# National Transportation Safety Board
# Aviation Accident Final Report

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| **Location:** | McAllen, TX | **Accident Number:** | DFW05LA029 |
| **Date & Time:** | 12/04/2004, 1441 CST | **Registration:** | N161FL |
| **Aircraft:** | Convair 580 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | | **Injuries:** | 3 None |
| **Flight Conducted Under:** | Part 91: General Aviation - Flight Test | | |

## Analysis

The 9,500-hour ATP-rated pilot was forced to secure the left engine during a maintenance test flight following the malfunction of the left propeller. The crew executed single-engine instrument landing system (ILS) approach to runway 13. During short final, the crew noticed that the alternator light was illuminated and the hydraulic pressure gauge indicated "0" pressure. The landing gear was already extended and the flaps were partially extended, so the crew elected to continue the approach to a full-stop landing. Upon landing, the pilot immediately turned on the direct current (DC) hydraulic pump. The pilot added that he then realized that he was unable to maintain directional control of the airplane due to the lack of nose wheel steering and the ineffective wheel brakes. As a result, the airplane continued to veer to the right and exited the runway. The airplane collided with the airport perimeter fence and continued down into a drainage ditch. The examination of the aircraft revealed that the hydraulic pump switch did not appear as if it had been turned on.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure to activate the hydraulic pump which resulted in the pilot's inability to maintain directional control.

## Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Findings
1. (C) HYDRAULIC SYSTEM,PUMP - NOT ACTIVATED
2. (C) DIRECTIONAL CONTROL - NOT POSSIBLE - PILOT IN COMMAND
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Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings
3. OBJECT - FENCE
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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings
4. TERRAIN CONDITION - DITCH

## Factual Information

On December 4, 2004, approximately 1441 central standard time, a Convair 580 twin-engine airplane, N161FL, registered to and operated by IFL Group, Inc., of Waterford, Michigan, sustained substantial damage when it impacted terrain following a loss of directional control while landing at McAllen-Miller International Airport (MFE), near McAllen, Texas. The airline transport pilot (ATP), commercial pilot, and mechanic were not injured. Instrument meteorological conditions prevailed, and an IFR flight plan was filed for the local flight that was conducted under the provisions of 14 Code of Federal Regulations Part 91. The maintenance flight originated from MFE approximately 1354.

In a telephone interview with an NTSB representative, the 9,500-hour airline transport pilot stated that the left propeller had recently been worked on, so he was performing a post-maintenance test flight to verify the condition of the propeller. During the flight, the crew shut down the left engine and then restarted the engine. After the engine was restarted, the propeller was not operating properly, so the crew elected to secure the engine and return to the airport for a single-engine landing.

The crew proceeded to execute the instrument landing system (ILS) approach to runway 13. After breaking through the overcast ceiling at 500 feet above the ground, the crew prepared for a full-stop landing on runway 13 ( 7,120- foot long, by 150- foot wide). Just prior to touch-down, the crew noticed that the alternator light was illuminated and the hydraulic pressure gauge indicated "0" pressure. The landing gear was already extended and the flaps were partially extended, and since they were on a single-engine approach, the crew elected to land the airplane.

The pilot reported that upon touch-down, he immediately turned on the direct current (DC) hydraulic pump. He then realized he was unable to use steer the airplane due to the lack of nose wheel steering, and the wheel brakes were ineffective. The pilot was unable to maintain directional control and the airplane veered to the right and exited the runway. The airplane collided with the airport perimeter fence and continued down into a drainage ditch. There was no post-impact fire.

The first officer submitted a written statement that described the same sequence of events.

Examination of the airplane by the Federal Aviation Administration (FAA) inspector, who responded to the accident site, revealed structural damage to the fuselage. Additionally, the leading edge of both wings exhibited large impact marks from the fence posts.

The operator reported that following the accident, the airplane was examined by a company mechanic. No leaks were found, and there appeared to be a sufficient amount of normal hydraulic fluid in the system. The operator also reported that the DC hydraulic pump switch did not appear as if it had been turned on and added that the switch was underneath a switch guard that was in place.

