



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Minneapolis, MN	<b>Accident Number:</b>	CEN12LA452
<b>Date &amp; Time:</b>	07/12/2012, 0958 CDT	<b>Registration:</b>	N9307
<b>Aircraft:</b>	MIKOYAN GUREVICH MIG 21MF	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The pilot established an appropriate speed during the approach and landed about 300 feet down the 5,000-foot-long runway. Within seconds of touching down, the pilot brought the throttle control to idle and deployed the drag chute. However, when the chute deployed, it did not fully inflate and then separated from the airplane. The pilot was not immediately aware the drag chute had failed and continued to try to deploy the chute. The pilot said that he used maximum braking to slow the airplane but was unable to stop the airplane on the runway. The pilot swerved to the left to avoid crossing a state highway, and the airplane struck a berm and a fence before it stopped. The pilot said that he had successfully tested the drag chute in preparation for this particular landing and had no previous problems deploying the chute before the accident. A review of performance data revealed that the pilot had sufficient runway length to land without use of the drag chute had he applied the wheel brakes immediately upon landing.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's delayed application of wheel brakes to slow the airplane down on landing and the airplane's failed drag chute, which resulted in a runway overrun.

## Findings

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<b>Aircraft</b>	Equipment/furnishings - Failure (Cause) Brake - Incorrect use/operation (Cause)
<b>Personnel issues</b>	Aircraft control - Pilot (Cause)

## Factual Information

On June 12, 2012, at 0958 central daylight time, a Mikoyan Gurevich Mig 21MF, was substantially damaged when it over ran the runway while landing at Flying Cloud Airport (FCM), Minneapolis, Minnesota. The airline transport pilot sustained minor injuries. The airplane was registered to and operated by the pilot. An instrument flight rules flight plan was filed for the flight that departed from Ann Arbor Municipal Airport (ARB), Ann Arbor, Michigan, about 0630. Visual meteorological conditions prevailed for the personal flight conducted under 14 Code of Federal Regulations Part 91.

The pilot stated the airplane was going to be part of an exhibition being held at Flying Cloud airport that weekend. On final approach to runway 10R, he established a speed of 165 knots and landed approximately 300 feet down the 5,000-foot-long runway. Upon landing, the pilot brought the throttle to idle and deployed the drag chute. Since there was a delay in slowing the airplane down before the chute opened, the pilot said he initiated maximum braking. When the airplane did not slow down, he thought that he did not hit the button that deployed the chute hard enough and tried several more times before he realized he "had no chute." When the pilot knew that the airplane would go off the runway, he maneuvered it to the left and onto the grassy area adjacent to the runway to avoid crossing a state highway. The airplane struck a berm and a chain link fence before it came to rest upright. The left main landing gear collapsed and the right wing and fuselage were substantially damaged. The nose cone of the airplane and the left wing were also damaged.

Several Federal Aviation Administration (FAA) inspectors were at the airport and witnessed the accident. According to one inspector, when the airplane was approximately halfway down the runway, the drag chute deployed. Before the chute fully opened, it departed the airplane and landed on the runway. The airplane continued down the runway at a high rate of speed before it veered left near the east end of the runway. The inspector said it looked like the airplane went up on its nose and then landed back down on its belly before it came to a rest near the edge of a highway.

The pilot said he tested the drag chute approximately three weeks before the accident in preparation for this particular flight and there were no malfunctions of the system. He also said that he had successfully deployed the drag chute about 6 or 7 times prior to this accident without incident.

A review of performance data for the airplane revealed the pilot had sufficient runway length to land without the drag chute.

## History of Flight

Landing-landing roll	Loss of control on ground (Defining event) Miscellaneous/other
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## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Center
<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>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	03/26/2012
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	03/26/2012
<b>Flight Time:</b>	21000 hours (Total, all aircraft), 30 hours (Total, this make and model), 11000 hours (Pilot In Command, all aircraft), 65 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MIKOYAN GUREVICH	<b>Registration:</b>	N9307
<b>Model/Series:</b>	MIG 21MF	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Experimental	<b>Serial Number:</b>	96004307
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	21000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo Jet
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Tomansky
<b>ELT:</b>		<b>Engine Model/Series:</b>	R-13-300
<b>Registered Owner:</b>	WARD WILLIAM E	<b>Rated Power:</b>	
<b>Operator:</b>	WARD WILLIAM E	<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:	FCM, 906 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0953 CDT	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.03 inches Hg	Temperature/Dew Point:	28° C / 14° C
Precipitation and Obscuration:			
Departure Point:	Dekalb, IL (DKB)	Type of Flight Plan Filed:	VFR
Destination:	Minneapolis, MN (FCM)	Type of Clearance:	VFR
Departure Time:	0920 CDT	Type of Airspace:	Class D

## Airport Information

Airport:	Flying Cloud (FCM)	Runway Surface Type:	Asphalt
Airport Elevation:	906 ft	Runway Surface Condition:	Dry
Runway Used:	10R	IFR Approach:	None
Runway Length/Width:	5000 ft / 100 ft	VFR Approach/Landing:	Full Stop

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	44.823056, -93.455000 (est)

## Administrative Information

Investigator In Charge (IIC):	Leah D Yeager	Report Date:	11/06/2013
Additional Participating Persons:	Kevin Morris; FAA/FSDO; Minneapolis, MN		
Publish Date:	11/06/2013		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=84355">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=84355</a>		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).