



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

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Group Chairman's Factual Report

AIR TRAFFIC CONTROL

ERA16LA225

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A. ACCIDENT

Location: Punta Gorda, Florida

Date: June 17, 2016

Time: 1709 Eastern daylight time (EDT)¹
2109 Coordinated Universal Time (UTC)

Airplane: Allegiant (AAY) Maintenance 869, a McDonnell Douglas MD-83
N8161X, a Piper PA-28-236

B. AIR TRAFFIC CONTROL GROUP

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C. SUMMARY

On June 17, 2016, about 1709 eastern daylight time, a Piper PA-28-236, N8161X, sustained substantial damage during landing roll out at the Punta Gorda Airport (PGD), Punta Gorda, Florida. The private pilot and the two passengers were not injured. The airplane was registered to a private company and operated by the pilot. A visual flight rules flight plan was filed for the personal flight that departed Peter O. Knight Airport (TPF), Tampa, Florida, about 1630 and was destined for Key West International Airport (EYW), Key West, Florida with a stopover in PGD for fuel. Visual

¹ All times are Eastern daylight time (EDT) unless otherwise noted
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meteorological conditions prevailed for the personal flight conducted under the provisions of 14 *Code of Federal Regulations* Part 91.

The pilot stated that the flight was normal until after he landed. During the landing roll, the airplane suddenly departed the left side of the runway and ended up in the grass. The pilot initially thought he had blown a tire, but when he exited the airplane he noticed a McDonnell-Douglas MD-83 parked on Taxiway A2 performing a maintenance test run of its engines.

A review of airport surveillance video captured the accident airplane as it landed on runway 22. A belly mounted go-pro camera on the accident aircraft recorded the landing and during the landing roll, the airplane's right wing was suddenly lifted into the air causing the left wing to strike the ground as it passed directly behind the MD-83. The airplane then veered off the runway into the grass. A post-accident examination of the airplane revealed the left wing spar was bent and the landing gear was damaged. (see attachment 1 figure 1)

The weather conditions reported at PGD, at 1653, included wind from 270 degrees at 9 knots, visibility 10 statute miles and clear skies.

D. DETAILS OF THE INVESTIGATION

The group convened at the PGD federal contract tower (FCT) at Punta Gorda, Florida, on August 12, 2016. The FCT was operated by Robinson Aviation, Incorporated (RVA). The group met with the air traffic manager (ATM), Mr. Richard Reid. The ATM provided an accident overview brief and provided training records and other documentation for the group to review.

According to the ATM, Allegiant Airlines operates out of PGD with regularly scheduled service. Allegiant is transitioning to Airbus A321 aircraft from the MD-80 series aircraft but still operated an MD-80 series aircraft into and out of PGD three times a week. No MD-80 series aircraft were based out of PGD however the MD-83 involved in this accident was a transient aircraft that needed to accomplish a regular maintenance engine run-up at PGD.

The engine run-ups were usually conducted on taxiway A or on taxiway D between the approach end of runway 4 and 33 when the tower and the airport were closed, however, the location of engine run-ups at PGD had not been specified by airport, ATC, or company procedure. Accordingly, the location for an engine run-up was determined by the tower controller and based on traffic and current weather conditions when the tower was staffed and the airport was open. The ATM noted that the Allegiant Airbus aircraft do not have an engine run-up requirement and therefore the frequency of engine run-ups at PGD had declined.

In the case of this accident, the mandatory occurrence report (MOR) was automatically generated by the tower log entry made by the controller on the afternoon of the accident, Saturday, June 17. The tower log entry did not address the MD-83 and by automatic association, neither did the MOR. The MOR was not marked as a significant event. (see appendix 1, figures 2 and 3)

The ATM, after reviewing the accident upon returning to the facility on the following Monday morning, determined that the MD-83 was involved but was not causal to the runway excursion of N8161X. Specifically, he determined that jet blast from the MD-83 did not cause the runway excursion. Accordingly, no corrections were made to the accident reporting nor was the MOR modified to reflect the MD-83 was involved in the accident.

The group met with Mr. Ron Mallard, PGD Director of Aviation, on August 12, 2016. Mr. Mallard provided an overview of airport operations related to the accident. According to Mr. Mallard, the operating hours at PGD were 0700-2100 seven days a week. Mr. Mallard stated that there were no dedicated engine run-up pads at PGD. Run-up locations were at the discretion of the controllers on duty. When the tower was closed and no controllers were present, engine run-ups normally occurred on taxiway D between the approach ends of runway 4 and 33.

The group interviewed the two air traffic controllers on duty at the time of the accident.

After conducting controller interviews, the group departed PGD on August 12, 2016 having concluded the field portion of the air traffic control (ATC) investigation.

