



# Aviation Investigation Factual Report

<b>Location:</b>	New Port Richey, Florida	<b>Accident Number:</b>	MIA03TA036
<b>Date &amp; Time:</b>	January 2, 2003, 19:51 Local	<b>Registration:</b>	N317LC
<b>Aircraft:</b>	Hughes OH-6	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Public aircraft		

## Factual Information

On January 2, 2003, about 1951 eastern standard time, a Hughes OH-6, N317LC, registered to and operated by Pasco County Sheriff's Office, landed hard during an autorotative landing following a loss of engine power after takeoff from Hidden Lake Airport, New Port Richey, Florida. Visual meteorological conditions prevailed at the time and no flight plan was filed for the public use flight. The helicopter was substantially damaged and there were no reported injuries to the commercial-rated pilot or observer. The flight originated about 6 minutes earlier from the Hidden Lake Airport.

The pilot stated that earlier that day after arriving at work, the mechanic had prepared the helicopter for a compressor wash. He motored the engine while the mechanic pumped the engine cleaner into the engine. He and the mechanic waited 5 minutes, then the engine was flushed with clean water. The mechanic then prepared the helicopter for an engine run-up while he was about 10 feet away. He did observe the mechanic remove a wedge from the bleed air valve. He checked the engine and checked all bleed air, and fuel lines that had been disconnected which included the main fuel line, though he did not put his hand on that line. Shortly after takeoff, while in a left turn climbing through 600 feet at 60 knots indicated airspeed, he heard a loss of engine power. He stopped the turn and noted that the engine was at flight idle as indicated by the dual tachometer. He verified the throttle was full open, and maneuvered the helicopter towards an open area. He bled off main rotor rpm to clear obstacles that were ahead, and decelerated at 10 feet above ground level. The helicopter touched down with little forward movement, coming to rest upright.

The mechanic stated that with respect to compressor cleaning, he removed then cleaned the fuel drain valve and fuel nozzle, dried and set them aside for reinstallation later. He performed a compressor wash and following that procedure, reinstalled the fuel nozzle, and reconnected the fuel line. The fuel system was purged of air and the drain valve was then reinstalled. The engine was started and allowed to stabilize while he looked for fuel and oil leaks; none were reported. A leak check was performed on the bleed and fuel lines, no leaks were reported. The engine was then brought up to full power (100 percent) with no discrepancies reported. The engine allowed a 2-minute cool down period, then secured.

The observer stated that he witnessed the mechanic perform a compressor wash which included disconnect the fuel line at the fuel nozzle, but he did not observe the mechanic tighten the inlet fuel line "B" nut. The mechanic then had the accident pilot perform a post maintenance run-up at full throttle. During the run-up, he observed the mechanic perform a leak check by brushing a solution on several fittings; he did not recall having any leaking fittings. The helicopter was then placed on the flight-line.

Examination of the helicopter revealed the skids and tailboom were separated. The helicopter

was found to contain a sufficient quantity of fuel to sustain engine operation; no contaminants were reported. The helicopter was recovered for further examination.

Examination of the engine following recovery revealed the fuel inlet line "B" nut was found loose by 2 1/2 flats at the fuel inlet nozzle. The fuel inlet line was drained and found to contain approximately 1 teaspoon of fuel while the fuel filter was full of fuel. The engine control rigging was found to be in limits. An abnormal sound was heard during testing of the aircraft fuel shutoff valve. Operational testing of the valve revealed it was operational but rotation of the valve body occurred with rotation of the valve. The engine was removed from the helicopter and transported to the manufacturer's facility.

The engine was test run in the presence of an FAA airworthiness inspector. Prior to the test cell run, the bleed air valve was found failed in the closed position; the internal spring was found unwound. The engine was operated with a new bleed valve and the accident bleed valve; no appreciable difference was noted with respect to starting temperature, acceleration times, or stabilized operation. A customer bleed line that attaches to the scroll was found loose, it was tightened followed by engine operation. The line was loose when checked following the engine run. Safety concerns prevented operation of the engine with the as-found position of the loose "B" nut at the fuel nozzle; however, a valve was installed to divert fuel from the fuel nozzle simulating the as-found position of the loose "B" nut. During the engine run, the valve was opened 1/4 and the engine operated normally. The valve was opened to 1/2 then 3/4, the engine continued to operate normally though the fuel flow increased. The valve was then fully opened and the engine flamed out.

The helicopter minus the retained engine was released to Jim P. Greene, the Chief Pilot for Pasco County Sheriff's Office, on January 8, 2003. The retained engine was also released to Jim P. Greene on March 1, 2004.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	March 4, 2002
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	January 19, 2002
<b>Flight Time:</b>	5810 hours (Total, all aircraft), 1015 hours (Total, this make and model), 121 hours (Last 90 days, all aircraft), 38 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Hughes	<b>Registration:</b>	N317LC
<b>Model/Series:</b>	OH-6	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>		<b>Serial Number:</b>	68-17310
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	October 29, 2002 100 hour	<b>Certified Max Gross Wt.:</b>	2550 lbs
<b>Time Since Last Inspection:</b>	49.8 Hrs	<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	5649.3 Hrs at time of accident	<b>Engine Manufacturer:</b>	Allison
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	T63-A-700
<b>Registered Owner:</b>	Pasco County Sheriff's Office	<b>Rated Power:</b>	317 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Night/dark
<b>Observation Facility, Elevation:</b>	KTPA, 26 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	19:53 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Few / 3000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Overcast / 25000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	190°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.98 inches Hg	<b>Temperature/Dew Point:</b>	18°C / 17°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	New Port Richey, FL (FA40)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	New Port Richey, FL (FA40)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	19:45 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	28.274723,-82.632225

## Administrative Information

**Investigator In Charge (IIC):** Monville, Timothy

**Additional Participating Persons:** James B Minary; FAA Flight Standards District Office; Tampa, FL  
Douglas Tate; FAA FSDO; Indianapolis, IN  
Robert Ketchum; Rolls-Royce Corporation; Indianapolis, IN  
Jim P Greene; Pasco County Sheriff's Office; New Port Richey, FL

**Report Date:** March 5, 2004

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=56307>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).