



**Havarikommisjonen**  
Accident Investigation Board Denmark

# **BULLETIN**

**Serious incident**

**31-7-2016**

**involving**

**ATR ATR72 200**

**OY-JZC**



Certain report data are generated via the EC common aviation database

## **FOREWORD**

This bulletin reflects the opinion of the Danish Accident Investigation Board regarding the circumstances of the occurrence and its causes and consequences.

In accordance with the provisions of the Danish Air Navigation Act and pursuant to Annex 13 of the International Civil Aviation Convention, the investigation is of an exclusively technical and operational nature, and its objective is not the assignment of blame or liability.

The investigation was carried out without having necessarily used legal evidence procedures and with no other basic aim than preventing future accidents and serious incidents.

Consequently, any use of this bulletin for purposes other than preventing future accidents and serious incidents may lead to erroneous or misleading interpretations.

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## BULLETIN

### General

File number: HCLJ510-2016-309  
UTC date: 31-7-2016  
UTC time: 20:00  
Occurrence class: Serious incident  
Location: Approximately 10 nautical miles (nm) east of the island of Samsøe  
Injury level: None

### Aircraft

Aircraft registration: OY-JZC  
Aircraft make/model: ATR ATR72 200  
Current flight rules: Instrument Flight Rules (IFR)  
Operation type: Commercial Air Transport Passenger Airline  
Flight phase: En route  
Aircraft category: Fixed Wing Aeroplane Large Aeroplane  
Last departure point: Denmark EKCH (CPH): Kobenhavn/Kastrup  
Planned destination: Denmark EKBI (BLL): Billund  
Aircraft damage: None  
Engine make/model: PRATT & WHITNEY (CANADA) – PW100 FAMILY

### SYNOPSIS

#### Notification

All times in this report are UTC.

The Aviation Unit of the Danish Accident Investigation Board (AIB) was notified of the serious incident by the Danish Transport and Construction Agency (DTCA) on 22-8-2016 at 11:15 hrs.

The European Aviation Safety Agency (EASA), the Directorate-General for Mobility and Transport (DG MOVE) and the French Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA) were notified on 24-8-2016.

The BEA appointed a non-travelling accredited representative to the AIB safety investigation.

## **FACTUAL INFORMATION**

### **History of the flight**

The serious incident occurred during a commercial IFR flight from Copenhagen (EKCH) to Billund (EKBI).

It was the last of five flights of the day for the commander and the first officer.

During the first four flights, the first officer felt normal. The first officer had no abdominal pain and did not experience any stomach or digestive problems.

Between the fourth flight of the day and the flight of the serious incident, the first officer experienced some abdominal pain. After a visit to the toilet, the pain subsided, and the first officer felt all right.

Shortly after take-off, when the pressurisation process of the aircraft started, the first officer felt the pain reappearing.

The first officer – who was the pilot flying - turned the aircraft slightly north of track in order to avoid an area with possible adverse weather conditions.

When the aircraft was east of the island of Samsøe, approximately halfway between EKCH and EKBI, the aircraft was clear of the area with adverse weather.

At that time the first officer felt that he was becoming increasingly incapacitated and handed over the control of the aircraft to the commander.

Following the handover, the first officer became very weak, and he was mentally and physically unable to perform any further flight duties. The first officer was in cold sweat, and the abdominal pain became quite severe.

In order to prevent the first officer from interfering with the controls of the aircraft, the commander locked the shoulder harness of the first officer and secured the first officer seat in the rearmost position.

The cabin crew was called to the cockpit, and they assisted the first officer

The commander informed Air Traffic Control (ATC) of the situation and requested medical assistance upon arrival at EKBI.

The remaining part of the flight and the landing at EKBI was uneventful, and was completed by the commander as a single flight crew operation.

Arriving at the gate, the first officer got medical assistance.

The serious incident occurred during twilight and in visual meteorological conditions (VMC).