1.0 History of Flight

1.1 AAY Maintenance 869

According to interviews with ATC personnel and airport operations, AAY maintenance 869, a transient MD-83, required post maintenance engine run-ups at PGD. The aircraft was being operated by a maintenance crew with no intention for flight. The crew requested clearance from the control tower to taxi to the intersection of taxiway A and A2 to conduct engine run-ups. Upon arriving at the intersection of taxiway A and A2, the maintenance crew realized that the prevailing winds from the west were not conducive to a successful engine run-up and asked the tower if they could reposition facing the wind. Due to the width of taxiway A, at approximately 60 feet wide, the MD-83, approximately 146 feet long, could not complete a 180 degree turn on taxiway A and had to proceed to the approach end of runway 22 and then down the runway to taxiway A2. Upon reaching taxiway A2, the maintenance crew reported clear of runway 22. The MD-83 was positioned on taxiway A2 facing away from runway 22 into the prevailing wind, heading approximately 270 degrees. This resulted in the engine of the MD-83 directed toward the first third of runway 22. Once the MD-83 was positioned on taxiway A2, the aircraft engine exhaust was positioned closer to the runway than was normal had the MD-83 conducted engine run-ups from taxiway A. (see appendix 1 figure 1)

After N8161X, landed and exited the runway, the pilot called the tower and stated that the aircraft had been blown off the runway by the jet blast of the MD-83. The tower controllers queried the crew of the MD-83 and the crew advised that they had not advanced the engines beyond idle.

According to the Allegiant MD80 Aircraft Maintenance Manual, jet engine exhaust velocity contours at idle power can reach 35 knots at a distance of 100 feet behind the aircraft centerline. (see attachment 1 figure 4) The MD-83 was heading 270 degrees. The reported winds at PGD prior to and after the accident were between 260 and 280 degrees between 12 and 9 knots.

The accident was recorded by PGD airport security cameras, however, because of the distance between the camera and the event, the airport security video replay did not provide sufficient data to determine what had occurred.

After the accident, the MD-83 returned to the parking apron without completing the engine run-up.

1.2 N8161X

N8161X was on a visual flight rules (VFR) flight from TPF to EYW, with a planned fuel stop at PGD. The pilot of N8161X contacted the PGD tower and reported that he was 13 miles north of the airport at 1,700 feet with ATIS² information Echo. The tower controller directed the pilot to report crossing the south river for right traffic runway 22. Several minutes later the pilot reported crossing the river and air traffic control issued the wind and cleared the pilot to land on runway 22.

The landing was uneventful until N8161X was approximately 1700 feet past the approach end of runway 22 on the landing rollout when the aircraft suddenly swerved to the left and departed the runway surface. The tower controller asked the pilot of N8161X if he was a full stop or a touch and go and the pilot responded that he just “had an accident”, reporting “he just lost a wheel.” The tower controller asked the pilot if he was “positive.” [that he had lost a wheel] and the pilot responded that he was positive, that he was off the runway and in the dirt. The tower controller advised the pilot that help was on the way.

After the airport aircraft rescue and firefighting (ARFF) responded, the pilot of N8161X called the tower and advised that he thought that he had been blown off the runway by the Allegiant MD-83 aircraft conducting engine run-ups. The tower controller acknowledged the pilot.

The pilot of N8161X had a belly-mounted camera on his aircraft that recorded his landing and subsequent runway excursion. The video displayed a normal landing and rollout and at approximately 1700 feet down the runway showed the MD-83 ahead and to the right of N8161X just as the right wing lifted and N8161X departed the left side of the runway. (see attachment 1 figures 5 through 7)

2.0 Weather Information

The PGD weather for June 17, 2016 surrounding the time of the accident was obtained from the KPGD Automated Surface Observing System (ASOS).

[1653 EDT] METAR KPGD 172053Z 27009KT 10SM -RA FEW075 FEW120 28/23 A2998 RMK AO2 RAB51 SLP151 P0000 60000 T02830233 58016

KPGD weather at 1653 EDT, wind 270 degrees true at 9 knots, visibility 10 statute miles in light rain, few clouds at 7,500 feet, few clouds at 12,000 feet. Temperature 28 degrees Celsius (C), dew point 23 degrees C, altimeter 29.98 inHg.

[1753 EDT] METAR KPGD 172153Z 27009KT 10SM CLR 30/23 A2995 RMK AO2 RAE01 SLP143 P0000 T03000233

KPGD weather at 1753 EDT, wind 270 degrees true at 9 knots, visibility 10 statute miles, sky clear. Temperature 30 degrees Celsius (C), dew point 23 C, altimeter 29.95 inHg.

² ATIS – Automatic terminal information service – The continuous broadcast of recorded non-control information in selected terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information.

