

PRELIMINARY REPORT

Note: It contains only the initial information about the accident, available on the day of the Report writing
Sent to: ICAO, EASA, Canada

ACCIDENT

I OCCURRENCE INFORMATION

SCAAI Reference Number

| | | | | 4 | 3 | 6 | - | 2 | 0 | 1 | 9 | | | |

OCCURRENCE PLACE

State/Area

Poland

Exact Location

Warsaw Chopin Airport (EPWA)

OCCURRENCE DATE/TIME

Date

| 2 | 0 | 1 | 9 | | | 0 | 2 | | | 1 | 5 |
Year Month Day

Time (LMT)

| 0 | 1 | | | 0 | 7 |
Hour Min

AIRCRAFT

Manufacturer

Boeing Commercial Airplanes

Aircraft type

Airplane, Boeing 777-258

Registration Marks

| 4 | X | - | E | C | C |

State of Registry

Israel

Operator

EL-AL Israel Airlines

II - HISTORY OF FLIGHT

AIR TRANSPORT OPERATION

Type of Operation

- | | | |
|--|--|---|
| 1. <input checked="" type="checkbox"/> Passenger | 2. <input type="checkbox"/> Cargo | 3. <input type="checkbox"/> Passenger/Cargo |
| 4. <input type="checkbox"/> Ferry/Positioning | 5. <input type="checkbox"/> Training/Check | 6. <input type="checkbox"/> Other |
| 7. <input type="checkbox"/> Unknown | | |

S Scheduled N Non-scheduled Z Unknown

D Domestic I International Z Unknown

SEQUENCE OF EVENTS

EVENTS	FLIGHT PHASE
1. Arrival of the crew to perform the planned flight.	Preparation for departure
2. Arrangements between Captain and the operation coordinator that the engines would be started during pushback/towing operation;	
3. Determining the pushback/towing route by the operation coordinator, the tow tractor driver and the military ground movement coordinator;	
4. Releasing the aircraft's brakes and beginning of pushback, beginning of the right engine start-up;	Pushback
5. End of pushback, beginning of towing, end of the start-up process of the right engine;	Towing
6. Towing the airplane on a curve of small radius to the right, beginning of the left engine start-up during the turn;	
7. Shearing of the left (outer) shear pin of the towbar, end of the start-up process of the left engine;	
8. Increase in the speed of the airplane-tow tractor assembly, pushing the tow tractor by the airplane due to the thrust developed by engines;	
9. Beginning of the right turn, in the direction of TWYZ3, by the tow tractor, "folding" of the towbar, shearing the right (inner) shear pin and the retaining pin of the tow bar;	
10. Pressing the airplane against the tow tractor (overrun of the tractor) – damage to the airplane, the tow tractor and surface of the apron;	
11. Abandonment of the operation.	

NARRATIVE

Flight LY234 of Boeing 777-258, registration marks 4X-ECC, was planned for 14 Feb 2019, at 23:00 hrs LMT on the EPWA-LLBG route. The flight was of the HEAD status and the entire operation took place on the military apron of the EPWA aerodrome.

At the scheduled time the crew arrived at the apron to perform standard procedures applicable for preparation of the airplane for the flight. Prior to entering the airplane CPT agreed with the operation coordinator that both engines would be started-up during the pushback/towing operation. Passengers were late for the flight and began boarding only around 23:55 hrs LMT.

Prior to commencing the pushback/towing operation the operation coordinator, the tow tractor driver and the military ground movement coordinator had agreed that the aircraft would be pushed out and then towed with the right turn to terminate facing TWYZ3.

The pushback began as planned. After several dozen meters (during pushback) the crew initiated start-up process of the right engine. When the pushback was terminated and the airplane-tow tractor assembly came to rest, the tow tractor driver began towing the aircraft with the speed of 1 kt.

In the initial phase of the towing (prior to the right turn) the start-up process of the right engine was completed and its RPMs reached the values: N1=18,5%, N2=45,2%, N3=59,9%. The next portion of the towing was carried out in a 96 deg. right turn of a small radius.

At the moment when the tow tractor turned right and the airplane was still moving straight, the flight crew initiated start-up process of the left engine. About 2-3 sec later the left (outer in relation to the direction of the turn) shear pin of the towbar was sheared.

At the moment of completing the turn RPMs of the left engines reached the values: N1=18,5%, N2=46,9%, N3=60,1%. Eight sec later the airplane-tow tractor assembly accelerated to 2 kt and 2 sec later slowed down to 1kt (the initial speed of towing).

Next the tow tractor driver began the right turn, but the plane was still moving straight, accelerating to 3 kt. At this moment the towbar "folded" and its right and center pins were sheared. As a result the separation between the airplane and the tractor was no longer maintained and their collision occurred. At this point the operation was abandoned.

During the towing part of the operation the tow tractor driver's cabin was in its up position, not allowing a proper clearance between the cabin and the bottom front part of the airplane fuselage, which resulted in its damage.

The proper tow tractor, proper towbar and proper shear pins in the towbar were used during the operation, however, the shear pins positions were inconsistent with the requirements specified in the towbar operating manual in relation to the aircraft being towed.

As a result of the occurrence, the airplane was damaged to a degree which prevented its flight and required a repair. In addition, the towbar, the tow tractor and the apron surface were damaged.

SAFETY RECOMMENDATIONS

Not formulated at this stage

PRZEWODNICZĄCY
Państwowej Komisji
Badania Wypadków Lotniczych

ptk dypl. pil. inż. Andrzej Lewandowski

STAMP AND SIGNATURE OF IIC