Aviation Investigation Final Report

Location:	ORLANDO, Florida	**Accident Number:**	MIA01LA097
Date & Time:	March 10, 2001, 20:15 Local	**Registration:**	N5687H
Aircraft:	Enstrom F-28C	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	3 None
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

The flight had climbed to about 250 to 300 feet, when the engine began to run rough and the pilot noticed smoke coming from the engine. A forced landing was made, with power, in a fairgrounds, and upon landing the passengers and pilot evacuated the helicopter. A fire started from the turbocharger exhaust, causing the aluminum shroud to burn. The pilot attempted to extinguish the fire, but ran out of fire fighting agent. The fire began again, and destroyed the helicopter before the fire department arrived. Examination of the turbocharger exhaust revealed that the exhaust stack had broken, allowing the hot exhaust (1,500 degrees C) to ignite the aluminum engine shroud.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a fire due to a broken and separated turbocharger exhaust which allowed hot exhaust to ignite the engine shroud.

Findings

Occurrence #1: FIRE
Phase of Operation: CLIMB

Findings
1. (C) EXHAUST SYSTEM,STACK - SEPARATION

Occurrence #2: LOSS OF ENGINE POWER
Phase of Operation: CLIMB

Occurrence #3: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #4: FIRE/EXPLOSION
Phase of Operation: LANDING

Factual Information

On March 10, 2001, about 2015 eastern standard time, an Enstrom F-28C helicopter, N5687H, registered to Helicopter Resources Inc., operating as a Title 14 CFR Part 91 sightseeing flight, lost power and was forced to land in a fairground's parking lot, near Orlando, Florida. Visual meteorological conditions prevailed. No flight plan was filed. The helicopter was destroyed. The airline transport rated-pilot, and two passengers, reported no injuries. The flight departed at an unknown time.

According to the pilot the flight had climbed to about 250 to 300 feet, when the engine began to run rough and the pilot noticed smoke coming from the engine. He immediately landed the helicopter, with power, and upon landing the passengers and pilot evacuated the helicopter. A fire started from the turbocharger exhaust, causing the aluminum shroud to burn. The pilot used a hand held fire extinguisher to fight the fire and almost had the fire extinguished, but ran out of fire fighting agent. The fire began again, and destroyed the helicopter before the fire department arrived. Examination of the turbocharger exhaust revealed that the exhaust stack had broken, allowing the hot exhaust (1,500 degrees C) to ignite the aluminum engine shroud.

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	44,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	May 1, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	March 31, 2000
Flight Time:	8387 hours (Total, all aircraft), 1540 hours (Total, this make and model), 7274 hours (Pilot In Command, all aircraft), 220 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Enstrom	**Registration:**	N5687H
Model/Series:	F-28C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	460-2
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:	February 26, 2001 100 hour	**Certified Max Gross Wt.:**	2350 lbs
Time Since Last Inspection:	12 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4217.6 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	HIO-360-E1A0
Registered Owner:	HELICOPTER RESOURCES INC	**Rated Power:**	205 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	ORL,113 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	20:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Few / 5000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.01 inches Hg	**Temperature/Dew Point:**	
Precipitation and Obscuration:			
Departure Point:	0RLANDO, FL	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Unknown

Airport Information

Airport:	NONE	**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing;Precautionary landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 None	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 None	**Latitude, Longitude:**	28.766666,-81.233329

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	Robert K Bingham; FAA; Orlando, FL
Original Publish Date:	November 14, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51885