Aviation Investigation Final Report

Location:	Leesburg, Florida	**Accident Number:**	MIA01FA074
Date & Time:	February 9, 2001, 09:15 Local	**Registration:**	N123WA
Aircraft:	American 8KCAB	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Leesburg Municipal Airport has no operating control tower. The Decathlon conducted a long straight-in approach to Leesburg's runway 13 while the Extra 300 was conducting practice landings from a left traffic pattern. A ground collision occurred between the Decathlon's empennage, and the Extra's propeller/spinner and wing leading edge as the Decathlon was in its decelerating ground roll and the Extra was in the latter stage of its landing flare. The forces imparted to the Decathlon caused it to become airborne, nose high, and execute a roll about its longitudinal axis. The aircraft came to rest on the runway, inverted. The Extra under ran the Decathlon, commenced a skid, and sheared its right wheel/brake assembly. Both aircraft were substantially damaged, and the Decathlon pilot received minor injuries. Numerous witnesses stated they heard no radio calls on the proper UNICOM/CTAF frequency from either aircraft. The UNICOM/CTAF frequency had been changed from 122.7 to 122.725, and was properly displayed in the Southeast Airport/Facility Directory, (A/FD) effective November 30, 2000. The Aeronautical Information Manual, Chapter 4, " Air Traffic Control", recommends for traffic operations at airports without an operating control tower, (1) Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. (1,000' agl is recommended pattern altitude unless established otherwise...), (2) Maintain pattern altitude until abeam approach end of the landing runway on downwind leg, (3) Complete turn to final at least 1/4 mile from the runway.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The failure of the pilot of N123WA and the failure of both pilots of N301NL to adequately insure visual separation between their aircraft and other aircraft in the landing pattern, resulting in a runway collision. Factors contributing to the accident were the pilots of

both aircraft not using the correct UNICOM/CTAF frequency, and the pilot of N123WA executing a landing approach that conflicted with the traffic pattern entry recommended by the Aeronautical Information Manual for airports without operating control towers.

Findings

Occurrence #1: COLLISION BETWEEN AIRCRAFT (OTHER THAN MIDAIR)
Phase of Operation: LANDING - ROLL

Findings
1. (C) VISUAL SEPARATION - INADEQUATE - PILOT IN COMMAND
2. (F) UNICOM - INCORRECT - PILOT IN COMMAND
3. (F) PLANNED APPROACH - CONFLICTING - PILOT IN COMMAND

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

Findings
4. TERRAIN CONDITION - RUNWAY

Factual Information

HISTORY OF FLIGHT

On February 9, 2001, about 0915 eastern standard time, an American Champion, 8KCAB Decathlon, N123WA, and a Flugzeugbau GMBH Extra 300, N301NL, collided while landing at Leesburg Municipal Airport, Leesburg, Florida. Visual meteorological conditions prevailed and neither aircraft had filed a flight plan. Both aircraft received substantial damage, and the private-rated pilot-in-command and flight instructor-rated checkout pilot of the Extra 300 were not injured. The flight instructor-rated pilot of the Decathlon, the sole occupant, sustained minor injuries. N301NL originated from Sanford, Florida about 0800, and N123WA originated from Ocala, Florida about 0900.

According to the pilot of N123WA, at 15 miles out, inbound to the non-towered airport, he tuned his radio to the automated surface observing system, (ASOS) frequency to obtain the altimeter setting and winds, and then switched frequency to the common traffic advisory frequency, (CTAF) on which he called 5 miles out for a straight-in approach to runway 13. Additionally, he made calls at 3 miles out and on short final approach, flying the visual approach slope indicator, (VASI) for glide slope guidance. He observed two aircraft in the traffic pattern, but only one of them was on frequency with him. After landing touchdown, he became aware of a loud noise followed by a loss of control of his aircraft. He came to rest inverted on the runway. A pilot ran over from the Extra 300 and, "Exclaimed that he had run into-landed on N123WA and had not seen N123WA at all."

