



# Aviation Investigation Final Report

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<b>Location:</b>	Pierson, Florida	<b>Accident Number:</b>	MIA03LA134
<b>Date &amp; Time:</b>	June 25, 2003, 07:30 Local	<b>Registration:</b>	N707JK
<b>Aircraft:</b>	John L. Klein Marquart ChargerMA-5	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

A witness stated that he was about 900 to 1,000 feet, and N707JK was about 400 to 500 feet below, in a position forward of his airplane's wing, such that N707JK was in constant view while flying in a loose formation. The witness said he saw left rudder movement on N707JK, and N707JK yawed to the left, yawed to the right, and then the nose dipped slightly and N707JK disappeared immediately in the canopy of trees. Within several seconds the witness said he was over the area where N707JK had disappeared, but he could not see anything due to the trees. He then increased his altitude, and made a radio communications call, declaring an emergency. Postaccident examination of the airplane revealed that the rod end bearing on the elevator push/pull tube had disconnected from the rear cockpit's control stick, resulting in a loss of elevator control, and the connecting clevis bolt, castle nut, and cotter key were never recovered.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Separation of the elevator push/pull tube from the rear cockpit's control stick for undetermined reasons, which resulted in a loss of elevator control, an uncontrolled descent, and an impact with trees.

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: CRUISE - NORMAL

Findings

1. (C) FLT CONTROL SYST,ELEVATOR CONTROL CABLE/ROD - SEPARATION
2. AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. OBJECT - TREE(S)

## Factual Information

On June 25, 2003, about 0730 eastern daylight time, a John L. Klein Marquart Charger MA-5 experimental amateur-built airplane, N707JK, registered to Global Cub Air Inc., and operated by a private individual, as a Title 14 CFR Part 91 personal flight, crashed in Pierson, Florida. Visual meteorological conditions prevailed, and no flight plan was filed. The private-rated pilot received serious injuries, and the airplane incurred substantial damage. The flight originated in Ormond Beach, Florida, the same day, about 0710.

A witness stated that he and the pilot of the accident airplane had both departed from Ormond Beach Airport, Ormond Beach, Florida, and had joined up and flew formation for a few minutes. He said they then separated and flew no more than a mile apart toward Lake Destin, intending to land on the grass strip at Pierson, Florida. He was about 900 to 1,000 feet, and N707JK was about 400 to 500 feet below, in a position forward of his airplane's wing, such that N707JK was in constant view. The witness said he saw left rudder movement on N707JK, and N707JK yawed to the left, yawed to the right, and then the nose dipped slightly and N707JK disappeared immediately in the canopy of trees. Within several seconds the witness said he was over the area where N707JK had disappeared, but he could not see anything due to the trees. He then increased his altitude, and made a radio communications call, declaring an emergency.

After the airplane was recovered and examined, the rod end bearing on the elevator push/pull tube was found to have disconnected from the rear cockpit's control stick, resulting in a loss of elevator control. The connecting clevis bolt, castle nut, and cotter key were not recovered.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	59, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	June 3, 2003
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	February 2, 2002
<b>Flight Time:</b>	613 hours (Total, all aircraft), 274 hours (Total, this make and model), 554 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	John L. Klein	<b>Registration:</b>	N707JK
<b>Model/Series:</b>	Marquart ChargerMA-5	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	EX01
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	July 13, 2002 Annual	<b>Certified Max Gross Wt.:</b>	1583 lbs
<b>Time Since Last Inspection:</b>	44 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	324 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	O-320-E2D
<b>Registered Owner:</b>	Global Cub Air Inc.	<b>Rated Power:</b>	150 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>	Day
<b>Observation Facility, Elevation:</b>	DAB,35 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	06:53 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Few / 2700 ft AGL	<b>Visibility</b>	6 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	0 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.1 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 20°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Ormond Beach, FL (OMN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Pierson, FL (2J8 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	07:10 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<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>	1 Serious	<b>Latitude, Longitude:</b>	29.273611,-81.364997

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Lovell, John
<b>Additional Participating Persons:</b>	Alan Nemcik; FAA FSDO; Orlando, FL
<b>Original Publish Date:</b>	April 28, 2004
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=57366">https://data.ntsb.gov/Docket?ProjectID=57366</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).