



Aviation Investigation Final Report

Location:	Chicago, Illinois	Incident Number:	DCA24LA043
Date & Time:	October 18, 2023, 23:55 Local	Registration:	N30913
Aircraft:	Boeing 787	Aircraft Damage:	Minor
Defining Event:	Ground collision	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Ferry		

Analysis

United Airlines (UAL) flight 3885, a Boeing 787, impacted a hangar with its right-wing tip while taxiing to parking at Chicago O’Hare International Airport (KORD), Chicago, Illinois. The flight was a maintenance ferry flight conducted under Title 14 *Code of Federal Regulations* Part 91 from Newark Liberty International Airport (KEWR), Newark, New Jersey.

According to the flight crew, after landing on runway 10C at ORD they were cleared to taxi to a UAL maintenance facility via taxiways P to Z. After receiving an air traffic control (ATC) clearance, they crossed runway 10L, continued via taxiway Z crossing both runways 9R and 9C before making a right turn onto taxiway D. Ground control cleared them to enter the ramp at taxiway YY1 and to contact UAL’s Maintenance Ramp frequency. UAL maintenance subsequently instructed them to make a left on YY, which was incorrect, and proceed to the north side of the ramp, where a truck with marshallers would be waiting to guide them to parking. After completing the left turn on YY, the flight crew realized they were about to enter an American Eagle ramp area instead of their intended destination of the UAL ramp area.

Unfamiliar with the area they stopped the airplane and queried UAL maintenance as to where they should park. UAL maintenance asked the flight crew to proceed onto the American Eagle ramp and make a 180° turn. The captain noted no wingspan restrictions on the airport charts and no obstacles other than hangars in the area. He stated that there were no taxiway lights; however, there was adequate overhead lighting on the ramp.

The captain then asked the first officer (FO) if they were clear to the right, to which the FO responded “yes”. Shortly thereafter, while proceeding onto the ramp and on the associated taxiway line they heard a loud bang and the airplane veered to the right. The FO looked out his window and stated, “we hit the hangar”.

