

# 1972: L1011 Miami

- General context
  - 163 pax, 13 crew members
  - New-York Miami flight
  - Final approach in Miami International
  - Night, clear sky, very quiet atmosphere
- Operational context
  - Landing gear down passing OM
  - Nose gear not fully down and locked
  - Go around (to 2000 ft) for procedures

# 1972: L1011 Miami (con'd)

## ■ Breakdown handling

- FE: check lamp
- FO: set autopilot ON
- Captain: check lamp as well
- FE: descend in the Avionic bay checking through the gears viewer the red paint stripes
- FO: disassemble the gear light to take off the lamp (**but does not succeed**)
- FE: state he can not establish the landing gear position
- Captain: decide landing gear is locked and down and request a heading toward the airport

# 1972: L1011 Miami (con'd)

|          |         |   |
|----------|---------|---|
| 23.41:47 | APP     | Eastern 401 turn left heading one eight zero.   |
| 23.41:50 | Captain | Huh?  |
| 23.41:51 | APP     | One eighty.   |
| 23.42:05 | FO      | We did something to the altitude?   |
|          | Captain | What?   |
| 23.42:07 | FO      | We're still at two thousand right?  |
| 23.42:09 | Captain | Hey, what's happening here?   |
| 23.42:12 |         | [Sound of impact]<br>The right wing impacted the Everglades swamp which led to the total breakup of the aircraft. |

# 1972: L1011 Miami (con'd)

## ■ Analyze

- L-1011 autoflight consists of a system which automatically disengages the autopilot if 7 Kg of pressure is placed on either control yoke.
- In this case:
  - ✗ Captain's computer was programmed (properly) to disengage at 15 pounds,
  - ✗ but the First Officer's computer was improperly set to disengage at 9 Kg.
  - ✗ So, if autopilot is disconnected with 7 Kg of pressure on captain side, autopilot engagement light and altitude hold remained lit on FO side.

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## ■ Analyze (end)

- When Captain turned his body towards FE (to talk) he disengaged the autopilot by applying a 7 kg pressure on the control wheel
- Because the autopilot engagement light still lit on FO side he believed the autopilot was still engaged.
- Nobody did hear the audible altitude **alert warning**
- During the last **4 mm**, nobody was aware the aircraft was **descending...**
  - ➔ *At 200 ft/m, this descent rate is totally un-noticable to anyone not looking at flight instruments*

# 1972: L1011 Miami (end)

- Accident causes (NTSB conclusion )
  - Failure of the crew:
    - To monitor instruments during the last 4 minutes of flight,
    - To detect descend in order to prevent ground collision



94 pax et 5 crew died  
76 survivors