Aviation Investigation Final Report

Location:	NEW ULM, Texas	**Accident Number:**	FTW00LA105
Date & Time:	March 26, 2000, 10:40 Local	**Registration:**	N698SM
Aircraft:	Schweizer 300C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

The helicopter was transporting a passenger to a remote site to change the batteries on a seismic recorder box. As the pilot terminated the landing approach to a hover at a skid height of 1 to 2 feet above the ground, an empty canvas heli-bag that was lying on the ground blew into the helicopter's main rotor system. The helicopter developed 'a severe' vibration, the main rotor system separated, and the helicopter impacted the ground in a 'moderately hard landing.' The operator stated that the accident could have been prevented by 'making sure that heli-bag is secure and that aircraft is a safe distance from bag and box.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight evaluation of the landing area, which resulted in the separation of the main rotor system as a result of foreign object damage.

Findings

Occurrence #1: ROTOR FAILURE/MALFUNCTION
Phase of Operation: HOVER - IN GROUND EFFECT

Findings
1. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
2. ROTOR SYSTEM,MAIN ROTOR - FOREIGN OBJECT DAMAGE
3. ROTOR SYSTEM - SEPARATION

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. TERRAIN CONDITION - GROUND

Factual Information

On March 26, 2000, at 1040 central standard time, a Schweizer 300C helicopter, N698SM, sustained substantial damage during landing near New Ulm, Texas. The commercial pilot and passenger were not injured. The helicopter was registered to ADC, Inc., of San Angelo, Texas, and was operated by SkyLane Helicopters, LLC., of Decatur, Texas. Visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 91 business flight, for which a flight plan was not filed. The local flight departed at 1030 from an off-airport staging area near New Ulm, Texas.

The operator and pilot reported to an FAA inspector that the helicopter was transporting the passenger to a remote site to change the batteries on a seismic recorder box. As the pilot terminated the landing approach to a hover, at a skid height of 1 to 2 feet above the ground, an empty canvas bag that was lying on the ground blew into the main rotor system. According to the pilot and passenger, the helicopter developed "a severe vibration and the main rotor system separated from the helicopter." Subsequently, the helicopter impacted the ground in a "moderately hard landing." In the section of the NTSB Pilot/Operator Aircraft Accident Report (Form 6120.1/2) titled "Recommendation (How Could This Accident Have Been Prevented)", the operator stated "making sure that heli-bag [canvas bag] is secure and that aircraft is a safe distance from bag and box."

According to the FAA inspector, who examined the helicopter, the main rotor mast housing was fractured just above the top of the transmission case, and the upper portion of the mast housing and the main rotor system separated from the helicopter.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	28,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Glider; Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	September 23, 1999
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	1105 hours (Total, all aircraft), 575 hours (Total, this make and model), 960 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 26 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N698SM
Model/Series:	300C 300C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1768
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	March 10, 2000 100 hour	**Certified Max Gross Wt.:**	2050 lbs
Time Since Last Inspection:	398 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	439 Hrs	**Engine Manufacturer:**	Lycoming
ELT:		**Engine Model/Series:**	HIO-360-D1A
Registered Owner:	ADC, INC.	**Rated Power:**	190 Horsepower
Operator:	SKYLANE HELICOPTERS, LLC.	**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:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	135°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	27°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	NEW ULM , TX (NONE)	**Type of Flight Plan Filed:**	Company VFR
Destination:	NEW ULM , TX (NONE)	**Type of Clearance:**	
Departure Time:	10:30 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:**	

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:**	29.869714,-96.489311(est)

Administrative Information

Investigator In Charge (IIC):	Ragogna, Jason
Additional Participating Persons:	THOMAS J LATSON; HOUSTON , TX
Original Publish Date:	March 2, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51125