According to the aft-seated pilot-in-command (PIC), of N301NL, as they approached the Leesburg airport, they called for an airport advisory, but got no response. They continued inbound to the airport and entered a downwind leg for runway 13 traffic where they saw another aircraft taxiing, and got a response from him. After about eight or nine circuits in the landing pattern, during their downwind leg for another circuit, they made a radio call and scanned for traffic. No other aircraft flying or on the ground was observed nor heard from on radio. When their wheels touched the runway, N123WA "just popped up" about 10 to 30 feet forward of them. He saw the impact and the red and white aircraft, (N123WA) flipped over the top of them and landed inverted. We continued upright for 200 to 300 feet further up the runway, exited the airplane, and ran to the other aircraft to help the other pilot. He stated that, "I did not see or hear any radio from any aircraft on the last two approaches, until [N123WA] popped up. Estimated time: 0915; Visibility unlimited."

According to three witness statements, neither aircraft was heard to transmit on 122.725. The manager of the fixed base operator on the field was within earshot of their UNICOM/CTAF base radio immediately before and at the time of the accident and remembered no calls.

According to two occupants of a Robinson R-22 helicopter hovering on the northeast side of the airport, no radio calls were heard on 122.725 for at least 5 minutes before the collision. They stated they may have missed a call from the Decathlon when he was on long final.

According to a deputy sheriff pilot who interrogated the check-out pilot of N301NL following the accident, when asked what frequency he was using in the traffic pattern, the check-out pilot answered 122.7. Thereafter, according to the sheriff, the check-out pilot guessed three or four additional frequencies, and on the fourth try, stated 122.725. The witness statements are an attachment to this report.

PERSONNEL INFORMATION

The pilot of N123WA held a commercial pilot certificate with ratings for airplane, single-engine land, airplane multiengine land, and instrument-airplane. He held a flight instructor certificate with ratings for airplane, single-engine, multiengine, and instrument. His most recent FAA second-class medical certificate was issued on December 6, 2000, with limitations for glasses for near vision.

The pilot of N301NL held a private pilot certificate with ratings for airplane, single-engine land, single-engine sea, airplane multiengine land, rotorcraft, and instrument-airplane. His most recent FAA third-class medical certificate was issued on December 27, 2000, with limitations for glasses for near vision. He had recently bought the airplane and was receiving a new buyer check-out. He stated that he had accumulated 5.8 hours in the Extra 300 type aircraft in the previous two days, and the accident day was his third day of familiarization.

The check-out pilot of N301NL held a commercial pilot certificate with ratings for airplane, single-engine land, single-engine sea, airplane multiengine land, rotorcraft, and instrument-airplane. He held a flight instructor certificate with ratings for airplane, single-engine and multiengine. His most recent FAA second-class medical certificate was issued on October 10, 2000, without restrictions. He was an owner/salesman for the Sanford, Florida, based airplane dealer who sold the airplane to the PIC.

AIRCRAFT INFORMATION

The two-place, tandem configured, Extra 300 aircraft was designed to solo from the rear seat, and therefore the radios and most flight and aircraft system instruments and controls are installed in the rear cockpit. The opposite is true of the Decathlon, which is also a two-place, tandem configured aircraft. Both aircraft were equipped with shoulder harnesses, and were being used.

METEOROLOGICAL INFORMATION

The Leesburg METAR for 0853 showed clear skies, 10 statue miles visibility, winds from 160 degrees at 4 knots, temperature was 64 degrees F, dew point was 57 degrees F, and altimeter setting of 30.27 inches Hg.

COMMUNICATIONS

The current chart for visually navigating in the Leesburg area at the time of the accident was the Jacksonville Sectional Chart, dated September 7, 2000, which depicted the Leesburg Regional Airport's UNICOM/CTAF frequency as 122.7. The airport manager of the Leesburg Regional Airport changed its UNICOM/CTAF frequency from 122.7 to 122.725 on September 27, 2000, and duly notified the Aeronautical Information Services Division, (ATA-100), National Flight Data Center, of the Federal Aviation Administration. The National Flight Data Center published the frequency change in the National Flight Data Digest, (NFDD) dated October 2, 2000. A chart bulletin for the Jacksonville Sectional Chart was published in the Southeast Airport/Facility Directory, (A/FD) effective 30 November 2000. The chart bulletin advised the public of the changes to the Jacksonville Sectional Chart, one of which was the Leesburg airport frequency change to 122.725. The notice of frequency change was carried in the A/FD until the new Jacksonville Sectional Chart was published on February 22, 2001, at which time it was depicted next to the airport symbol.