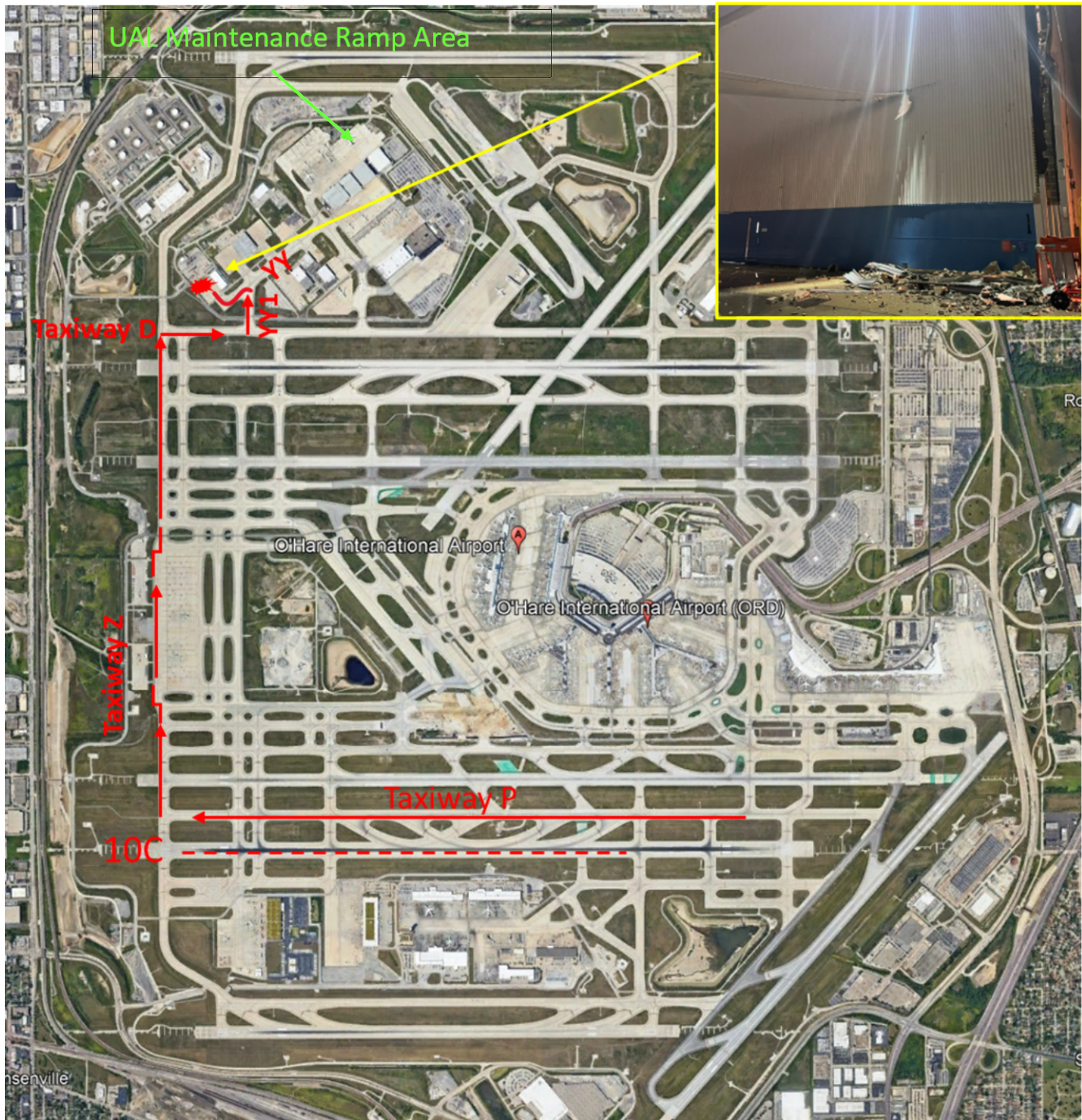


Figure 1 - Google Earth image with taxi route in red. The inset photo of accident site was provided by United Airlines. Green arrow indicates the location of United Airlines maintenance ramp area.

The right-wing tip of the airplane struck a hanger resulting in minor damage to the wing. The damage to the hanger was estimated at about \$236,000. A B787 has a wingspan of 197 feet 3

inches. The distance from the taxiway centerline to the hangar was about 98 ft accommodating a wingspan of about 196 ft.

Had the marshallers met the airplane at American Eagle ramp and provided obstruction clearance guidance and/or the flight crew requested additional ground handling support before attempting to turn around in an unfamiliar area it is likely that the collision would not have occurred.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be:

The flight crew's misperception of the distance required to safely pass the hangar and failure to request additional ground handling support while taxiing, which resulted in a collision with a hangar. Contributing to the accident was United Airlines Maintenance Ramp personnel's ambiguous taxi instructions and lack of obstruction clearance guidance.

Findings

Personnel issues	Perception - Flight crew
Personnel issues	Accuracy of communication - Maintenance personnel

Factual Information

History of Flight

Taxi-from runway	Ground collision (Defining event)
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Pilot Information

Certificate:	Airline transport	Age:	59, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	November 1, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 24, 2023
Flight Time:	26480 hours (Total, all aircraft), 3673 hours (Total, this make and model), 3673 hours (Pilot In Command, all aircraft), 250 hours (Last 90 days, all aircraft), 89 hours (Last 30 days, all aircraft)		

Co-pilot Information

Certificate:	Airline transport	Age:	44, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	May 22, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 5, 2023
Flight Time:	14552 hours (Total, all aircraft), 980 hours (Total, this make and model), 1500 hours (Pilot In Command, all aircraft), 131 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N30913
Model/Series:	787 8	Aircraft Category:	Airplane
Year of Manufacture:	2014	Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	35879
Landing Gear Type:	Retractable - Tricycle	Seats:	260
Date/Type of Last Inspection:	December 11, 2023 Continuous airworthiness	Certified Max Gross Wt.:	396900 lbs
Time Since Last Inspection:		Engines:	2
Airframe Total Time:	33459 Hrs as of last inspection	Engine Manufacturer:	
ELT:		Engine Model/Series:	
Registered Owner:	UNITED AIRLINES INC	Rated Power:	
Operator:	UNITED AIRLINES INC	Operating Certificate(s) Held:	Flag carrier (121)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KORD	Distance from Accident Site:	2 Nautical Miles
Observation Time:	23:51 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 5500 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 9000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots / 18 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.81 inches Hg	Temperature/Dew Point:	15°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Newark , NJ	Type of Flight Plan Filed:	VFR/IFR
Destination:	Chicago, IL	Type of Clearance:	IFR
Departure Time:	22:52 Local	Type of Airspace:	Class B

Airport Information

Airport:	CHICAGO O'HARE INTL ORD	Runway Surface Type:	
Airport Elevation:	680 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	Visual
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	41.991893,-87.927607

Administrative Information

Investigator In Charge (IIC):	Banning, David
Additional Participating Persons:	FAA AVP-100
Original Publish Date:	March 12, 2024
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this incident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193541

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).