

1 Timothy V. Ewell  
2 [REDACTED]  
3 [REDACTED]

4 Timothy Ewell representing himself in the matter of the Aircraft Accident that occurred on July 22, 2015 involving a  
5 Challenger 601 and a ground handling vehicle.

6 BEFORE THE NATIONAL TRANSPORTATION SAFETY BOARD

7 CASE NUMBER ERA15LA288

8 Request to re-open investigation.

9 **Reasons to support reopening of the accident investigation.**

- 10 1. The aircraft in question is listed as a Challenger 604 when in fact it was a Challenger  
11 601. These are two separate types of aircraft. Did the investigator use the information  
12 regarding the hydraulic systems from the 604 in his evaluation?  
13
- 14 2. The first scheduled test flight after the accident and subsequent repairs, the airplane  
15 duplicated the mechanical error experienced in the accident and three witnesses were  
16 present to corroborate the event.  
17
- 18 3. The conclusion reached is not reasonable. It assumes that the pilots were not aware of  
19 their immediate surroundings and that by following procedures in a different manner  
20 the accident could have been avoided. The facts as stated below clearly show that this  
21 was a mechanical malfunction and that no amount of additional pilot procedures could  
22 have prevented the eventual outcome.  
23
- 24 4. Much of the information regarding the Anti-skid system was provided to the NTSB  
25 investigator prior to the issuing of the final ruling.  
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- 1 5. A portion of the FAA inspectors statement has been redacted but I was told by him in a  
2 phone conversation shortly after the accident that he would accept no explanation  
3 other than "the PIC was not in his seat at the time of the accident." Therefore, he could  
4 not have applied any braking. The CVR proved that to be a false assumption.  
5
- 6 6. The witness statements by the line crew of Atlantic Aviation are self-serving and  
7 inaccurate. The aircraft cockpit sits well above the heads of anyone standing on the  
8 ground. The aircraft was facing west and it was about 2 o'clock in the afternoon causing  
9 glare on the windshield. When the aircraft started its un-commanded movement, they  
10 went to panic mode and it is doubtful whether they were even looking at the cockpit  
11 during its 7 seconds of travel. Their statements as to the whereabouts of either of the  
12 pilots during that time cannot be considered with any credulity.  
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15 **Analysis of Aircraft Incident that occurred July 22, 2015 from the PIC Tim Ewell.**

16 It has been erroneously reported that the aircraft was a Challenger 604. It was in  
17 fact a 601. Of course, in any accident, it is the easiest course of action to assign blame to the  
18 crew. That should not be the case here. This was clearly a mechanical malfunction and in  
19 actuality, the quick and decisive action of the crew mitigated a much larger potentially  
20 disastrous outcome. Had the aircraft continued to roll, it would have come in contact with at  
21 least two other airplanes parked in front of it.  
22  
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24 **Systems review of Challenger 601**

25 The Challenger 601 has an electrically operated anti-skid system. It functions  
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1 normally at wheel spin-up not unlike most anti-skid systems. It electrically will shut off the  
2 hydraulic power applied by the pilot to the wheel brake when it senses it is stopping rotation  
3 due to ice/wet surfaces on landing and rejected take off.  
4

5 The way this system is checked is on initial taxi, the PNF will say to the PF, "Off  
6 the brakes?" And with an affirmative response, the PNF will push the anti-skid test button and  
7 then should see four lights on the Anti-skid panel and a warning light on the 8-10 channel.  
8 When the button is released, the four lights and the 8-10 channel light all go out. When the  
9 button is pressed, the brakes cannot be applied as they are inhibited by the test mode. If you  
10 are sitting with the parking brake on and the test button is pushed, the brakes will release until  
11 the button is released.  
12

13  
14 Here is what I believe happened. This airplane has had a plethora of electrical  
15 issues. WOW issues, warning light failures, trim system failures and others all documented in  
16 the log books. All since it was put back into service after it sat for nearly 2 years.  
17

