

# 1983: DC9 Cincinnati

## ■ General context

- Scheduled flight Dallas Fort Worth-Montreal
- 41 pax and 5 crew members
- Day light
- Cruise (FL330)
- Weather at landing airport:
  - × S2500, B8000
  - × Vis 12 Nm
  - × -RA
- Aircraft has a history of maintenance issues and problems

# 1983: DC9 Cincinnati (con'd)

## ■ Operational context

### ● 18:51

- ➔ 3 CBs related to the aft lavatory flush motor tripped
- ➔ After identification Captain attempted one reset unsuccessfully

### ● 18:59

- ➔ second unsuccessful attempt to reset CBs
- ➔ Cabin crew report **smoke** in the aft lavatory

### ● 19:00

- ➔ Pax report strange odor
- ➔ CA3 checked the lavatory to see light gray smoke had filled the compartment but does not see any flames
- ➔ CA3 asked CA2 to report a fire to CA1  
CA2 testified she **did not remember** whether there was smoke and/or fire in the lavatory (but reported the fire to the CA1)
- ➔ CA1 instructed CA2 to inform the flight crew

# 1983: DC9 Cincinnati (con'd)

## ■ Operational context

### ● 19:02

- ➔ CA2 informed the flight crew about smoke in the lavatory
- ➔ Capt instructed FO to check the lavatory

### ● 19:04

- ➔ FO come returned to pick up his smoke goggles because he could not reach the lavatory
- ➔ Smoke had already migrate over the last 3 to 4 rows of seats
- ➔ Fo did not believe the fire was from the lavatory...
- ➔ Suggested to the Captain to descent to land
- ➔ CA1 came to the cockpit:
  - × Informed Pax were moved forward
  - × Captain does not have to be worried: “it is easing up”

- FO looking back in the cabin said it is almost clear in the back

# 1983: DC9 Cincinnati (con'd)

## ■ Operational context (con'd)

- 19:05, A/C experience a series of electrical malfunctions
  - ➔ MASTER CAUTION light,
  - ➔ L AC & DC electrical systems had lost power)
- 19:06,
  - ➔ Captain **called ATC to standby** because of an electrical problem
  - ➔ A/C target is lost on ATC radar screen
  - ➔ CA1 told the Captain the smoke is clearing
- The FO decided not to open the lavatory door because it is too hot
- 19:07, returned to the cockpit
  - ➔ Told the Captain:  
“I do not like what’s happening, I think we better go down, ok?”
- Captain ask FO to activate EMER POWER switch

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## ■ Operational context (end)

- 19:08

  - ➔ Captain instructed the FO to go back to lavatory

  - ➔ MAYDAY call (+ 10 mn)

- 19:09, A/C commenced descent from FL330

- Because the cockpit door was left open, the smoke **entered** the cockpit and subsequently disturbed the final stages of the approach and landing

- 19:20, A/C landed

- After Emergency Shutdown C/L both FO and Captain attempted to access the cabin to assist the passenger evacuation but were driven back by smoke and heat.

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## ■ Evacuation

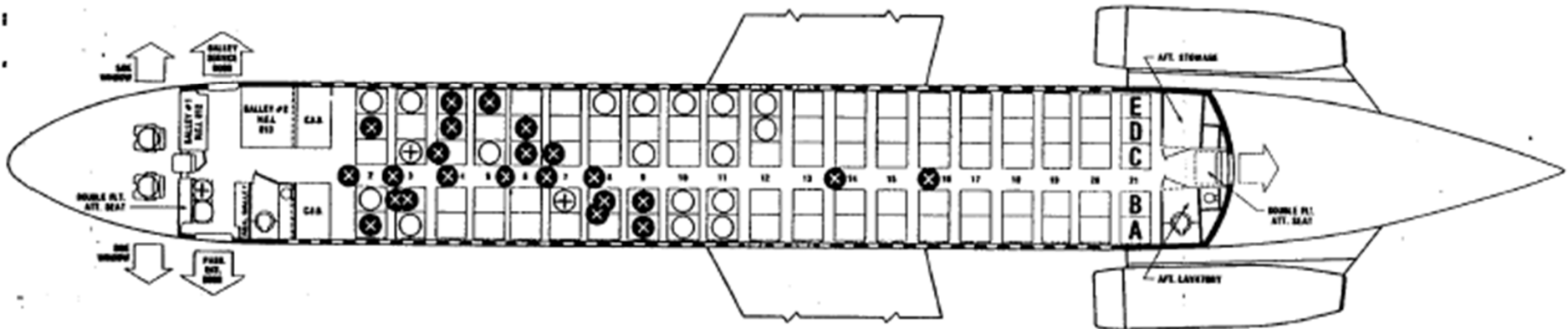
- CA & pax opened:
  - ✗ L & R forward doors
  - ✗ L forward overwing exit
  - ✗ R forward & aft overwing exits
- 60 to 90" later a flash fire engulfed cabin
- 18 pax & 3 CA exited through 2 forwards doors and 3 overwing exits
- 23 pax were not able to get out the plane (probably incapacitated)
- Pilots escaped through cockpit sliding windows.



# 1983: DC9 Cincinnati (con'd)

*(Denotes Location of Survivors Before Leaving Airplane and Location of Fatalities After the Accident)*

- ⊗ Fatality
- Survivor
- ⊕ Flight Attendant



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## ■ Consequences

- 23 pax died
- A/C destroyed, fuselage and passenger cabin were gutted before airport fire personnel could extinguish the fire.



# 1983: DC9 Cincinnati (end)

## ■ Analysis (NTSB)

- Fire of **undetermined** origin or source
- **Underestimated** the severity of the fire
- **Misleading** fire progress information to flight crew
  - ➔ Neither the CA nor FO told the Cpt that:
    1. They had seen the fire
    2. They knew the location of the fire
    3. They knew the intensity of the fire
- Were **inappropriate** (too long)
  - ➔ Time taken to assess the nature of the fire (**more than 5 mn...**)
  - ➔ Time to initiate an emergency descent (**about 10 mn...**)
- The 2 last elements contributed to the **severity** of the accident.