



# Aviation Investigation Preliminary Report

<b>Location:</b>	Montgomery, AL	<b>Accident Number:</b>	DCA23LA109
<b>Date &amp; Time:</b>	December 31, 2022, 15:39 Local	<b>Registration:</b>	N264NN
<b>Aircraft:</b>	EMBRAER S A ERJ 170-200 LR	<b>Injuries:</b>	1 Fatal, 63 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

On December 31, 2022, about 1539 central standard time (EST), an Embraer 170 airplane, N264NN, was involved in an accident while parked at the gate with one engine running at Montgomery Regional Airport (MGM), Montgomery, Alabama. The 63 passengers and crew onboard were uninjured. One ramp personnel was fatally injured. The flight was operating under the provisions of Title 14 *Code of Federal Regulation* Part 121 as a regularly scheduled domestic passenger flight from Dallas Fort Worth (DFW), Texas to MGM.

The flight was operated by Envoy Air Inc. doing business as American Eagle flight ENY3408 with an inoperative auxiliary power unit (APU). The flight crew reported that after an uneventful flight they elected to leave both engines running for the required two-minute engine cool down period. As the airplane approached the gate, three ramp agents were present, but clear of the safety area. After stopping the aircraft and setting the parking brake, the captain gave the hand signal to connect the airplane to ground power. As he was shutting down the number 2 (right) engine the “DOOR CRG FWD OPEN” engine indicating and crew alerting system (EICAS) message appeared (indicating that the forward cargo door had opened). The first officer (FO) opened his cockpit window to inform the ramp agent that the engines were still operating. The captain then made a brief announcement asking the passengers to remain seated until the seat belt sign had been turned off. He then relayed his intentions to the FO that the seat belt sign would stay illuminated until they had connected to ground power and could shut down the number 1 (left) engine. Immediately thereafter, he saw a warning light illuminate and the airplane shook violently followed by the immediate automatic shutdown of the number 1 engine. Unsure of what had occurred, he extinguished the emergency lights and shut off both batteries before leaving the flight deck to investigate.

Video surveillance captured the accident sequence and showed the airplane being marshalled to the gate. After the nose wheel was chocked, the ramp agent marshaling the airplane walked toward the forward cargo door located on the right side and near the front of the airplane.

Simultaneously, another ramp agent appeared walking towards the back of the airplane with an orange safety cone where she disappeared from view. A third ramp agent located near the right wing tip could be seen gesturing with his hand towards the back of the airplane. Meanwhile, a fourth ramp agent knelt near the airplane's nose wheel. The ramp agent from the back of the airplane reappeared and began walking away from the airplane and towards the left wing tip where she disappeared from the camera's field of view. The marshaller could be seen backing away from the airplane's open forward cargo door and the ramp agent from the back of the airplane reappeared walking along the leading edge of the left wing and directly in front of the number one engine. She was subsequently pulled off her feet and into the operating engine. Throughout the course of the accident, the airplane's upper rotating beacon light appeared to be illuminated.

The ground crew reported that a safety briefing was held about 10 minutes before the airplane arrived at the gate. A second safety "huddle" was held shortly before the airplane arrived at the gate, to reiterate that the engines would remain running until ground power was connected. It was also discussed that the airplane should not be approached, and the diamond of safety cones should not be set until the engines were off, spooled down, and the airplane's rotating beacon light had been extinguished by the flight crew.

One ramp agent located near the right wing tip stated that he observed another ramp agent approach the back of the airplane to set the rear safety cone. He observed her almost fall over from the engines exhaust while he attempted to alert her to stay back and wait for the engines to be shut down. He also stated that he observed the airplane's upper and lower rotating beacon lights illuminated.

Another ramp agent stated that after chocking the nose wheel of the airplane, he observed another ramp agent approach the forward cargo door and he knelt to wave him off. He then observed another ramp agent about to set the safety cone at the rear of the airplane, he yelled and waved her off as the number 1 engine was still running. He observed her as she began to move away from the airplane before he turned to lower the cord for the ground power. Shortly thereafter he heard a "bang" and the engine shut down.

The American Eagle Ground Operations Manual, Revision 3 dated July 13, 2022, states in part:

**To Keep Employees Alive and Aircraft Intact, You Will:**

**NEVER** approach an aircraft to position ground equipment next to an aircraft or open cargo bin doors until the engines are shut down and the rotating beacon(s) turned off, except when conducting an approved single engine turn.

*Jetblast/Ingestion Zones*

Jet engines spin with powerful speed and are extremely dangerous until spooled down. The area in front of the engine is called the ingestion zone. The ingestion zone for all aircraft types is 15 feet. You must never enter the ingestion zone until the engine has spooled down.

### Spool Down

The engine must be spooled down before entering the ingestion zone. This can take between 30-60 seconds, depending on aircraft type. This applies to both wing and fuselage/tail mounted engines. You must wait until you can clearly see the individual fan blades before entering the ingestion zone.

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	EMBRAER S A	<b>Registration:</b>	N264NN
<b>Model/Series:</b>	ERJ 170-200 LR	<b>Aircraft Category:</b>	Airplane
<b>Amateur Built:</b>			
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Designator Code:</b>	SIMA		

### Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	VMC	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Observation Time:</b>	
<b>Distance from Accident Site:</b>		<b>Temperature/Dew Point:</b>	
<b>Lowest Cloud Condition:</b>		<b>Wind Speed/Gusts, Direction:</b>	/ ,
<b>Lowest Ceiling:</b>		<b>Visibility:</b>	
<b>Altimeter Setting:</b>		<b>Type of Flight Plan Filed:</b>	IFR
<b>Departure Point:</b>	Dallas Ft Worth , TX	<b>Destination:</b>	Montgomery, AL

### Wreckage and Impact Information

<b>Crew Injuries:</b>	4 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	59 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	1 Fatal	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal, 63 None	<b>Latitude, Longitude:</b>	32.302887,-86.39117

## Administrative Information

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**Investigator In Charge (IIC):** Banning, David

**Additional Participating Persons:**

**Note:** The NTSB did not travel to the scene of this accident.