18 On the day of the incident we were in the middle of performing the engine start-  
19 up checklist using a flow pattern, backed up by the checklist. As we were completing the  
20 second engine start, we were interrupted by a line man waving at us from the left front of the  
21 aircraft. He pointed toward the back of the aircraft and I immediately realized that I had left the  
22 baggage door open. I left my SIC who was the PF for this flight, got up and went to the back to  
23 close the door. I believe this took about 15 seconds and I was back in my seat. In my absence,  
24 the PF had continued the flow to the after-start checklist. **(At this point the crew had not**  
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1 gotten to the challenge and response portion of running the checklist because they had not  
2 even gotten to the point of asking for taxi clearance. This is normal procedure in this type of  
3 operation with this aircraft.) I will never know what caused the anti-skid system to fail, but  
4 knowing it is an electrical system, it may have been when the PF turned the engine generators  
5 on and the APU generator off. As I was picking up the checklist to continue where we left off, I  
6 saw the lineman again to my left front in somewhat of a panic and at the same time I noticed  
7 that the aircraft was moving forward and gaining momentum. I immediately applied full  
8 braking but there was no response from the aircraft. It continued to roll. About then I felt what  
9 seemed like we were running over chocks, which I later found out was a collision with a 4  
10 wheeler that had been parked about 10 feet in front of the aircraft, and I shouted out loud to  
11 the PF, "what are you doing" as I thought it was something in her control. Since the brakes did  
12 not work, I quickly twisted to my left, grabbed both throttles and shut them down. In that  
13 physical position I could see over the throttles to the parking brake handle and I watched the PF  
14 grab the Parking brake and release and reset it very quickly. To do this she would have had to  
15 be pushing hard on the brakes (as any 601 pilot can attest) but still, the aircraft was moving.  
16 About 2 seconds after I shut down the engines and about 1 second after the PF reset the  
17 parking brake, the brakes engaged with a profound jerk and we came to a skidding halt. Again,  
18 had there been no hydraulic pressure in the system, the brakes would not have worked at all  
19 thus proving that the appropriate hydraulic systems were properly set and functioning. They  
20 were being overridden by the antiskid system.  
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1 Based on my knowledge of the system this is what I believe happened. An  
2 electrical surge of some kind engaged the anti-skid system just as if someone had pushed the  
3 test button. It released the brakes and the airplane began to roll just as I was getting back to  
4 my seat. It was still activated when I tried to stop the aircraft with aggressive use of the brakes  
5 before contact with the ground vehicle. The PF also stated she had tried to apply full brakes  
6 with no success. I believe it was when I shut the engines down and the GCUs took all power off  
7 the aircraft that the anti-skid test system, being no longer electrically active, allowed the  
8 hydraulic pressure to the brakes to return and the brakes then engaged. I see no other  
9 explanation for this to happen.

12 In the accident investigation report, there is reference to pilots verifying the  
13 hydraulic pressure. The person who wrote this report appears to be less than conversant with  
14 the triple redundancy hydraulic system of the Challenger 601. There are several times hydraulic  
15 system pressure is evident. The first is when the #3 system is turned on by an overhead switch,  
16 either the 3a or 3b pump switch. This is required to provide pressure to allow the nose gear  
17 doors to be closed during preflight and to set the parking brake. If that switch was not on and  
18 hydraulic pressure not available, the nose gear doors would have not closed and it would have  
19 been an indication of a failure. The nose gear doors closed during preflight in a normal fashion.  
20 If the #3 hydraulic system is active, both inboard and outboard braking systems are available.  
21 So with just this one system operating, full braking should have been available.

