



Aviation Investigation Final Report

Location:	Imperial, California	Accident Number:	WPR10LA137
Date & Time:	February 17, 2010, 14:24 Local	Registration:	N6222N
Aircraft:	FOUGA CM 170 MAGISTER	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the takeoff roll, the airplane accelerated slower than normal and approximately 1,500 feet down the runway, the nose abruptly rose and the airplane lifted off. The airplane continued in ground effect until, according to a witness, the right and left wings alternatively dropped, the left wing stalled, and the airplane rolled until it impacted the ground. The witness stated that prior to the airplane's takeoff, he saw the airplane taxiing to the runway and both speed brakes were deployed. He could not see the speed brakes during the takeoff, but felt that the pilot may have rotated the airplane from the runway too soon. Following the accident, FAA inspectors found the right speed brake deployed approximately halfway. The left speed brake was found stowed. No mechanical anomalies were identified. The speed brakes, which are located on the side of the fuselage aft of the wing, are electrically controlled and hydraulically operated. To set the position of the speed brakes, the pilot activates a switch in the cockpit, visually looks at the speed brakes, and releases the switch when the speed brakes are in the desired position. During the landing approach, the speed brakes are normally deployed halfway.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight inspection and his failure to ensure that the speed brakes were retracted, which resulted in a loss of control during takeoff.

Findings

Personnel issues	Forgotten action/omission - Pilot
Personnel issues	(general) - Pilot

Factual Information

History of Flight

Takeoff	Loss of control in flight (Defining event)
Takeoff	Runway excursion
Takeoff	Collision with terr/obj (non-CFIT)

On February 17, 2010, at 1424 Pacific standard time, a Fouga CM 170 Magistar, N6222N, collided with terrain during takeoff from runway 32 at Imperial County Airport, Imperial, California. The airline transport pilot was operating the airplane under the provisions of 14 Code of Federal Regulations Part 91. The pilot was not injured. The airplane sustained substantial damage. Visual meteorological conditions prevailed and no flight plan was filed.

The pilot reported that he had stopped at the airport to refuel and was departing from runway 32 when the accident occurred. After completing his pre-takeoff checklists, he departed down the runway. During the takeoff roll, the airplane's nose rose and the pilot pushed the stick forward. The pilot reported that the airplane was slower than normal and after reaching 100 knots, the airplane lifted from the runway. The pilot attempted to obtain 140 knots; however, the airplane "pitched up, rolled, and yawed to the right." He indicated that he shut the engines and electrical system down, and then exited the airplane. His initial assessment was that a gust of wind blew the airplane off of the runway. In a later statement, he indicated that he thought the airplane could have experienced drag from a clear coat of paint that was peeling, allowing sand to accumulate on the wings and result in drag.

The local fire department responded to the accident site. Fire department personnel advised the pilot to shut down the engines and get out of the airplane. The pilot was having difficulty shutting down the engines and airport personnel responded to the airplane and shut the engines down.

A witness, who was employed as a captain for Skywest Airlines, was standing at the terminal and observed the accident airplane. He saw the airplane taxiing and noted that the speed brakes were deployed on both sides. The airplane began the takeoff roll on runway 32 and was approximately 1,500 feet down the runway when it appeared the pilot "jerked the nose off of the runway." The airplane did not accelerate and when it broke ground, it climbed 15 to 20 feet in the air and continued flying in ground effect. The right and left wings alternately dropped, and then the left wing stalled, the airplane rolled, and twisted to the right 110 degrees. Due to his location, the witness could not see the speed brakes during the takeoff. The witness indicated that the airplane appeared to rotate too early. At the time, the winds were reported as light and variable. The witness did not hear a change in engine noise until after the airplane impacted the ground.

A Federal Aviation Administration inspector examined the airplane. The left main landing gear punctured through the right wing, the right main gear had separated, and there were multiple areas of damage to the fuselage belly. The right speed brake was deployed approximately halfway. The left speed brake was found stowed. No mechanical anomalies were identified.

The speed brakes are electrically controlled and hydraulically operated. To set the position of the speed brakes, the pilot activates a switch in the cockpit, looks at the speed brakes, and releases the switch when the speed brakes are in the appropriate position based on the visual reference. During the landing approach, the speed brakes are normally deployed halfway.

Pilot Information

Certificate:	Airline transport	Age:	70, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	July 10, 2009
Occupational Pilot:	No	Last Flight Review or Equivalent:	September 6, 2009
Flight Time:	22000 hours (Total, all aircraft), 6 hours (Total, this make and model), 2100 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	FOUGA	Registration:	N6222N
Model/Series:	CM 170 MAGISTER	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Experimental (Special)	Serial Number:	334
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	February 15, 2010 Annual	Certified Max Gross Wt.:	7425 lbs
Time Since Last Inspection:	2 Hrs	Engines:	2 Turbo jet
Airframe Total Time:	2780 Hrs at time of accident	Engine Manufacturer:	TURBOMECA
ELT:	Not installed	Engine Model/Series:	MARBORE IIC
Registered Owner:	SAN DIEGO FLIGHT MUSEUM	Rated Power:	880 Horsepower
Operator:	Reginald Finch	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	IPL,-54 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	26°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Imperial, CA (IPL)	Type of Flight Plan Filed:	None
Destination:	San Diego, CA (SDM)	Type of Clearance:	None
Departure Time:	14:24 Local	Type of Airspace:	

Airport Information

Airport:	Imperial County IPL	Runway Surface Type:	Asphalt
Airport Elevation:	-54 ft msl	Runway Surface Condition:	Dry
Runway Used:	32	IFR Approach:	None
Runway Length/Width:	5304 ft / 100 ft	VFR Approach/Landing:	None

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:	32.834167,-115.578613(est)

Administrative Information

Investigator In Charge (IIC):	Dunks, Kristi
Additional Participating Persons:	Thomas Marquez; Federal Aviation Administration; San Diego, CA
Original Publish Date:	July 22, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75374

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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](#).