



National Transportation Safety Board



National Airlines
Boeing 747-400 BCF
Bagram, Afghanistan
April 29, 2013

Tim LeBaron,
Investigator-in-Charge

Accident Flight

- April 29, 2013, 1527 local time
- Boeing 747-400 BCF
- Operated by National Air Cargo, Inc., dba National Airlines
- Bagram, Afghanistan
- 7 crewmembers - fatal

Five MRAPs (Special Cargo Load)



Two 12-ton M-ATVs

Three 18-ton Cougars

Crew Observations in Bagram

- Cargo had moved “a couple inches”
- Straps keeping load from moving backward were loose
- One strap had broken
- Straps were being “cinched down”

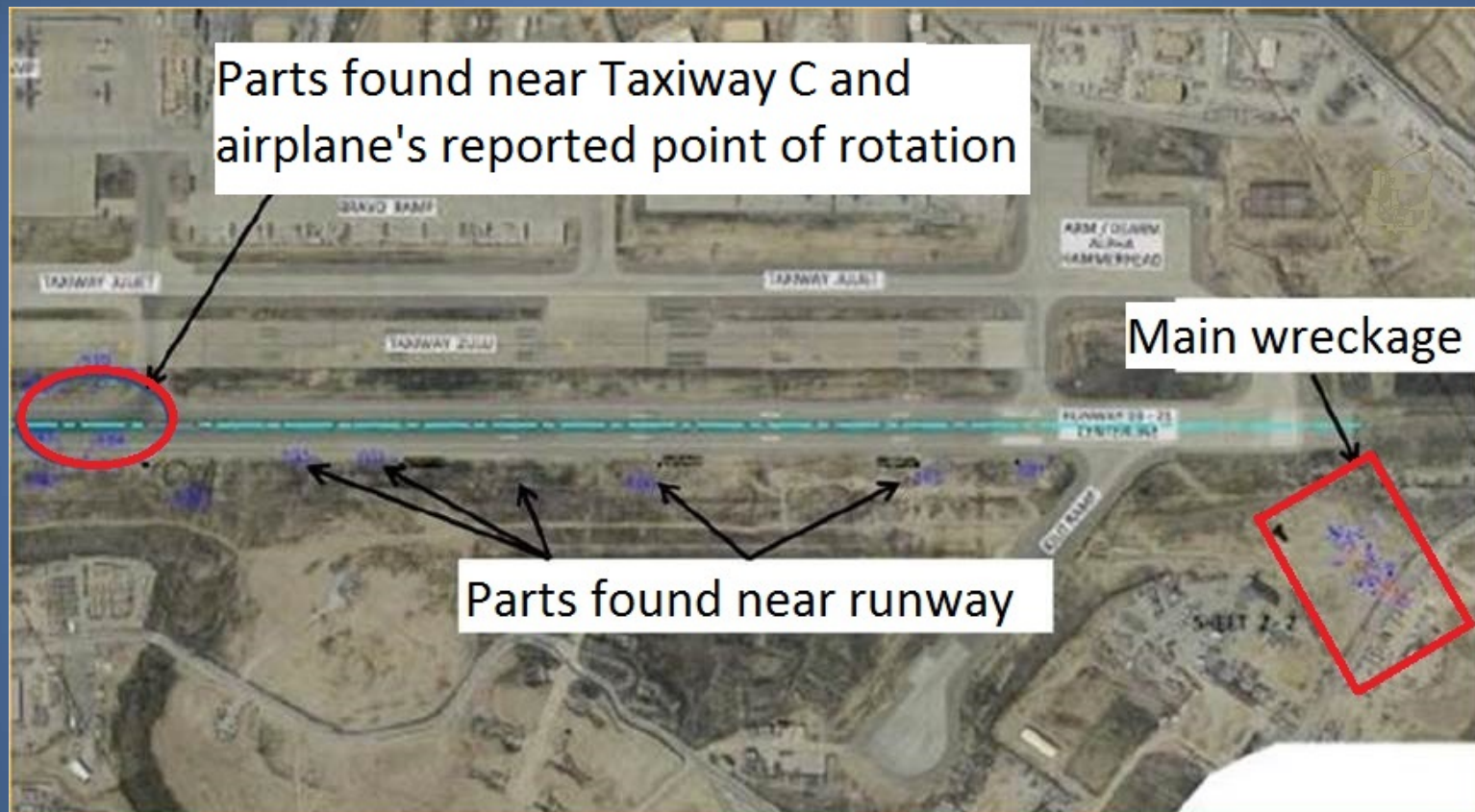
Accident Takeoff

- Cleared for takeoff about 1526
- “Gear up” call, then CVR and FDR stopped recording
- Airplane impacted ground about 30 seconds after CVR/FDR ceased

