

FOR NTSB INVESTIGATIVE PURPOSES

5305 Incident Report—Thoughts from J. Todd Hicks, (Pilot Not Flying)

Crew: Scott Wedemeyer (Pilot Flying-PF), J. Todd Hicks (Pilot Not Flying), Doug Kuras (Maintenance Technician).

Callsign GLF16.

Date: Monday, 14 Feb 2011

Location: ATW, Landing Runway 30, RNAV/GPS Runway 30

Flight was a Completion 1 on 5305. Brief started at 0815. Ground ops were uneventful with the following writeups: exterior baggage door squeaks, pilot and co-pilot seat tracking, acoustic door chatter while taxi, printer inop, left hydraulic quantity of 5.0, right hydraulic quantity of 1.7, and occasional Trim 1-2 Fail that would self clear.

Taxi, engine run-ups and takeoff were normal.

The flight to the SAW area was normal. All in-flight checks went normal. Airborne writeups were FMS 1, Elev Trim 1-2 Fail (amber CAS message) and Mach Trim 2 Fail (blue CAS message). The autopilot disengaged during VMO checks and pitched nose down. The autopilot also disengaged from ILS go-around at Green Bay (KGRB). After low approach from KGRB, Air Traffic Control (ATC) eventually cleared GLF16 direct to RNAV/GPS Runway 30 Initial Approach Fix SUDIE.

Flaps 10 degrees were selected at approximately 200 KCAS prior to APESE. Between APESE and ZUMUG (Final Approach Fix-FAF), 20 degrees flaps were selected. Approaching glide slope, PF called for the gear down and landing checks. The gear came down with 3 green, no red. PNF also completed before landing checklists except for selecting full flaps (awaiting PF's call for full flaps) to include arming ground spoilers, warning inhibit, pumping up Brakes/Hydraulics/Brake Accumulator to 3000 psi. Additionally, the PNF selected the Landing Mode on the Cabin Pressure Controller.

Co-Pilot's Thoughts on Go-Around at initial indication of Hydraulic problems

Shortly thereafter, an amber L Hydraulic Quantity Low CAS (Crew Alerting System) message came on inside the FAF followed by an amber L Hydraulic System Fail CAS message. My thoughts were audibled by suggesting to the PF that "maybe we should go around". I cannot remember the exact wording of the PF's response but he indicated his decision to continue the approach and land the airplane. My thoughts are I suggested a go-around but the PF chose to continue to land and selected the hydraulic synoptic. My visual snapshot of the hydraulic synoptic page left me with the impression there was still some hydraulic fluid in the aux system based on the green filled in portion at the bottom of the reservoir. PF called for flaps full and I selected flaps full but no movement of flaps occurred so I re-selected 20 flap. I am not exactly sure of the sequence between getting the two CAS messages, suggesting a go-around, and then selecting full flaps. The events were all close to each other, but I immediately pulled out the Quick Reference Handbook (QRH) and focused on the emergency procedures section.

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I initially went to Section MB which is the Caution (Amber) Messages and Annunciations Index and read Hydraulic Quantity Low, L-R and Hydraulic System Fail, L-R on page MB-6 and turned to pages MB-37 and MB-38. I chose to reference page EE-10 Left Hydraulic System (L SYS) Failure—Loss of Pressure and Fluid based on two things. First, when the PF called up the hydraulic synoptic page, I recall from glancing at page that green filled in at the bottom of the left reservoir and the number 3 (quantity) was visible, leaving me with the impression of aux fluid. Second, just prior to getting the L Hyd Quantity Low CAS message, I had pumped up the emergency brakes with the aux pump and it charged the brake accumulator to 3000 psi, which is normal pressure. I entered the Left Hydraulic System Failure-Loss of Pressure and Fluid checklist at step 14 because that matched the configuration of the aircraft where the failure occurred. I selected the Aux Pump on and focused my attention outside. I think I selected the Aux Pump to ON, just after selecting GPWS/GND SPLR FLAP ORIDE based on the PF's call after hearing "TOO LOW FLAPS" which comes on when flaps are not full down and altitude is less than 245ft AGL.

Co-Pilot's thoughts of Emergency Braking option and attempting Go-Around after touching down

When the PF did not feel any deceleration from applying the brakes, he said he was going around. I cannot recall his exact wording. I can't remember if he stated there were no brakes or if he said "no brakes going around" or if he just said "going around". My estimation is there was approximately 2000 feet remaining at that point. When the PF made the decision to go-around and pushed the throttles up, I felt this took away the emergency braking option and I waited a few seconds (1-2 seconds); but the airspeed was stable at 100 KIAS and did not feel acceleration or see the airspeed start to increase so I pulled the throttles back with what I estimate as 1000 feet remaining. I estimate there was only a few seconds from the time I pulled the throttles back until we went off the end of the runway. At this point, I did not think about the emergency brakes as I was in the survival mode of bracing myself. I made a split second decision to abort to avoid what I thought would be a worst case scenario of departing the runway at an even higher speed just as the engines were finally spooling up and then trying to rotate with the gear going into the slush/mud/snow and not having enough airspeed to fly. I was certain our lives were in danger had the go-around continued.

The aircraft departed the end of runway 30 at approximately 95 KIAS on runway heading near the centerline. Aircraft veered right and eventually came to a stop after left main landing gear collapsed. Just prior to coming to a stop, I selected manual on the cabin pressure controller and opened the TROV. I shut down engines with fuel control and we egressed the aircraft. The flight technician opened the main entry door and cautioned that the door will collapse which it did.