According to the airport manager, for about 2 months subsequent to the frequency change, the counter person at the FBO monitored both frequencies, 122.7 and 122.725 and advised uninformed pilots of the change to 122.725. This procedure ceased once the Southeast A/FD that advised of the frequency change became effective.

WRECKAGE AND IMPACT INFORMATION

The point of impact was 663 feet beyond the arrival end of runway 13, very close to runway centerline. Examination of both aircraft revealed that initial impact was between the Decathlon's rudder and the Extra 300's right wing root leading edge simultaneously with the Extra's propeller impact along the Decathlon's left side empennage and fuselage. The Decathlon was on all three landing gear, into its landing deceleration, and the impact propelled it airborne into a nose high attitude that culminated in a half aileron roll. It came to rest 23 feet left of runway centerline, 369 feet further down the runway from initial impact, inverted, on its wing leading edge and forward edge of its cowling, headed 105 degrees. The Extra 300 continued 490 feet further down the runway from initial impact, coming to rest 59 feet right of runway centerline, outside the white boundary lines, but still on the edge hardtop, heading 125 degrees. The right wheel/ brake assembly was sheared from its landing strut during the skid. The Extra 300 propeller's three blades had shattered about 15 inches outboard of the hub, and pieces were found at the initial impact site. The propeller spinner's front half was torn off and small pieces of spinner were strewn on the runway. Both aircraft had 122.725 displayed on their communication radios when the NTSB arrived on the scene. A satisfactory radio check was made on 122.725 from both aircraft to the FBO's base radio, postcrash.

TESTS AND RESEARCH

The Aeronautical Information Manual, Chapter 4, "Air Traffic Control", recommends the following traffic pattern operations for airports without an operating control tower; I. (4-1-9, b,1) The key to communicating at an airport without an operating control tower is selection of the correct common frequency, (CTAF). II. (4-1-0,b,2) The CTAF frequency for a particular airport is contained in the A/FD, Alaska Supplement, Alaska Terminal Publication, Instrument Approach Procedure Charts, and Instrument Departure Charts. Also, the CTAF frequency can be obtained by contacting any FSS. III. (4-3-4) Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. (1,000 agl, is recommended pattern unless established otherwise). Maintain pattern altitude until abeam approach end of the landing runway on downwind leg. Complete turn to final at least 1/4 mile from the runway.

ADDITIONAL INFORMATION

N123WA and N301NL were released to their respective owner/operators on February 10, 2001, and both owner/operators acknowledged receipt by their signatures on NTSB Form 6120.15.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	44,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	December 6, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	December 1, 2000
Flight Time:	1700 hours (Total, all aircraft), 30 hours (Total, this make and model), 1640 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	American	**Registration:**	N123WA
Model/Series:	8KCAB	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Aerobatic; Normal	**Serial Number:**	726-94
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	October 29, 2000 Annual	**Certified Max Gross Wt.:**	1800 lbs
Time Since Last Inspection:	33.8 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	123 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	AEIO-360-H2A
Registered Owner:	Blaine M. Hoffman	**Rated Power:**	180 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:	LEE,77 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	09:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.27 inches Hg	**Temperature/Dew Point:**	18°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ocala, FL (OCF)	**Type of Flight Plan Filed:**	None
Destination:	Leesburg, FL (LEE)	**Type of Clearance:**	None
Departure Time:	09:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Leesburg Regional LEE	**Runway Surface Type:**	Asphalt
Airport Elevation:	77 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	13	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 100 ft	**VFR Approach/Landing:**	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	28.826944,-81.815277