25 When the engines are started, the hydraulic pump on each engine is

1 automatically on line. It is hard driven from the accessory section of the aircraft. Each pump  
2 supplies hydraulic pressure to the two other redundant systems of the hydraulic system,  
3 namely systems #1 and system #2. Hence, after the aircraft was started and both engines were  
4 running there were three systems on line and functioning. One of those systems powers the  
5 inboard brakes and the other powers the outboard brakes independent of the #3 system.  
6  
7 Regardless of whether or not the pilot is reading a checklist they will function. Beyond that  
8 there are a set of brake accumulators that as long as pressure has been provided, they are now  
9 charged and good for a braking event should the electrical and primary hydraulic systems fail.  
10  
11 In the following days after the accident, the hydraulic systems were operated, both engines  
12 started and verified and checked and functioning normally. This proves that there had to be  
13 another reason for the brake failure. It was not the amount of pressure available. It was  
14 nothing that could have been solved by checking or not checking a gauge. The only way a crew  
15 member could be faulted is if the lack of following the checklist in some way led to the  
16 accident. This is not a viable conclusion in this case.

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19 In reference to the aircraft motion after engine start. Because the motion began  
20 so gently it was not immediately noticed. The brakes were set. The attention of the pilots was  
21 still there however they were in the process of reading and following the checklist and they  
22 were not immediately aware of the motion. It was noticed fairly quickly, probably within the  
23 first 5 feet of movement but all efforts to arrest that motion were in vain. Application of the  
24 brakes by both PF and PM were unsuccessful. By then the aircraft was gaining momentum and

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1 had traversed the distance from where it was originally parked and covered the 15-20 feet to  
2 the ATV and had struck that ground vehicle. Efforts continued to stop the aircraft but seeing  
3 that was unsuccessful, the PM shut off the engines and as electrical power came off the  
4 aircraft, there was no longer power to the antiskid system so it released and the brakes  
5 engaged and the aircraft stopped with a sudden jerk.

7 As far as the location of the ATV and being aware of its location:

9 The ATV came out to the aircraft during engine start. The pilots did not see it  
10 arrive or park. Although the line crew were visible, it was parked in a location that was not  
11 easily observed by either pilot. Even if it was visible, that should not be a consideration for  
12 whether or not the accident could have been avoided. Estimating the time from the aircraft  
13 first movement to its final stop it was probably less than 7 seconds. The crew saw the problem  
14 and took action immediately. The brakes did not function. The engines were shut down within  
15 5-6 seconds after the start of movement. It took about 2 seconds for the electrical system to  
16 shut down and the brakes to take effect. There was no time to run a checklist. The pilots deny  
17 that they were not following checklist procedures and state that they were following a flow  
18 backed up by the checklist. Regardless, that would not have made any difference in this  
19 situation. This accident was totally a system malfunction over which the pilots had virtually no  
20 control. The only action they could take was to shut down the propulsion system which in turn  
21 shut down the electrical system which had the effect of allowing the brakes to once again  
22 engage. By assigning blame and stating that "Had the flight crew followed this procedure,

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1 monitored the airplane's motion during and immediately after engine start, and been more  
2 cognizant of the objects surrounding the airplane, it is likely that the ground collision would  
3 have been avoided," is not a viable or reasonable conclusion.  
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5           Let's look at the "reasonable man" concept. Anyone who has driven a car has  
6 developed a habit pattern that if the automobile that they are operating starts to move without  
7 the drivers input, their foot immediately goes to the brakes and they are applied. Any pilot  
8 with any amount of time in an aircraft has the same instinctive response. In this case, there  
9 were two separate pilots who could apply the brakes. It is not reasonable to assume that during  
10 the 7 or so seconds that the aircraft was moving, neither of them applied the brakes. After the  
11 impact the aircraft continued to roll for about 3 seconds with no stop occurring. It is not  
12 reasonable to assume that neither pilot was not taking aggressive action to stop the aircraft.  
13 This was clearly a case where the facts show, there was no braking available to the pilots until  
14 after the electrical power was off the aircraft and the anti-skid system allowed the pressure to  
15 return to the braking system.  
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19           The conclusion reached in this report is not reasonable, is not accurate, and does  
20 not show that the person making the report thoroughly studied the facts. As was stated in the  
21 beginning, the person or persons preparing this report appear to be unfamiliar with the systems  
22 of the challenger 601 and even went so far as to state it was a Challenger 604. Did they use the  
23 data from the 604 to come to any of their conclusions? If so, the location of the brake handle  
24 and the operation of the hydraulic system is quite different between the two  
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1 types. The conclusion states that awareness by the pilots would have prevented a mechanical  
2 malfunction. How is that kind of assumption in this case even possible.

