



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	HOUSTON, TX	<b>Accident Number:</b>	FTW90MA161
<b>Date &amp; Time:</b>	08/23/1990, 1720 CDT	<b>Registration:</b>	N80RD
<b>Aircraft:</b>	GRUMMAN G-159	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	3 Fatal, 4 Serious, 8 Minor

**Flight Conducted Under:** Part 91: General Aviation - Executive/Corporate

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## Analysis

THE PASSENGERS & WITNESSES REPORTED THAT DURING TAKEOFF, THE AIRCRAFT YAWED BOTH LEFT & RIGHT AFTER LIFT-OFF. IT THEN VEERED TO THE LEFT & CONTACTED THE GROUND IN A LEFT WING LOW ATTITUDE BETWEEN THE RUNWAY & A PARALLEL TAXIWAY. AN INVESTIGATION REVEALED EVIDENCE THAT THE LEFT ENGINE HAD SUSTAINED A PARTIAL LOSS OF POWER DUE TO A MALFUNCTIONING FUEL PUMP. THERE WERE INDICATIONS THE POWER LOSS WAS NOT SUFFICIENT TO TRIGGER OR ALLOW COMPLETION OF THE AUTOFEATHERING OPERATION OF THE LEFT PROPELLER. FEATHERING OF THE LEFT PROPELLER HAD BEEN MANUALLY INITIATED, BUT THE PROPELLER HAD NOT REACHED THE FEATHER POSITION BEFORE IMPACT. MANUAL FEATHERING OPERATION REQUIRED THE FEATHERING PUMP BUTTON BE HELD ABOUT 5 SEC. 'V' SPEEDS (KIAS) FOR THIS FLT WERE: V<sub>1</sub> 92, V<sub>R</sub> 99, V<sub>2</sub> 110, NORMAL VMCA (DEAD ENGINE PROPELLER FEATHERED, FLAPS SET FOR TAKEOFF & AIRCRAFT OUT OF GROUND EFFECT) 101, VMCA (DEAD ENGINE PROPELLER UNFEATHERED/WINDMILLING & FLAPS SET FOR TAKEOFF) 127 KTS. EXAM OF THE ACTUATORS REVEALED THE GEAR WAS RETRACTED & THE FLAPS WERE SET FOR TAKEOFF.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: PARTIAL FAILURE OF THE LEFT ENGINE FUEL PUMP, WHICH RESULTED IN A PARTIAL LOSS OF POWER IN THE LEFT ENGINE, BUT NOT ENOUGH OF A POWER LOSS TO TRIGGER AND/OR COMPLETE THE AUTOFEATHERING OPERATION OF THE LEFT PROPELLER, THUS ALLOWING INSUFFICIENT TIME FOR THE CREW TO MANUALLY FEATHER THE PROPELLER OR ATTAIN VMC (FOR THE AIRCRAFT CONFIGURED WITH AN UNFEATHERED PROPELLER).

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. 1 ENGINE - SURGE
2. (C) FUEL SYSTEM,PUMP - FAILURE,PARTIAL
3. (C) FUEL SYSTEM - OUTPUT LOW

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Occurrence #2: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

4. PROPELLER FEATHERING - INITIATED - PILOT IN COMMAND
5. PROPELLER FEATHERING - NOT ATTAINED
6. AIRSPEED(VMC) - NOT POSSIBLE

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

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	12/04/1989
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	20200 hours (Total, all aircraft), 760 hours (Total, this make and model), 17500 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	GRUMMAN	<b>Registration:</b>	N80RD
<b>Model/Series:</b>	G-159 G-159	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	198
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	17
<b>Date/Type of Last Inspection:</b>	06/03/1990, 100 Hour	<b>Certified Max Gross Wt.:</b>	36000 lbs
<b>Time Since Last Inspection:</b>	40 Hours	<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	5343 Hours	<b>Engine Manufacturer:</b>	ROLLS-ROYCE
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	529-8X
<b>Registered Owner:</b>	RDC MARINE, INC	<b>Rated Power:</b>	2185 hp
<b>Operator:</b>	ROWAN COMPANIES	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	IAH, 110 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1720 CDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 10000 ft agl	Visibility	15 Miles
Lowest Ceiling:	Broken / 20000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.9 inches Hg	Temperature/Dew Point:	29° C / 22° C
Precipitation and Obscuration:			
Departure Point:	(IAH)	Type of Flight Plan Filed:	IFR
Destination:	NEW ORLEANS, LA (MSY)	Type of Clearance:	IFR
Departure Time:	1719 CDT	Type of Airspace:	

## Airport Information

Airport:	HOUSTON INTL (IAH)	Runway Surface Type:	Concrete
Airport Elevation:	110 ft	Runway Surface Condition:	Dry
Runway Used:	14L	IFR Approach:	None
Runway Length/Width:	12000 ft / 150 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal, 4 Serious, 8 Minor	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal, 4 Serious, 8 Minor	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	WARREN V WANDEL	Report Date:	08/11/1992
Additional Participating Persons:			
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).