At 1353, the automated weather observing system at MFE reported wind from 350 degrees at five knots, five statute miles visibility, mist, overcast clouds at 500 feet, temperature 59 degrees Fahrenheit, dew point 57 degrees Fahrenheit, and an altimeter setting of 30.04 inches of Mercury.

## Pilot Information

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| **Certificate:** | Airline Transport | **Age:** | 57, Male |
| **Airplane Rating(s):** | Multi-engine Land; Single-engine Land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | Helicopter | **Restraint Used:** | Seatbelt, Shoulder harness |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | Airplane Multi-engine; Instrument Airplane | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 2 Valid Medical--w/ waivers/lim. | **Last Medical Exam:** | 08/04/2004 |
| **Occupational Pilot:** | | **Last Flight Review or Equivalent:** | 04/25/2004 |
| **Flight Time:** | 9500 hours (Total, all aircraft), 1500 hours (Total, this make and model), 9200 hours (Pilot In Command, all aircraft), 310 hours (Last 90 days, all aircraft), 55 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft) | | |

## Co-Pilot Information

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| **Certificate:** | Commercial | **Age:** | 25, Male |
| **Airplane Rating(s):** | Multi-engine Land; Single-engine Land | **Seat Occupied:** | Right |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Seatbelt, Shoulder harness |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 1 Valid Medical--no waivers/lim. | **Last Medical Exam:** | 08/24/2004 |
| **Occupational Pilot:** | | **Last Flight Review or Equivalent:** | 10/04/2004 |
| **Flight Time:** | 453 hours (Total, all aircraft), 120 hours (Total, this make and model), 225 hours (Pilot In Command, all aircraft), 130 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft) | | |

## Aircraft and Owner/Operator Information

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|---|---|---|---|
| **Aircraft Manufacturer:** | Convair | **Registration:** | N161FL |
| **Model/Series:** | 580 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | No |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 430 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 3 |
| **Date/Type of Last Inspection:** | 11/15/2004, Continuous Airworthiness | **Certified Max Gross Wt.:** | 58156 lbs |
| **Time Since Last Inspection:** | 49.4 Hours | **Engines:** | 2 Turbo Prop |
| **Airframe Total Time:** | 29586.7 Hours | **Engine Manufacturer:** | Allison |
| **ELT:** | Installed, not activated | **Engine Model/Series:** | 501-D13D |
| **Registered Owner:** | IFL Group Inc. | **Rated Power:** | 4000 hp |
| **Operator:** | IFL Group Inc. | **Air Carrier Operating Certificate:** | Supplemental |
| **Operator Does Business As:** | IFL Group Inc. | **Operator Designator Code:** | OGCB |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Instrument Conditions | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | MFE, 107 ft msl | **Observation Time:** | 1353 CST |
| **Distance from Accident Site:** | 0 Nautical Miles | **Direction from Accident Site:** | |
| **Lowest Cloud Condition:** | | **Temperature/Dew Point:** | 15°C / 14°C |
| **Lowest Ceiling:** | Overcast / 500 ft agl | **Visibility** | 5 Miles |
| **Wind Speed/Gusts, Direction:** | 5 knots, 350° | **Visibility (RVR):** | |
| **Altimeter Setting:** | 30.04 inches Hg | **Visibility (RVV):** | |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | McAllen, TX (MFE) | **Type of Flight Plan Filed:** | IFR |
| **Destination:** | | **Type of Clearance:** | IFR |
| **Departure Time:** | CST | **Type of Airspace:** | Class B |

## Airport Information

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| **Airport:** | McAllen Miller International (MFE) | **Runway Surface Type:** | Asphalt |
| **Airport Elevation:** | 107 ft | **Runway Surface Condition:** | Wet |
| **Runway Used:** | 13 | **IFR Approach:** | ILS |
| **Runway Length/Width:** | 7120 ft / 150 ft | **VFR Approach/Landing:** | None |

## Wreckage and Impact Information

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| **Crew Injuries:** | 3 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | N/A | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 3 None | **Latitude, Longitude:** | 26.175833, -98.238611 |

## Administrative Information

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| **Investigator In Charge (IIC):** | Hector R Casanova | **Adopted Date:** | 03/30/2005 |
| **Additional Participating Persons:** | David Wagner; San Antonio FSDO; San Antonio, TX | | |
| **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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/. | | |