

National Transportation Safety Board
Washington, DC 20594

Brief of Accident

Adopted 01/31/1990

CHI88FA240
File No. 2251 09/20/1988 OSWEGO, IL Aircraft Reg No. N50702 Time (Local): 18:25 CDT

Make/Model:	BELLANCA / 8KCAB	Fatal	1	Serious	0	Minor/None	0
Engine Make/Model:	LYCOMING / AEIO-360-H1A	Crew	0				
Aircraft Damage:	Destroyed	Pass	0		0		0
Number of Engines:	1						
Operating Certificate(s):	None						
Type of Flight Operation:	Personal						
Reg. Flight Conducted Under:	Part 91: General Aviation						

Last Depart. Point: PLAINFIELD , IL
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: 15.00 SM
Wind Dir/Speed: 300 / 010 Kts
Temperature (°C): 17
Precip/Obscuration: None

Pilot-in-Command Age: 52

Flight Time (Hours)

Certificate(s)/Rating(s)
Private; Single-engine Land
Instrument Ratings
Airplane

Total All Aircraft: 1312
Last 90 Days: 55
Total Make/Model: 333
Total Instrument Time: UnK/Nr

DRG AEROBATICS, THE ACFT WENT IN A DIVE, GAINED SPEED, LEVELED OFF & PULLED UP ABRUPTLY. DRG THE PULL-UP, THE RGT WING FAILED UPWARD & SEPD FM THE ACFT. THE ACFT THEN WENT OUT OF CTL & CRASHED. THE PLT WAS WEARING A PARACHUTE, BUT DID NOT BAIL-OUT; HE WAS FOUND STRAPPED IN HIS SEAT & THE DOOR RLS PIN WAS STILL IN PLACE. THERE WAS EVIDENCE OF UPWARD BENDING OF THE LEFT WING; BOTH HORIZONTAL STABILIZERS HAD EVIDENCE OF BEING COMPROMISED IN A DWNWRD DRCTN. AN EXAM OF THE PLT'S SEAT REVEALED THE TUBULAR ENDS OF THE SEAT-BACK FRAME HAD FAILED AT THE PIVOT POINTS (PVT PTS), WHERE THE SEAT-BACK WAS DESIGNED TO PIVOT FWD OVR THE SEAT PAN TO ALLOW ENTRY TO THE AFT SEAT. ATTACHING BOLTS AT THE PVT PTS HAD PULLED THRU THE ENDS OF THE FRAME. EVIDENCE OF OVERSTRESS SHEAR WAS FND AT THE RGT PVT PT AS IF THE SEAT-BACK HAD FAILED AFT. EVIDENCE OF OVERSTRESS SHEAR & TWISTING DEFORMATION WAS FND AT THE LEFT PVT PT. BELLANCA 7 & 8 SERIES ACFT HAVE HAD SVRL SEATBACK FAILURES AT THE HINGE POINT OR AT THE WELDED JUNCTION OF THE SEAT'S LOWER SIDE TUBE & SEATBACK SIDE BRACE.

Brief of Accident (Continued)

CHI88FA240
File No. 2251 09/20/1988 OSWEGO, IL Aircraft Reg No. N50702 Time (Local): 18:25 CDT

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: MANEUVERING

Findings

1. AEROBATICS - INITIATED - PILOT IN COMMAND
2. (F) FUSELAGE, SEAT - WORN
3. (C) FUSELAGE, SEAT - FAILURE, TOTAL
4. (F) ACFT/EQUIP, INADEQUATE DESIGN - MANUFACTURER
5. (C) FLT CONTROL SYST, ELEVATOR CONTROL - DISABLED
6. (F) DESIGN STRESS LIMITS OF AIRCRAFT - EXCEEDED
7. WING - FAILURE, TOTAL
8. WING - SEPARATION

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

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

The National Transportation Safety Board determines the probable cause(s) of this accident as follows.
INADEQUATE DESIGN IN THE MANUFACTURE OF THE PILOT'S SEAT WHICH FAILED DURING INTENTIONAL AEROBATIC MANEUVERS FOR WHICH THE AIRCRAFT INCLUDING THE SEAT WERE INTENDED.