### Injuries to persons

<i>Injuries</i>	<i>Crew</i>	<i>Passengers</i>	<i>Others</i>
Fatal			
Serious			
None	4	52	

### Personnel information

#### The commander

##### a) License and medical certificate

The commander (46 years) was the holder of a valid Danish Airline Transport Pilot License (ATPL (A)).

The ATPL contained the following type rating: ATR 42/72 - 500 - 600/IR.

The type rating ATR 42/72 - 500 - 600/IR was valid until 31-10-2016.

The PART-FCL medical certificate class 1 was valid until 1-10-2016.

The latest Operator Proficiency Check (OPC) was valid until 31-10-2016.

##### b) Flying experience

Block hours	Last 90 days	Total time
All aircraft	150	9700

## The first officer

### a) License and medical certificate

The first officer (26 years) was the holder of a valid Danish Commercial Pilot License (Airplane) with an Instrument Rating (CPL(A)/IR).

The CPL(A)/IR contained the following type rating: ATR 42/72 - 500 - 600/IR Co-pilot only.

The type rating ATR 42/72 - 500 - 600/IR was valid until 31-10-2016.

The PART-FCL medical certificate class 1 was valid until 26-9-2016.

The latest Operator Proficiency Check (OPC) was valid until 31-10-2016.

### b) Flying experience

Block hours	Last 90 days	Total time
All aircraft	150	1800

On the night before the flight of the serious incident, the first officer slept well and woke up feeling well rested.

## **Aircraft information**

Registration:	OY-JZC
Type:	ATR 72-212A
Model:	600
Manufacturer:	Avions de Transport Régional
Serial number:	1120
Year of manufacture:	2013
Engine manufacturer:	Pratt & Whitney, Canada
Engine type:	PW100 family

## **Meteorological information**

### Terminal aerodrome forecast (TAF)

ekbi 311657z 3118/0118 24008kt 9999 sct030 tempo 3118/3120 shra sct030cb tempo  
0109/0118 shra sct030cb=

Aviation routine weather report (METAR)

ekbi 311950z auto 26003kt 9999ndv few085/// 14/11 q1012=

**Additional information**

The operator's operations manual - part A (extract) - incapacitation of crew members:

*4.3 FLIGHT CREW INCAPACITATION*

*In the event of the Commander of the aeroplane becoming incapacitated, the First Officer will assume command of the aeroplane and land at the first suitable airfield.*

*Meanwhile the cabin crew will be informed of the incapacitation and commence their drills in line with instructions laid down in the OM-E.*

*Similarly, if the First Officer is incapacitated, the SCCM will be called to the flight deck to deal with the First Officer, and may be instructed to remain on the flight deck to assist the Commander as required.*

*Since the incapacitation of any flight crew member of the minimum required flight crew shall be considered as an emergency, nothing shall prevent the remaining crew from asking for assistance to perform the necessary duties on the flight when possible.*

(SCCM = Senior Cabin Crew Member)

**Medical information**

On ground in EKBI, a medical doctor was available upon arrival at the gate. After a short consultation, the first officer was taken to a nearby hospital.

At the hospital the first officer was diagnosed with an appendicitis (bacterial infection causing the appendix to become inflamed).

Following surgical removal of the appendix (appendectomy), the first officer was kept in hospital for two days for observation.

Subsequently, the first officer fully recovered, and he reported ready for flight duty.



## **ANALYSIS**

An appendicitis led to incapacitation of the first officer.

The incapacitation of the first officer reduced the number of flight crew members below the minimum required, and according to the operator's procedures, it was an emergency.

With reference to the operator's procedures, the commander made use of available internal (other crew members/automatic flight control) and external (ATC/medical assistance upon landing) resources which,

- reduced the overall on board workload
- kept the on-board flight safety at an acceptable level
- made the medical assistance to the first officer effective.

## **CONCLUSIONS**

An appendicitis led to incapacitation of the first officer.