



National Transportation Safety Board Aviation Accident Final Report

Location:	PROVO, UT	Accident Number:	DEN90LA054
Date & Time:	02/03/1990, 0830 MST	Registration:	N21492
Aircraft:	PIPER PA-32RT-300T	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

DURING FLT, THE PLT NOTED A DROP IN MANIFOLD PRESSURE & DECIDED TO MAKE A PRECAUTIONARY LANDING. WHILE ON A BASE LEG TO LAND, HEAVY SMOKE & FUMES FILLED THE CABIN & REQUIRED THE PLT TO LOOK OUT THE SIDE VENT WINDOW TO COMPLETE THE LANDING. AFTER THE AIRCRAFT STOPPED ON THE RUNWAY, A FIRE IN THE ENGINE COMPARTMENT WAS EXTINGUISHED. AN EXAM REVEALED THAT THE LEFT INTERMEDIATE EXHAUST PIPE (LYCOMING PART NO: LW-15811) HAD PARTIALLY SEPARATED AT THE FLANGE. THE ENGINE CROSSOVER EXHAUST ASSEMBLY HAD BEEN MODIFIED IN ACCORDANCE WITH AD 89-12-04 & TEXTRON LYCOMING SERVICE BULLETIN #484, WHICH WERE INTENDED TO PREVENT THIS KIND OF FAILURE/SEPARATION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: IMPROPER INSTALLATION BY MAINTENANCE PERSONNEL AND FATIGUE FAILURE AND LEAKAGE OF THE LEFT INTERMEDIATE EXHAUST PIPE, WHICH RESULTED IN AN IN-FLIGHT FIRE IN THE ENGINE COMPARTMENT. CONTRIBUTING FACTORS WERE: INADEQUATE SERVICE BULLETIN PROVIDED BY THE MANUFACTURER AND INSUFFICIENT STANDARDS PROVIDED BY THE (FAA) AIRWORTHINESS DIRECTIVE.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE - NORMAL

Findings

1. (C) MAINTENANCE, INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
2. (F) MAINTENANCE, SERVICE BULLETIN/LETTER - INADEQUATE - MANUFACTURER
3. (F) INSUFFICIENT STANDARDS/REQUIREMENTS - FAA(ORGANIZATION)
4. (C) EXHAUST SYSTEM, MANIFOLD/PIPE - FATIGUE
5. (C) EXHAUST SYSTEM - LEAK

Occurrence #2: FIRE

Phase of Operation: APPROACH - VFR PATTERN - BASE LEG/BASE TO FINAL

Findings

6. (C) ENGINE COMPARTMENT - FIRE

Occurrence #3: FORCED LANDING

Phase of Operation: LANDING

Factual Information

Pilot Information

Certificate:	Commercial	Age:	60, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	01/22/1990
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	1682 hours (Total, all aircraft), 24 hours (Total, this make and model), 1456 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N21492
Model/Series:	PA-32RT-300T PA-32RT-30	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32R-7887215
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	12/08/1989, AAIP	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	36 Hours	Engines:	1 Reciprocating
Airframe Total Time:	2145 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-S1AD
Registered Owner:	ALPINE AVIATION, INC	Rated Power:	300 hp
Operator:	ALPINE AVIATION INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	5A

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	50 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	SALT LAKE CITY, UT (SLC)	Type of Flight Plan Filed:	None
Destination:	MOAB, UT (CNY)	Type of Clearance:	None
Departure Time:	0805 MST	Type of Airspace:	Class G

Airport Information

Airport:	PROVO (PVU)	Runway Surface Type:	Asphalt
Airport Elevation:	4509 ft	Runway Surface Condition:	Dry
Runway Used:	13	IFR Approach:	None
Runway Length/Width:	7096 ft / 150 ft	VFR Approach/Landing:	Traffic Pattern

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	ROBERT B COLLINS	Report Date:	11/16/1990
Additional Participating Persons:	JIM GILCHRIST; SALT LAKE CITY, UT		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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