

NATIONAL TRANSPORTATION SAFETY BOARD**Public meeting of October 31, 2006****(Information subject to editing)****Report of Aviation Accident****Runway Overrun and Collision, Platinum Jet Management, LLC,****Bombardier Challenger CL-600-1A11, N370V****Teterboro, New Jersey, February 2, 2005****NTSB/AAR-06/04**

This is a synopsis from the Safety Board's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. Safety Board staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

EXECUTIVE SUMMARY

On February 2, 2005, about 0718 eastern standard time, a Bombardier Challenger CL-600-1A11, N370V, ran off the departure end of runway 6 at Teterboro Airport (TEB), Teterboro, New Jersey, at a ground speed of about 110 knots; through an airport perimeter fence; across a six-lane highway (where it struck a vehicle); and into a parking lot before impacting a building. The two pilots were seriously injured, as were two occupants in the vehicle. The cabin aide, eight passengers, and one person in the building received minor injuries. The airplane was destroyed by impact forces and post impact fire. The accident flight was an on-demand passenger charter flight from TEB to Chicago Midway Airport, Chicago, Illinois. The flight was subject to the provisions of 14 Code of Federal Regulations (CFR) Part 135 and operated by Platinum Jet Management, LLC (PJM), Fort Lauderdale, Florida, under the auspices of a charter management agreement with Darby Aviation (Darby), Muscle Shoals, Alabama. Visual meteorological conditions prevailed for the flight, which operated on an instrument flight rules flight plan. The National Transportation Safety Board determines that the probable cause of the accident was the flight crew's attempt to take off with the center of gravity well forward of the forward takeoff limit, which prevented the airplane from rotating at the intended rotation speed.

Contributing to the accident were: 1) PJM's conduct of charter flights (using PJM pilots and airplanes) without proper Federal Aviation Administration (FAA) certification and its failure to ensure that all for-hire flights were conducted in accordance with 14 CFR Part 135 requirements; 2) Darby Aviation's failure to maintain operational control over 14 CFR Part 135 flights being conducted under its certificate by PJM, which resulted in an environment conducive to the development of systemic patterns of flight

crew performance deficiencies like those observed in this accident; 3) the failure of the Birmingham, Alabama, FAA Flight Standards District Office to provide adequate surveillance and oversight of operations conducted under Darby's Part 135 certificate; and 4) the FAA's tacit approval of arrangements such as that between Darby and PJM.

The safety issues addressed in this report include weight and balance procedures; flight crew actions, training, and procedures; company oversight and operational control; FAA responsibility and oversight; cabin aide actions, training, and procedures; and runway safety areas.

CONCLUSIONS

1. The captain held the certificates required to act as pilot-in-command of CL-600 flights under 14 Code of Federal Regulations (CFR) Part 91, but he had not yet received the training needed to operate 14 CFR Part 135 flights for Darby Aviation.
2. Information obtained from previous employers and post accident interviews and the National Transportation Safety Board's review of FAA records, the captain's resumes, and other documentation called into question the validity of the captain's reported experience (his flight times and previous training) as a pilot.
3. The first officer had received only 22 of the 31 hours of ground training required by Darby's operations specifications to perform second-in-command duties on a CL-600 being operated under Part 135. Additionally, his FAA medical certificate had expired for the purposes of commercial operations. Therefore, he was not properly trained or certificated for the accident flight.
4. There was no evidence that fatigue affected the pilots' performance on the morning of the accident.
5. The accident airplane was properly certificated and was maintained in accordance with industry practices. There was no evidence of any preexisting powerplant, system (including brakes, ground spoilers, and engine thrust reversers) or structural failures.
6. Weather was not a factor in the accident. The aircraft rescue and firefighting response from Teterboro Airport, Teterboro, New Jersey, and surrounding communities was prompt, and exterior post accident fires were extinguished efficiently. The air traffic controllers' prompt and efficient reaction to this accident was exemplary and facilitated the prompt ARFF response.
7. Doorframe and/or fuselage distortion caused by impact with the building accounted for the passengers' difficulty opening the main cabin door.
8. PJM pilots routinely improperly modified the airplane's weight and balance forms, using a variety of invalid airplane empty weights to ensure that the form indicated that the airplane was operating within its limitations.