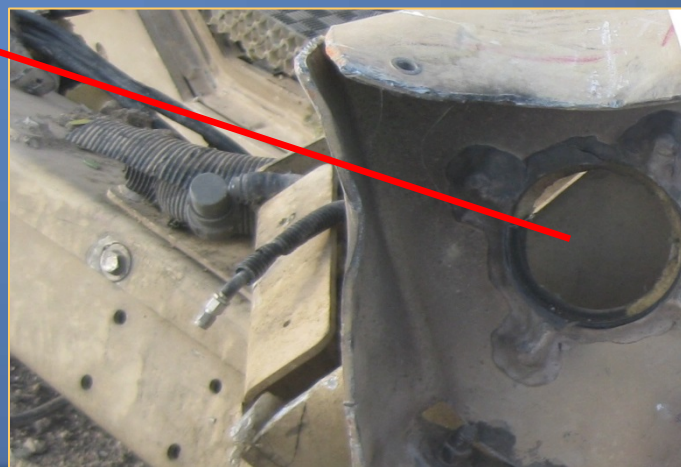
Dashboard Camera Video

- Airplane entered steep climb with high pitch attitude
- At peak altitude rolled right
- Rapid decent
- Impacted nose down nearly wings level

Airplane Debris on Runway



M-ATV Debris on Runway



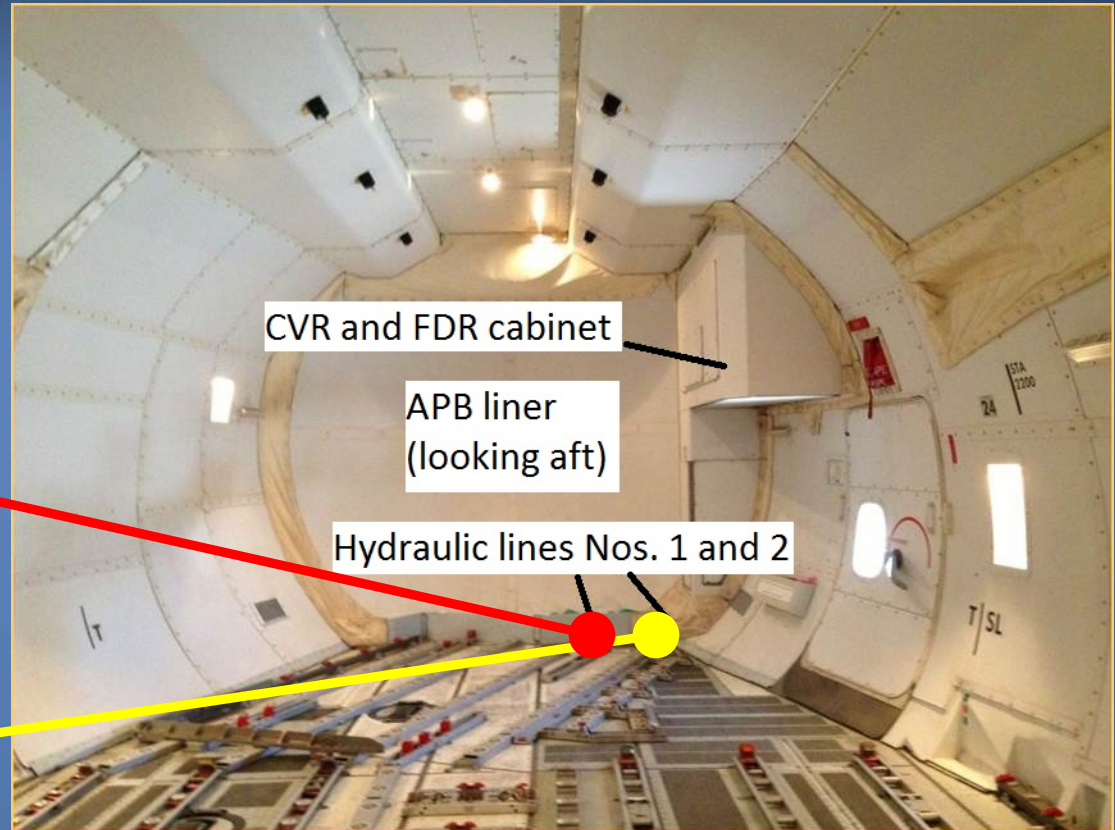
M-ATV, FDR, and CVR Damage



APB and Tire Witness Marks



Hydraulic System Failures



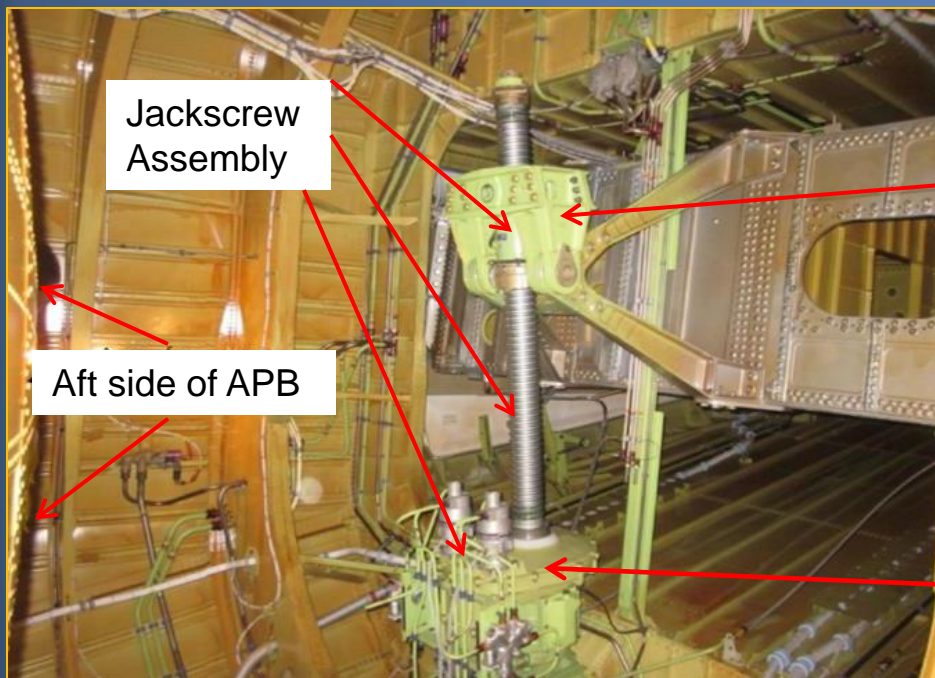
Airplane Performance Study

- Evidence: Rear M-ATV moved aft
- Performance simulation
 - Available FDR data
 - Aerodynamic modeling
- Simulation matched rotation, initial climb data with one M-ATV shifted aft

Airplane Performance Study

- Scenario: Hydraulic Nos. 1 & 2 failed
 - Uncontrollable if 4 or 5 vehicles moved aft
 - No direct evidence more than one moved aft
 - Uncontrollable if horizontal stabilizer displaced at least 5 degrees from damage from M-ATV

Horizontal Stabilizer Jackscrew



No Explosive Device

- Video Study
- Eyewitness accounts
- Joint Combat Assessment Team:
No physical evidence
- Chemical analysis: No explosive residue

Safety Issues

- Deficient procedures for securing special cargo loads
- Inadequate guidance regarding use of FAA-approved data
- Lack of certification for cargo handling personnel

Safety Issues

- Special Cargo Loads
 - Inadequate FAA oversight of cargo operator manuals
 - Unclear FAA inspector responsibilities
 - Inadequate FAA inspector training
- Unlimited deferral of surveillance

Parties to the Investigation

- Federal Aviation Administration
- Boeing
- National Airlines
- Telair International



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