Aviation Investigation Final Report

Location:	Owatonna, Minnesota	**Accident Number:**	CHI03LA034
Date & Time:	October 1, 2002, 15:30 Local	**Registration:**	N32039
Aircraft:	Waco UPF-7	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The instructional flight resulted in substantial damage to the airplane during a go-around from a bounced landing when it veered off runway 30, impacted the runway's precision approach path indicator light unit, and nosed over in a ditch. The wind was from 360 degrees at 14 knots gusting to 18 knots. The dual student was receiving tailwheel training from a certified flight instructor (CFI), which began earlier in the day in a Champion 7ECA and transitioned to a Waco UPF-7, which was owned by the CFI. The fourth flight of the day was to serve as a transition for landing on a hard surface runway in the Waco UPF-7. The first landing on the hard surface runway was reported as successful. The second landing resulted in a bounced landing followed by a go-around. The third landing resulted in a bounced landing followed by a go-around attempt at which point there was a reported transfer of controls to the CFI. The Waco UPF-7 was described in a publication as having little visibility straight ahead. The publication suggested that CFIs have at least 20 hours in the specific model of tailwheel airplane in which they want to give instruction in. All of the flights were accomplished with the CFI occupying the front seat and the dual student in the rear seat. The CFI reported a total flight time of 17 hours as instructor in Waco UPF-7 airplanes, of which about 3 hours were accumulated on the day of the accident. The dual student had a tailwheel endorsement and accumulated total flight time 2.7 hours in the accident airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The remedial action not performed by the certified flight instructor (CFI) during the bounced landing and directional control not maintained during the go-around by CFI. Contributing factors were the CFIs preflight planning/preparation in placing the dual student in the rear seat, the limited ability for visual detection from the rear seat, and the lack of instructional

experience of the CFI in the make and model of the accident airplane. The gusts and crosswind were additional factors.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: GO-AROUND (VFR)

Findings
1. (F) WEATHER CONDITION - CROSSWIND
2. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND(CFI)
3. (F) LACK OF EXPERIENCE - PILOT IN COMMAND(CFI)
4. (F) WEATHER CONDITION - GUSTS
5. (C) REMEDIAL ACTION - NOT PERFORMED - PILOT IN COMMAND(CFI)
6. (F) VISUAL/AURAL DETECTION

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: GO-AROUND (VFR)

Findings
7. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND(CFI)

Occurrence #3: NOSE OVER
Phase of Operation: GO-AROUND (VFR)

Factual Information

On October 1, 2002, at 1530 central daylight time, a Waco UPF-7, N32039, was substantially damaged during a go-around from a bounced landing on runway 30 at Owatonna Regional Airport (OWA), Owatonna, Minnesota. The airplane veered off the left side of the runway, impacted the runway's precision approach path indicator lights, and nosed over in a ditch. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 instructional flight was not operating on a flight plan. The certified flight instructor (CFI) and dual student were uninjured. The local flight originated from OWA at 1500.

The dual student stated that he was receiving tailwheel training from the CFI. He stated that there were four flights preformed on the day of the accident, all of which were flown with the CFI occupying the front seat. The first flight was in a Champion 7ECA which was 0.7 hours in duration. During that flight, he successfully performed three three-point landings and three tail wheel landings at OWA. The second flight was in the accident airplane in which they performed slips, stalls, and slow flight, demonstrating airspeed control and the airplanes descent rate with no power during a 1.2 hour flight. The third flight was flown in the accident airplane at OWA where they demonstrated five three point landings and five wheel landing during a 1 hour flight. The fourth flight, which was the accident flight, was to serve as a transition to the paved runway at OWA. The dual student stated that he made two successful wheel landings on grass as practice for the paved runway. He then moved to the paved runway and made a successful wheel landing. A second landing resulted in a bounce and a go-around. The third landing attempt resulted in a bounce followed by an addition power to execute a go-around. At that point, the CFI took control. The airplane continued to the left, off the runway, through the grass, and struck a ditch, flipping the airplane over.

The Compleat Taildragger Pilot (1998) states under Selecting An Instructor, "It would be beneficial if his record included at least 20 hours in the specific model which you want your instructor in. Remember that the instructor has two primary functions. First, he is there to teach; secondly he must prevent any accident while you learn, and he can hardly accomplish this with only 10 or 15 hours of taildragger time. To be sure, time flown is not the only criterion for choosing an instructor, and you can certainly think of others. However, the minimums mentioned above are a good starting point. The publication also states under Visibility, "Taildraggers in general have a reputation for poor visibility... Most of the older bi-planes as exemplified by the Stearman and Waco UPF-7 have little visibility straight ahead while in the three-point attitude, and the visibility to the sides is somewhat impaired by the presence of the wings and struts."

The accident airplane, serial number 5670, was owned by the CFI who had a total flight time of 15,500 hours, of which 2,000 hours were in single engine airplanes and 36 hours were in the accident make and model. The CFI reported a total flight time of 32 hours in the last 90 days

and a total flight time of 17 hours as an instructor in the accident make and model. Three hours in the accident make and model were accumulated in the last 24 hours.

The dual student pilot had a tail wheel endorsement prior to receiving instruction in the accident airplane. He reported a total flight time of 2,205 hours in single engine airplane of which 2.7 hours were in the accident make and model.

The OWA weather, at 2120, recorded wind from 360 degrees at 14 knots gusting to 18 knots.

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	**Age:**	47,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Balloon; Glider	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	October 18, 2002
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	August 25, 2002
Flight Time:	15500 hours (Total, all aircraft), 36 hours (Total, this make and model), 13800 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	58,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	January 30, 2002
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2423 hours (Total, all aircraft), 3 hours (Total, this make and model), 2356 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Waco	**Registration:**	N32039
Model/Series:	UPF-7	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	5670
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	June 25, 2002 Annual	**Certified Max Gross Wt.:**	2650 lbs
Time Since Last Inspection:	10 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1488.11 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	W670-6N
Registered Owner:	David A. Schroeder	**Rated Power:**	220 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	OWA,1146 ft msl	**Distance from Accident Site:**	
Observation Time:	21:20 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots / 18 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	22°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Owatonna, MN (OWA)	**Type of Flight Plan Filed:**	None
Destination:	(OWA)	**Type of Clearance:**	None
Departure Time:	15:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	OWATONNA MUNI OWA	**Runway Surface Type:**	Concrete
Airport Elevation:	1145 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	5500 ft / 100 ft	**VFR Approach/Landing:**	Go around

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	44.123332,-93.260559

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	OT Frampton; Federal Aviation Administration; Minneapolis, MN
Original Publish Date:	September 30, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=56190