9. The airplane, as loaded for the accident flight, had a forward center of gravity that was significantly forward of the airplane's forward limit, which severely degraded the airplane's ability to rotate.
10. Neither pilot used the available weight and balance information appropriately to determine the airplane's weight and balance characteristics for the accident flight and the pitch trim setting selected by the pilots is further evidence that they did not consider the airplane's center of gravity during preflight preparations.
11. The captain's decision to initiate the rejected takeoff (RTO) was reasonable, even though the airplane had already reached a higher-than-normal RTO speed.
12. Considering the advantages the simulator pilots had and their lack of success during the simulator runs, most line pilots attempting to abort a takeoff 5 seconds after and at a speed well above the expected rotation speed, like the accident captain, would not have been able to stop the accident airplane in time to avoid departing the end of the runway.
13. The pilots' failure to ensure that the airplane's weight and center of gravity were within approved takeoff limits was symptomatic of poor airmanship and a broader pattern of deficiencies in their crew resource management skills (specifically in the areas of leadership, workload management, communications/briefings, and crew coordination) that were exhibited on the day of the accident.
14. Darby Aviation failed to maintain operational control over on-demand charter flights conducted by PJM under Darby's 14 CFR Part 135 certificate, as required by Federal regulations.
15. Because neither Darby nor PJM was rigorous about enforcing the Federal requirement for operational control, PJM pilots operated in an environment in which pilot errors and/or omissions during preflight preparation were less likely to be detected before departure.
16. The FAA's inadequate oversight of the 14 CFR Part 135 charter management agreement between PJM and Darby permitted management failures and a lack of operational control to exist. In effect, this allowed PJM to operate virtually independently as an on-demand air carrier while maintaining little of the structure of a certificated carrier and without demonstrating fitness to conduct such operations.
17. Darby Aviation's Birmingham, Alabama, Flight Standards District Office (FSDO)-based principal inspectors should have requested assistance from a FSDO more conveniently located to PJM's Fort Lauderdale-based operations to ensure proper oversight of the operations conducted by PJM under the auspices of Darby's certificate.
18. The FAA failed to perform adequate charter operator surveillance and therefore did not recognize that PJM operated as a de facto 14 CFR Part 135 carrier, despite the lack of necessary personnel; policies; procedures; and FAA approvals, certification, and oversight that would normally be associated with such operations.

19. Without clear and specific guidance on agreements between certificate holders and other entities that provide airplanes and/or flight crews for charter flights, unauthorized entities could still be performing most, if not all, of the functions of an on-demand charter operator without the controls, oversight, and demonstration of fitness imposed by a 14 CFR Part 135 certificate.
20. The cabin aide did not perform a seatbelt compliance check before the accident flight, which resulted in two passengers being unrestrained during the accident sequence.
21. The intentional positioning of the seatbelts out of the passengers' sight made them difficult to locate and use and resulted in reduced compliance with passenger seatbelt usage requirements.
22. The cabin aide's training did not adequately prepare her to perform the duties with which she was tasked, including opening the main cabin door during emergencies.
23. The installation of an engineered materials arresting system (EMAS) at the departure end of runway 6 at Teterboro Airport (and other similarly affected runways) would provide an additional safety margin; however, although an EMAS would have reduced the energy of the accident airplane as it departed the runway, it would not have prevented the accident because the circumstances of the runway departure exceeded the design capabilities of the EMAS.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the accident was the flight crew's failure to ensure the airplane was loaded within weight and balance limits and their attempt to take off with the center of gravity well forward of the forward takeoff limit, which prevented the airplane from rotating at the intended rotation speed.

Contributing to the accident were: 1) PJM's conduct of charter flights (using PJM pilots and airplanes) without proper FAA certification and its failure to ensure that all for-hire flights were conducted in accordance with 14 CFR Part 135 requirements; 2) Darby Aviation's failure to maintain operational control over 14 CFR Part 135 flights being conducted under its certificate by PJM, which resulted in an environment conducive to the development of systemic patterns of flight crew performance deficiencies like those observed in this accident; 3) the failure of the Birmingham, Alabama, FAA Flight Standards District Office to provide adequate surveillance and oversight of operations conducted under Darby's Part 135 certificate; and 4) the FAA's tacit approval of arrangements such as that between Darby and PJM.

SAFETY RECOMMENDATIONS

As a result of the investigation of this accident, the National Transportation Safety Board makes the following recommendations.

To the Federal Aviation Administration:

1. Disseminate to all principal inspectors of 14 CFR Part 135 certificate holders and to all Part 135 certificate holders guidance that includes specific procedures, such as those contained in the draft revisions to Operations Specifications A-008, that detail appropriate methods by which a certificate holder can demonstrate to the FAA that it is maintaining adequate operational control over all on-demand charter flights conducted under the authority of its certificate. This guidance should address operations based at locations geographically distant from the certificate holder's base, should be included in all Part 135 certificate holders' operations specifications, and should be required as periodic inspection items for principal inspectors.
2. Review all charter management, lease, and other agreements between 14 CFR Part 135 certificate holders and other entities to identify those agreements that permit and/or enable a loss of operational control by the certificate holder and require revisions of any such arrangements.
3. Require all 14 CFR Part 135 certificate holders to ensure that seatbelts at all seat positions are visible and accessible to passengers before each flight.
4. Require that any cabin personnel on board 14 CFR Part 135 flights who could be perceived by passengers as equivalent to a qualified flight attendant receive basic FAA-approved safety training in at least the following areas: preflight briefing and safety checks; emergency exit operation; and emergency equipment usage. This training should be documented and recorded by the Part 135 certificate holder.