

Eric Pershing NTSB Report regarding N22AU leg from KIAD to KMTN on March 7, 2022.

Preparation for Departure

Performed a post-flight (from KTEB) final walk around. Returned to the plane to clean the cabin and prep the cockpit for our next leg. Obtained clearance, requested 19L, but in expectation that 19C would be granted, entered the latter into the FMS. However, 19L was approved, was changed in the computer and verified by both crew members. Brakes tested fine during taxi.

Takeoff

Was standard, checklists were read, callouts made, wind was pretty gusty but was within limits.

En Route

Were routed to the North and to a vector to intercept final. We were at 5,000 feet for the duration, experiencing moderate turbulence throughout. After takeoff checklists were completed, listened to ATIS at KMTN, set the barometer and input temperature into the FMS. We noted that we were still heavy on fuel, and configured the aircraft early to burn off the excess and extended the speed brakes.

Were cleared to the visual (backed up with the localizer approach). To burn some more fuel, we configured flaps approach and gear down prior to the final approach course. We joined final and started our descent and were given the instruction "best forward speed to the numbers". We picked up the speed a little bit, but not too much, as we lowered landing flaps shortly after those instructions. PF was maintaining roughly 140kts until about a 3-4 mile final when he started slowing it down to be on speed for the approach and landing. This was also approximately when PF retracted the speed brakes.

Landing

We rounded out and had a normal flare, followed by a good touchdown and everything was going well until PF asked "Why aren't the brakes working?" I immediately tried the brakes on my side to no avail. Scanning for the small emergency brake lever, we were not able to locate it in those few seconds, and finally applied the parking brake in case the cause of the brakes failure hadn't affected it, also to no avail. We continued to scan for the emergency brake, and I announced to the tower that we had lost brakes. The aircraft went off the end of the runway, through soft dirt into a marshy area and was stopped by a fence.

Shut-Down

There was no indication or smell of fire, we shut down the engines, turned the battery off, and exited through the main cabin door. Fire rescue had been notified by the tower, and they arrived shortly thereafter. We examined the exterior hydraulic panel which looked to be normal levels, and subsequently disconnected the battery.

We had a gusty landing at KIAD on runway 19C followed by a relatively long taxi to Signature Flight Support to drop our passenger off. We then refueled at Signature Flight Support. I did a post flight walk around. Eric (PNF) got clearance and requested runway 19L. Eric then went inside to pay for fuel and fees. When he returned, he did a final walk around the plane. We performed our "before engine start" checklist, started our engines, and then received taxi clearance to 19L. While taxiing to 19L, our brakes worked with no issues or abnormalities. During this time, we performed our rudder bias and flap check. We then performed our "taxi" and "before take-off" checklists. Finally, we performed our takeoff brief where we verbalized that it would be a left seat departure. We noted our initial assigned heading, initial assigned altitude, and to return to KIAD with any unforeseen events. We held short of 19L for landing traffic with the parking brake set. We received radar vectors and were cleared for takeoff. We then completed the remaining "before take-off" checklist items.

After take-off, we performed our "after take-off" checklist. It was a relatively short flight to KMTN, an enroute time of less than 30 mins. There was moderate turbulence while cruising at 5000 feet. Since we received radar vectors the fuel burn was less than planned. Our landing weight was roughly 50 lbs above our max landing weight. To resolve this, I extended the speed brakes to burn extra fuel and then configured early to further increase fuel burn. KMTN was using runway 15. We loaded the approach to back up the visual approach into runway 15(6997' x 180'). The tower told us "best speed to the numbers." We had a stable approach with added gust factor to our Vref speed. We completed all of our checklists and were on a stable visual approach. Our APG calculation showed that we needed just over 3000 ft of pavement to land. The speed brakes were retracted at 500ft.

We touched down within the touchdown zone using proper crosswind correction. While holding the wind correction in, and maintaining directional control on the center line, the brakes were applied. The touchdown roll felt off, and my first thought was that it could be from the gusty crosswind. When the nose gear touched the pavement the PNF engaged the ground flaps. During this time, we noticed the lack of braking action from the aircraft. The PNF quickly applied brake pressure on his side, which was unsuccessful. While maintaining directional control, we were having a difficult time locating the emergency parking brake lever. As the runway pavement was evaporating, we pulled the parking brake as a last attempt to stop. During this time, PNF notified the tower that we had lost our brakes. We went off the end of the runway and into the marsh. A barbed wire fence stopped us before entering the bay. There was no immediate indication of a fire, we quickly shut the engines down and turned the battery off. We then exited the plane through the main cabin door. Fire rescue arrived shortly after, and we disconnected the battery with their approval.