

National Transportation Safety Board  
Washington, DC 20594

Brief of Accident

Adopted 05/30/1996

CHI95FA191  
File No. 1826                                  06/20/1995                                  FRANKFORT, IL                                  Aircraft Reg No. N109AC                                  Time (Local): 19:27 CDT

Make/Model: Champion / 8KCAB  
Engine Make/Model: LYCOMING / AEIO-360-H1A  
Aircraft Damage: Destroyed  
Number of Engines: 1  
Operating Certificate(s): None  
Type of Flight Operation: Instructional  
Reg. Flight Conducted Under: Part 91: General Aviation

	Fatal	Serious	Minor/None
Crew	1	1	0
Pass	0	0	0

Last Depart. Point: Same as Accident/Incident Location  
Destination: Local Flight  
Airport Proximity: Off Airport/Airstrip

Condition of Light: Day  
Weather Info Src: Weather Observation Facility  
Basic Weather: Visual Conditions  
Lowest Ceiling: None  
Visibility: 7.00 SM  
Wind Dir/Speed: 050 / 007 Kts  
Temperature (°C): 32  
Precip/Obscuration: None / None

Pilot-in-Command                                  Age: 35

Certificate(s)/Rating(s)  
Private; Single-engine Land  
Instrument Ratings  
None

Flight Time (Hours)  
Total All Aircraft: 623  
Last 90 Days: 60  
Total Make/Model: 225  
Total Instrument Time: Unk/Nr

THE PRIVATE PILOT-OWNER WAS GIVING AEROBATIC INSTRUCTION TO ANOTHER PRIVATE PILOT. THE PILOT HAD THE SECOND PILOT PLACE THE AIRPLANE INTO INVERTED FLIGHT SO HE COULD SEE WHERE THE NOSE OF THE AIRPLANE SHOULD BE DURING AN AILERON ROLL. THE SECOND PILOT WAS FLYING THE AIRPLANE IN AN INVERTED ATTITUDE WITH FULL POWER AND HIGH RPM. HE TOLD THE SECOND PILOT TO ROLL OUT OF THE INVERTED FLIGHT. THE SECOND PILOT PULLED AFT ON THE CONTROL STICK AND DID A SPLIT-S MANEUVER. THE AIRSPEED WAS ABOVE THE NEVER EXCEED SPEED DURING ITS DESCENT. HE KNEW THIS BECAUSE HE HAD FLOWN ABOVE THAT SPEED BEFORE SO THAT HE COULD KNOW WHAT IT SOUNDED LIKE. AS HE BEGAN TO START RECOVERY THE RIGHT WING SEPARATED, AND WAS THE FIRST AIRFRAME COMPONENT ALONG THE WRECKAGE TRAIL. THE LEFT WING WAS THE SECOND ITEM ALONG THE WRECKAGE TRAIL, AND WAS MANGLED AND TWISTED. THE LEFT WING'S MAIN WING STRUT ATTACH FITTING HAD A FATIGUE STRIATION PATTERN THROUGH ABOUT 90% OF ITS AFT LEG. FATIGUE CRACKING WENT THROUGH ABOUT 25 PERCENT OF THE FITTING'S FORWARD LEG.

Brief of Accident (Continued)

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Occurrence #1:    LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: MANEUVERING

Findings

1. AEROBATICS - PERFORMED - COPILOT/SECOND PILOT
  2. (C) OVERCONFIDENCE IN PERSONAL ABILITY - PILOT IN COMMAND
  3. (F) MANEUVER - IMPROPER - COPILOT/SECOND PILOT
  4. (C) LACK OF TOTAL EXPERIENCE IN TYPE OPERATION - PILOT IN COMMAND
  5. (C) REMEDIAL ACTION - DELAYED - PILOT IN COMMAND
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Occurrence #2:    AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: MANEUVERING

Findings

6. (C) AIRSPEED(VNE) - EXCEEDED - PILOT IN COMMAND
  7. (C) DESIGN STRESS LIMITS OF AIRCRAFT - EXCEEDED - PILOT IN COMMAND
  8. FUSELAGE,ATTACHMENT - OVERLOAD
  9. FUSELAGE,LONGERON - OVERLOAD
  10. WING - SEPARATION
  11. WING,WING ATTACHMENT FITTING - FATIGUE
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Occurrence #3:    IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings Legend: (C) = Cause, (F) = Factor

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The National Transportation Safety Board determines the probable cause(s) of this accident as follows.  
the pilot-in-command's overconfidence in his personal ability in attempting to teach aerobatics, his lack of experience as a flight instructor, and allowing the airplane to get into a position where its never exceed speed and design stress limits were exceeded. The second pilot's improper maneuver was a factor.