3.0 Air Traffic Control

FAA Order 7110.65, *Air Traffic Control*, paragraph 3-1-5, Vehicles/Equipment/Personnel Near/On Runways, states in part:

- a. *Vehicles, equipment and personnel in direct communications with the control tower may be authorized to operate up to the edge of an active runway surface when necessary. Provide advisories as specified in Paragraph 3-1-6, Traffic Information.*
- b. *Ensure that the runway to be used is free of all known ground vehicles, equipment, and personnel before a departing aircraft starts takeoff or a landing aircraft crosses landing threshold.*

Paragraph 3-1-6, Traffic Information, states in part:

- a. *Describe vehicles, equipment or personnel on or near the movement area in a manner which will assist pilots in recognizing them.*
- b. *Describe the relative position of traffic in an easy to understand manner such as “to your right” or “ahead of you.”*

Paragraph 3-3-3, Timely Information, states in part:

Issue airport condition information necessary for an aircraft’s safe operation in time for it to be useful to the pilot. Include the following, as appropriate:

- a. *Construction work on or immediately adjacent to the movement area.*
- b. *Rough portions of the movement area.*
- c. *Braking conditions caused by ice, snow, slush, or water.*
- d. *Snowdrifts or piles of snow on or along the edges of the area and the extent of any plowed area.*
- e. *Parked aircraft on the movement area.*
- f. *Irregular operation of part or all of the airport lighting system.*
- g. *Volcanic ash on any airport surface area and whether the ash is wet or dry (if known).*
- h. *Other pertinent airport conditions.*

Review of communication between the local controller and the pilot of N8161X on initial contact and the subsequent landing clearance communication reflect that the controller did not advise the pilot of the presence of the MD-83 in close proximity to the landing area and that the MD-83 was parked in the movement area on taxiway A2.

This accident was reported by PGD air traffic control as a loss of control event and logged on the daily record of facility operation, also referred to as the tower log. There was no mention of the MD-83 or its possible involvement in the event. The tower log automatically generated the mandatory occurrence report that reported the accident to the FAA. Since the tower log did not address the MD-83, the MOR, which was generated by the tower log, did not address the MD-83.

Review of the existing Punta Gorda Tower Standard Operating Procedures, (SOP), PGD Order 7210.3, dated December 11, 2015, appendix O, Special Problem Areas, revealed that engine run-up procedure did not adequately address engine run-ups at PGD.

According to the controllers on duty at the time of the accident, the MD-83 was not a factor in the runway excursion of N8161X and therefore did not log it as a factor in the accident. (see attachment 2)

The controller work force at PGD had not seen and was not aware of the video recording made by the pilot of N8161X on his landing rollout. The controllers and the ATM were provided an opportunity to view the video playback.

This accident was the first time the ATM could recall a run up from taxiway A2. Traditionally run-ups were conducted on the taxiways or runways. For example, run-ups were conducted on taxiway A between taxiways A2 and B or C. Another option occasionally used was on runway 15/33 approach end.

The ATM acknowledged the need to proceduralize the engine run-up process at PGD and as a result, in coordination with the PGD airport authority modified the PGD ATC and PGD Letter of Agreement (LOA) to read:

Punta Gorda Air Traffic Control Tower and Punta Gorda Airport

LETTER OF AGREEMENT

EFFECTIVE: July 10, 2017

ADDENDUM: Requirements for Jet and Turboprop Aircraft Engine Run for Maintenance

1. **PURPOSE:** *This agreement defines responsibility for the control of Jet and Turboprop aircraft conducting High Power engine runs in the movement area of the Punta Gorda Airport.*
2. **DEFINITIONS:**
High Power Engine Run for Maintenance is defined as any power setting above idle.
3. **RESPONSIBILITIES:**
 - a. *Punta Gorda Tower shall during hours of operation:*
 - (1) *Direct all maintenance/engine run up operations in the Movement Area as coordinated with the Charlotte County Airport Authority Airport Operations*
 - (2) *In the absence of instructions, direct all maintenance/engine run up operations to call Airport Operations and submit a request*
 - (3) *Instruct aircraft to not direct thrust toward active runways and their associated taxiways.*
 - b. *Charlotte County Airport Authority shall:*
 - (1) *Coordinate on Location and Operations with the Tower Personnel and Aircraft Operator for all High Power Engine Runs for Maintenance on all Jet and Turboprop Aircraft in the Movement Area*
 - (2) *Create/Maintain/Cancel the appropriate NOTAMS and other notifications necessary for the operations*
 - (3) *Notify Tower Personnel of High Power Engine Run requests during hours of Tower Operation*
4. **LIMITATIONS:**
High Power Engine Runs are Not Permitted across Active Taxiways / Active Runways, or in areas that would impact other users of the Airport in a negative way.
5. **DEVIATIONS:**
Deviations from procedures identified herein must be approved only after coordination between the Charlotte County Airport Authority, Air Traffic Control Tower, or any other agency that are signatory on the LOA.

As a result of this accident, airport operations have redefined engine run-up coordination procedures.

E. List of Attachments

Attachment 1 – Illustrations

Attachment 2 – Interview Summaries

Submitted by:

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