Quincy, Florida. Visual meteorological conditions prevailed at the time and no flight plan was filed for the maintenance test flight. The private-rated pilot, the sole occupant, was not injured. The flight originated about 5 minutes earlier.

The pilot stated to an FAA inspector that he intended to remain in the traffic pattern after takeoff and while on final approach, he smelled what he thought was an electrical fire and felt heat by his legs. He landed and after stopping the airplane, fire erupted in the cockpit. He then exited the airplane and bystanders extinguished the fire using water.

According to the FAA inspector, the airplane had been to the facility for an annual inspection and reportedly no work was performed to the instrument panel. The mechanic who performed the annual inspection reported using the airplane manufacturers checklist. The mechanic also stated that postaccident examination of the airplane revealed electrical arching at the firewall where the electrical cable from the battery relay to the starter relay transits through. The battery in the airplane is located aft of the aft seat on the left side of the airplane.

Pilot Information

Certificate:	Private	Age:	56, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	November 29, 1995
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	862 hours (Total, all aircraft), 113 hours (Total, this make and model), 771 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Navion	Registration:	N40FL
Model/Series:	A A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	4-856
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	April 1, 1997 Annual	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1413 Hrs	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	E-225-4
Registered Owner:	JOHN G. BRENNAN	Rated Power:	225 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	TLH ,81 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	14:52 Local	Direction from Accident Site:	142°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	26°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(2J9)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	14:21 Local	Type of Airspace:	Class G

Airport Information

Airport:	QUINCY MUNICIPAL 2J9	Runway Surface Type:	
Airport Elevation:	222 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	30.579658,-84.580398(est)

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	AUGUSTO CASADO; ORLANDO , FL
Original Publish Date:	October 31, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=38260

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