

Inspector Statement

Name: Antonio Gonzalez-Santiago

Address: Orlando FSDO-15 [REDACTED] Orlando FL [REDACTED]

Phone: [REDACTED] **E-mail:** [REDACTED]

Description: Accident Investigation N568XL on February 21, 2016 at MCO

On February 21, 2016 a Liberty XL2 registration N568XL, was cleared for takeoff runway 18L at the Orlando International Airport (MCO). Pilot experienced a gear issue and lost control of the aircraft forcing the aircraft off the runway and into the grass area.

The Orlando Flight Standard District Office (FSDO) Inspector Antonio González received the assignment to investigate the incident. Aircraft was moved from the grass to the apron area next to runway 18L by the Airport Authorities. Inspector González inspected the aircraft observing that the right main gear was dislodged under the right wing. The left main landing gear was bent under the left wing and the nose gear was completely separated from the aircraft and was located next to the blast fence. The right wing had damage to the underside and the right flap was damaged. The left wing had damage to the wing outboard area and the tip area. There was a significant separation from the left wing to fuselage attachment area. The left wing had dirt on the top surface of the wing. The propeller blades were severed, approximately 1/3 of one blade remained and the other blade approximately 2/3 of the way from the hub area. The interior of the aircraft, tail section and right side of the fuselage showed as having any visible damage. The aircraft was moved to Jacksonville, Fl. for storage.

The pilot reported that when he was given clearance for takeoff he noticed his right brake was inoperative. This model aircraft uses the brake system for directional control. He requested his passenger/copilot to test the brakes and was informed that the right brake did not work. The pilot then seen the situation deteriorating and having no directional control decided to apply power to get more airflow thru the rudder and attempt to gain directional control.

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After applying power he noticed he was not going to be able to stop in the runway and he pulled back on the flight controls in an attempt to take off and possible then attain the directional control needed. After he pulled back he became airborne with no directional control while attempting to miss the runway lights, after becoming airborne he attempted to land resulting the loss of directional control that lead to the incident. The pilot stated that the loss of the right brake resulted in him not been able to control the aircraft.

Inspector González visited the location of the aircraft and inspected the aircraft brake system. The brake system fluid reservoir was attached to the aircraft with no damage. There was no fluid visible inside the reservoir and or the plastic tubing coming from the reservoir to the brake system. The left brake caliper was attached to the landing gear and no damage was observed. The right brake caliper was attached to the right landing gear. The right landing gear was not attached to the aircraft and was resting next to the aircraft. The right brake fluid line was not found nor observed attached to neither the right brake caliper nor the landing gear.

The left caliper fluid line was loosed and inspected for fluid content, fluid was observed coming from the line attach fitting after loosening it. After inspecting the right brake caliper it was observed that no fluid was present. Both brake calipers were removed from their respective brake disk and landing gear.

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Individual inspection of both calipers was performed noticing some differences in between them.

- 1. The left brake caliper was free to move in the sliding pins as designed and the right brake caliper showed excessive sliding motion in the sliding pins in comparison to the left caliper.*
- 2. The right brake disk showed some blue discoloration associated with overheating of metal and the left disk did not show this type of discoloration.*
- 3. The brake pads in the left brake caliper looked in a lot better condition in comparison to the right brake pads.*
- 4. The right brake pads showed corrosion and older condition in comparison to the left pads*

The brake calipers were identified and bagged and placed inside the aircraft for further study as the NTSB may find necessary in the future.

Log book entries by maintenance personnel indicated that the aircraft last annual inspection was performed on 1 Feb. 2016 at 1141.0 total hours. The engine and propeller were also inspected at the same time with no mayor discrepancies found and the aircraft was returned to service by a certificate mechanic. During the Annual Inspection the brake system was serviced and bled by the mechanic. Pilot reported he did not have any issues with the brakes since the inspection and prior to the incident.

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Federal Aviation Administration (FAA) records show that the mechanic who also possesses a private pilot certificate is a XL2 Liberty owner, indicating the probability of any possible lack of knowledge or not being familiar with the type of aircraft brake system as being very low.

I am submitting this for your information.

Antonio González-Santiago
Aviation Safety Inspector