Aviation Investigation Final Report

Location:	MOORESVILLE, North Carolina	**Accident Number:**	ATL95LA167
Date & Time:	September 10, 1995, 10:30 Local	**Registration:**	N1474N
Aircraft:	PIPER J3C-65	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that engine power decreased smoothly in cruise flight, at a power setting of 2100 RPM. The carburetor heat was applied for about one minute, then removed. He slowed the airplane down and executed an intentional stall into the trees. The weather at the time of the accident was favorable for the formation of carburetor ice, and the pilot said that he did not receive a weather briefing. Later, the pilot stated that he believed that carburetor ice had formed because during the engine teardown there was a lot of moisture in the carburetor.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper use of the carburetor heat resulting in the formation of carburetor ice and subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings
1. (C) WEATHER CONDITION - CARBURETOR ICING CONDITIONS
2. PREFLIGHT BRIEFING SERVICE - NOT USED - PILOT IN COMMAND
3. (C) CARBURETOR HEAT - IMPROPER USE OF - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - EMERGENCY

Findings
4. OBJECT - TREE(S)

Factual Information

On September 10, 1995, about 1030 eastern daylight time, a Piper J3C-65, N1474N, collided with trees during a forced landing near Mooresville, North Carolina. The airplane was operated by the pilot/owner under the provisions of 14 CFR Part 91, and visual flight rules. Visual meteorological conditions prevailed. A flight plan was not filed for the personal, local flight. There were no injuries to the private pilot nor his passenger, and the airplane was substantially damaged. Origination of the flight was Bradford Field, a private airstrip, near Huntersville, North Carolina, about 45 minutes prior to the accident.

The pilot reported that they were in cruise flight, about 1400 feet msl (700-800 agl) when the engine lost power. Engine power decreased smoothly, he reported. Carburetor heat was applied for about one minute, then removed, just before an intentional stall into a pine forest, at very slow speed. Immediately prior to the loss of power, the engine was being operated at 2100 rpm. Local temperature and dew point was 76 and 66 degrees F., respectively.(See attached icing probability curves).

The on-scene investigation revealed 1/2 tank of fuel in the main, 5 gallons in the reserve tank, engine oil satisfactory, and throttle linkage intact. The engine examination disclosed heavy soot deposits on the spark plugs, moisture in the carburetor, and the fuel free from containments. The engine operated properly at all power settings during the functional examination. The pilot later stated that he believed carburetor icing had caused the loss of engine power.

Pilot Information

Certificate:	Private	**Age:**	53,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Rear
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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 12, 1995
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1007 hours (Total, all aircraft), 87 hours (Total, this make and model), 23 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	**Registration:**	N1474N
Model/Series:	J3C-65 J3C-65	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	23140
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	April 1, 1995 Annual	**Certified Max Gross Wt.:**	1400 lbs
Time Since Last Inspection:	17 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	C-85-12
Registered Owner:	JOHN F HACKENBERG	**Rated Power:**	85 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:	CLT ,749 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	09:50 Local	**Direction from Accident Site:**	30°
Lowest Cloud Condition:	Scattered / 25000 ft AGL	**Visibility**	6 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	2°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	24°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	HUNTERSVILLE , NC (PVT)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	00:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

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:**	35.570968,-80.8097(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Preston
Additional Participating Persons:	LEON MCRAE;
Original Publish Date:	April 1, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=3623