



Aviation Investigation Final Report

Location:	Greenwood, Mississippi	Accident Number:	MIA01LA171
Date & Time:	June 25, 2001, 09:20 Local	Registration:	N25Y
Aircraft:	Lockheed P-38L-5LD	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The Lockheed P-38L-5LD "Lightning" was being ferried from Tullahoma, Tennessee, to its home base in Texas following its participation in an air show. During descent into the Greenwood, Mississippi area for refueling, the left engine backfired, ran roughly, and the cockpit filled with thick smoke. With reduced cockpit visibility, and a need to get the aircraft on the ground as soon as possible, the pilot chose a cotton field for a forced landing. Postcrash examination of the left engine revealed the supercharger sustained an internal compressor wheel failure that shot compressor blade pieces through the supercharger housing and the fuel feed line. High pressure 100 octane fuel spewed inside the left engine nacelle, ignited, and caused the in-flight fire.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the failure and uncontained separation of supercharger impeller blades for undetermined reasons during normal descent, resulting in a punctured fuel line and the subsequent in-flight engine fire and emergency descent and forced landing to a farm field.

Findings

Occurrence #1: FIRE
Phase of Operation: DESCENT

Findings

1. (C) ENG ASSEMBLY,BLOWER/IMPELLER/INTEGRAL SUPERCHARGER - FRACTURED
2. (C) REASON FOR OCCURRENCE UNDETERMINED
3. (C) ENG ASSEMBLY,BLOWER/IMPELLER/INTEGRAL SUPERCHARGER - SEPARATION
4. (C) ENG ASSEMBLY,BLOWER/IMPELLER/INTEGRAL SUPERCHARGER - PERFORATED
5. (C) FUEL SYSTEM,LINE - PUNCTURED
6. FLUID,FUEL - FIRE

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

7. TERRAIN CONDITION - PLOWED/FURROWED

Factual Information

On June 25, 2001, about 0920 central daylight time, a Lockheed P-38L-5LD Lightning, N25Y, registered to a private individual, operating as a Title 14 CFR Part 91 personal flight, executed an emergency landing to a cotton field due to a fire in the left engine in the vicinity of Greenwood, Mississippi. Visual meteorological conditions prevailed and no flight plan was filed. The aircraft received substantial damage and the commercially-rated pilot, the sole occupant, was not injured. The flight originated from Tullahoma, Tennessee, about 1 hour 20 minutes before the accident.

According to the pilot, during in-range descent to Greenwood-Leflore Airport, the left engine backfired, started running roughly, and the cockpit filled with thick black smoke. When the canopy release was eventually activated, he observed that the left engine was on fire and trailing flame was consuming the carburetor air intake scoop and the aluminum skin between the left reserve fuel tank and the left engine cowling. Due to the severity of the fire he decided to put the aircraft on the ground, gear up, as soon as possible. The site was a cotton field about 5 miles southwest of the airport.

According to an FAA inspector, examination of the wreckage site revealed that after touchdown, the aircraft slid about 600 feet in soft dirt at an angle to the furrows of cotton plants. Examination of the aircraft revealed the smoke and flames emanated from a hole in the rear area of the left engine supercharger housing. Both propellers had separated, the left engine upper nacelle and left inboard fuel tank were burned extensively, both engine lower nacelles, the right vertical stabilizer, and the underside of the fuselage sustained major ground impact damage.

According to the crew chief/mechanic for N25Y, a more thorough postcrash examination of the left engine components revealed failure of 4 to 5 supercharger compressor blades. The helix shaped, centrifugal compressor blades failed from the hub, outward, about 1/3 span. When the high rpm operating impeller blades fractured and separated, they penetrated the supercharger housing and a 3/4-inch diameter fuel feed hose to the carburetor, causing 100 octane fuel at 17 to 20 psi to shower the engine inside the nacelle, thus the in-flight fire.

Pilot Information

Certificate:	Commercial	Age:	24, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	January 5, 2001
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 18, 1999
Flight Time:	1200 hours (Total, all aircraft), 10 hours (Total, this make and model), 650 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Lockheed	Registration:	N25Y
Model/Series:	P-38L-5LD	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Limited (Special)	Serial Number:	5339
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	January 1, 2001 Annual	Certified Max Gross Wt.:	22000 lbs
Time Since Last Inspection:	75 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	1645 Hrs at time of accident	Engine Manufacturer:	Allison
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	V1710-111
Registered Owner:	Marvin I. Gardner	Rated Power:	1490 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	
Observation Facility, Elevation:	GWO,162 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	09:53 Local	Direction from Accident Site:	45°
Lowest Cloud Condition:	Few / 6500 ft AGL	Visibility	7 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.15 inches Hg	Temperature/Dew Point:	24°C / 19°C
Precipitation and Obscuration:			
Departure Point:	Tullahoma, TN (THA)	Type of Flight Plan Filed:	None
Destination:	Greenwood, MS (GWO)	Type of Clearance:	None
Departure Time:	08:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	Greenwood-Leflore GWO	Runway Surface Type:	Dirt;Grass/turf
Airport Elevation:	162 ft msl	Runway Surface Condition:	Dry;Rough;Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

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:	33.510089,-90.189926(est)

Administrative Information

Investigator In Charge (IIC):	Stone, Alan
Additional Participating Persons:	Harold E Aycock; FAA FSDO; Jackson, MS
Original Publish Date:	December 4, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=53362

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