Aviation Investigation Final Report

Location:	BUNNELL, Florida	**Accident Number:**	MIA98LA051
Date & Time:	January 3, 1998, 08:40 Local	**Registration:**	N59326
Aircraft:	Bell 47D1	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot was on a supervised solo flight in the traffic pattern, practicing landings and takeoffs. At an altitude of about 300 feet above the airport, the helicopter's engine lost power. The student autorotated to an open field, and the helicopter was damaged during a forced landing. The student said when he checked the fuel gauge during preflight, it indicated '5/8' of a tank, which was confirmed by a 'dip stick test.' When he next checked the fuel gauge after doing some pattern work, it indicated '3/8' tank. According to an FAA Inspector's statement, '...the fuel tank was drained and less than 12 ounces of fuel remained in the undamaged fuel tank...no other maintenance discrepancies were found which may have contributed to the accident.' The flight was about 1 hour and 10 minutes in duration.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the student pilot's improper planning/decision, which resulted in fuel exhaustion, loss of engine power, and a forced landing.

Findings

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

Findings
1. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

2. (C) FLUID,FUEL - EXHAUSTION

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

Findings
3. AUTOROTATION - INITIATED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Factual Information

On January 3, 1998, about 0840 eastern standard time, a Bell 47D1 helicopter, N59326, registered to a private owner, operating as a 14 CFR Part 91, local instructional flight, crashed during a forced landing near Bunnell, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The helicopter was substantially damaged. The student pilot was not injured. The flight originated about 0730.

The student pilot was on a solo flight in the traffic pattern, practicing landings and takeoffs when the engine lost power. The pilot autorotated to an open field. The pilot said when he checked "the fuel indicator [it] was on 5/8 tank (sic), which was confirmed by the dip stick test." When he next checked the fuel gauge after doing some pattern work, it indicated "3/8 tank (sic)."

According to the FAA Inspector's statement, the student pilot was on a supervised instructional flight, and at an altitude of about 300 feet above the airport the helicopter's "engine stopped." The inspector stated, "...the fuel tank was drained and less then 12 ounces of fuel remained in the undamaged fuel tank...no other maintenance discrepancies were found which may have contributed to the accident."

Pilot Information

Certificate:	Student	**Age:**	36,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	December 23, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	39 hours (Total, all aircraft), 37 hours (Total, this make and model), 39 hours (Last 90 days, all aircraft), 39 hours (Last 30 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	**Registration:**	N59326
Model/Series:	47D1 47D1	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	45
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	December 17, 1997 Annual	**Certified Max Gross Wt.:**	2450 lbs
Time Since Last Inspection:	23 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5589 Hrs	**Engine Manufacturer:**	Franklin
ELT:	Installed, not activated	**Engine Model/Series:**	6V4
Registered Owner:	S&J INVESTMENT	**Rated Power:**	210 Horsepower
Operator:	WING & ROTOR INTERNATIONAL	**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:	DAB	**Distance from Accident Site:**	
Observation Time:	09:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Broken / 5500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	40°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	21°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	07:30 Local	**Type of Airspace:**	

Airport Information

Airport:	FLAGLER COUNTY X47	**Runway Surface Type:**	Asphalt
Airport Elevation:	32 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	29	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 110 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	29.460895,-81.250267(est)

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	ALAN NEMCIK; ORLANDO , FL
Original Publish Date:	October 30, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=38441