Administrative Information

Investigator In Charge (IIC):	Stone, A. C.
Additional Participating Persons:	Regis Lauer; FAA FSDO; Orlando, FL
Original Publish Date:	January 2, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51705

Aviation Investigation Final Report

Location:	Leesburg, Florida	**Accident Number:**	MIA01FA074
Date & Time:	February 9, 2001, 09:15 Local	**Registration:**	N301NL
Aircraft:	Flugzeugbau EA-300	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Leesburg Municipal Airport has no operating control tower. The Decathlon conducted a long straight-in approach to Leesburg's runway 13 while the Extra 300 was conducting practice landings from a left traffic pattern. A ground collision occurred between the Decathlon's empennage, and the Extra's propeller/spinner and wing leading edge as the Decathlon was in its decelerating ground roll and the Extra was in the latter stage of its landing flare. The forces imparted to the Decathlon caused it to become airborne, nose high, and execute a roll about its longitudinal axis. The aircraft came to rest on the runway, inverted. The Extra under ran the Decathlon, commenced a skid, and sheared its right wheel/brake assembly. Both aircraft were substantially damaged, and the Decathlon pilot received minor injuries. Numerous witnesses stated they heard no radio calls on the proper UNICOM/CTAF frequency from either aircraft. The UNICOM/CTAF frequency had been changed from 122.7 to 122.725, and was properly displayed in the Southeast Airport/Facility Directory, (A/FD) effective November 30, 2000. The Aeronautical Information Manual, Chapter 4, " Air Traffic Control", recommends for traffic operations at airports without an operating control tower, (1) Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. (1,000' agl is recommended pattern altitude unless established otherwise...), (2) Maintain pattern altitude until abeam approach end of the landing runway on downwind leg, (3) Complete turn to final at least 1/4 mile from the runway.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The failure of the pilot of N123WA and the failure of both pilots of N301NL to

adequately insure visual separation between their aircraft and other aircraft in the landing pattern, resulting in a runway collision. Factors contributing to the accident were the pilots of both aircraft not using the correct UNICOM/CTAF frequency, and the pilot of N123WA executing a landing approach that conflicted with the traffic pattern entry recommended by the Aeronautical Information Manual for airports without operating control towers

Findings

Occurrence #1: COLLISION BETWEEN AIRCRAFT (OTHER THAN MIDAIR)
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings
1. (C) VISUAL SEPARATION - INADEQUATE - FLIGHTCREW
2. (F) UNICOM - INCORRECT - FLIGHTCREW

Factual Information

Same as narrative for MIA01FA074A

Pilot Information

Certificate:	Private	**Age:**	65,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	December 27, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 30, 2000
Flight Time:	6150 hours (Total, all aircraft), 6 hours (Total, this make and model)		

Check pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	45,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	October 26, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	December 6, 2000
Flight Time:	6500 hours (Total, all aircraft), 100 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Flugzeugbau	**Registration:**	N301NL
Model/Series:	EA-300	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Aerobatic; Normal	**Serial Number:**	067
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	February 1, 2001 Annual	**Certified Max Gross Wt.:**	2095 lbs
Time Since Last Inspection:	8.62 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	416.95 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	AEIO-540-L1B5
Registered Owner:	Donair Sales and Leasing, Inc.	**Rated Power:**	300 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:	LEE,77 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	09:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.27 inches Hg	**Temperature/Dew Point:**	18°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sanford, FL (SFB)	**Type of Flight Plan Filed:**	None
Destination:	Leesburg, FL (LEE)	**Type of Clearance:**	None
Departure Time:	08:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Leesburg Regional LEE	**Runway Surface Type:**	Asphalt
Airport Elevation:	77 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	13	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 100 ft	**VFR Approach/Landing:**	Straight-in

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:**	28.826944,-81.815277

Administrative Information

Investigator In Charge (IIC):	Stone, A. C.
Additional Participating Persons:	Regis Lauer; FAA FSDO; Orlando, FL
Original Publish Date:	January 2, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51705