



National Transportation Safety Board Aviation Accident Final Report

Location:	GREELEY, CO	Accident Number:	DEN90FA066
Date & Time:	02/21/1990, 0815 MST	Registration:	N3554P
Aircraft:	PIPER PA-31-350	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Serious

Flight Conducted Under: Part 91: General Aviation -

Analysis

N3554P WAS ON A MAINTENANCE TEST FLIGHT AFTER THE RIGHT WING WAS REPAIRED. THE PILOT LOST CONTROL OF THE AIRPLANE SHORTLY AFTER LIFTOFF AND WAS UNABLE TO REGAIN CONTROL PRIOR TO THE GROUND IMPACT. THE A&P MECHANIC WHO PERFORMED THE REPAIRS, RE ASSEMBLED THE RIGHT WING AILERON CONTROL CABLES PER THE PIPER SERVICE MANUAL. POST ACCIDENT EXAMINATION OF THE AILERON CONTROL SYSTEM REVEALED THE RIGHT WING CONTROL CABLES WERE REVERSED ON THE AILERON BELLCRANK, RESULTING IN BOTH AILERONS MOVING THE SAME DIRECTION (EITHER UP OR DOWN) WHEN THE CONTROL WHEEL WAS TURNED LEFT OR RIGHT.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE IMPROPER IDENTIFICATION OF PARTS IN THE PIPER PA-31-350 SERVICE MANUAL PERTAINING TO THE AILERON CABLES. THIS DISCREPANCY RESULTED IN THE IMPROPER INSTALLATION OF THE AILERON CABLES ON THE RIGHT AILERON BELLCRANK BY A MECHANIC DURING THE RECONSTRUCTION OF THE RIGHT WING. THE IMPROPER CONNECTION RESULTED IN A LOSS OF AIRCRAFT CONTROL BY THE PILOT IMMEDIATELY AFTER TAKEOFF. ALSO CAUSAL TO THE ACCIDENT WERE THE INADEQUATE INSPECTION OF THE FLIGHT CONTROL SYSTEM BY A SECOND MECHANIC WITH INSPECTION AUTHORIZATION, AND THE INADEQUATE PREFLIGHT INSPECTION OF THE FLIGHT CONTROL SYSTEM BY THE PILOT PRIOR TO TAKEOFF.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) FLT CONTROL SYST,AILERON CONTROL CABLE/ROD
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - OTHER MAINTENANCE PERSONNEL
3. (C) ACFT/EQUIP,INADEQUATE AIRCRAFT MANUALS - MANUFACTURER
4. (C) MAINTENANCE,INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL
5. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
6. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND
7. STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Commercial	Age:	53, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/01/1989
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	2455 hours (Total, all aircraft), 139 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N3554P
Model/Series:	PA-31-350 PA-31-350	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	318052052
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	7500 lbs
Time Since Last Inspection:	0 Hours	Engines:	2 Reciprocating
Airframe Total Time:	22598 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-J28D
Registered Owner:	AVIATION SERVICES WEST, INC	Rated Power:	350 hp
Operator:	BEEGLES AIRCRAFT SERVICES, INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	15 Miles
Lowest Ceiling:	Overcast / 5000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	0° C / -18° C
Precipitation and Obscuration:			
Departure Point:	(GXY)	Type of Flight Plan Filed:	None
Destination:	(GXY)	Type of Clearance:	None
Departure Time:	0815 MST	Type of Airspace:	Class G

Airport Information

Airport:	GREELEY/WELD CTY (CXY)	Runway Surface Type:	Asphalt
Airport Elevation:	4658 ft	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	6210 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Serious	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	2 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	GREGORY A FFITH	Report Date:	12/14/1992
Additional Participating Persons:			
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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