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4 Later, I was informed that on the first flight attempt after the aircraft was  
5 repaired the same thing happened. The pilot flying was David Hamilton. He reported that the  
6 parking brake when set, did not illuminate the light and he checked and discovered it had  
7 failed, most likely due to an anti-skid failure.

8  
9 Here is the statement of Captain David Hamilton that was sent to me after his  
10 attempt to test fly the aircraft subsequent to the repairs:

11 Tim,

12 This is what happened when I was tasked to system check and fly N613PJ after  
13 the new wing had been put on.  
14

15 Immediately getting into the cockpit to begin system checks, I set the parking  
16 brake (sic) and the Red Brake (sic) Light did not come on. I tested the lights and the light  
17 worked. Released the brake (sic) and then reset, again no light. We had no brakes.(sic)  
18

19 After numerous system preflight squawks the proposed test was rescheduled  
20 to another day after the squawks had been repaired.

21 This was witnessed by my FO Jon Roberts and a Maintenance Tech sitting on  
22 the jump-seat.  
23

24 David Hamilton  
25 [REDACTED]  
26

Based on the fact that the aircraft has a triple redundancy hydraulic system and all three systems appear to have been working properly and fully engaged, there is no doubt that there was sufficient hydraulic pressure available to operate the braking system. Because of the testimony and the concept of “the reasonable man” it can logically be stated that both pilots attempted to operate the brakes during the initial phases of the accident and they did not operate. It must be concluded that with the Parking Brake Handle in the set position or not, the system should have operated. The conclusion is that the brakes failed to operate and there was nothing either pilot could do to prevent the motion of the aircraft. This was probably due to an anti-skid malfunction which is evidenced by the fact that on the first attempt at flight after repairs were completed, a very similar situation occurred indicating a failure of the braking system.

Dated this      th day of January, 2018

Timothy V. Ewell ATP [REDACTED]

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2 The original of the foregoing submitted this \_\_\_\_ day of January, 2018 to:

3 NTSB Chairman

4 NTSB Headquarters

5 [REDACTED]  
6 [REDACTED]

7 Mr. Larry Hazel

8 Inspector and or Successor

9 C/O Federal Aviation Administration

10 Flight Standards District Office

11 [REDACTED]  
12 [REDACTED]

13 Mr. Walter Garner

14 Director of Operations

15 And or Successor

16 Paragon Jets

17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED]  
25 [REDACTED]

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7 A-F-F-A-D-A-V-I-T

8 January 16, 2017

9 I, David Hamilton, a type rated ATP in the Challenger 601 give the following  
10 statement regarding the aircraft accident that occurred on July 22, 2017 involving  
11 N613PJ a Challenger 601 Aircraft and a ground vehicle.

12 This is what happened when I was tasked to system check and fly N613PJ after  
13 the new wing had been put on.

14 Immediately getting into the cockpit to begin system checks, I set the parking  
15 brake and the Red Brake Light did not come on. I tested the lights and the light  
16 worked. Released the brake and then reset, again no light. We had no brakes.

17 After numerous system preflight squawks, the proposed test was rescheduled to  
18 another day after the squawks had been repaired.

19 This was witnessed by my FO Jon Roberts and a Maintenance Tech sitting on the  
20 jump-seat.

21 [REDACTED]

22 David Hamilton

23 ATP

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