



# INVESTIGATIVE HEARING

National Transportation Safety Board  
August 6–7, 2024 | Washington, DC

# NTSB

## Alaska Airlines Flight 1282 [Boeing 737-9, Registration N704AL] Left Mid Exit Door Plug Separation

DAY 1: AUGUST 6

AGENDA, PANELS, AND ISSUE AREAS

9:00 a.m. – 7:00 p.m.

Times are approximate. Breaks will be announced.

**Opening Statements** . . . . . 9:00 a.m. – 10:00 a.m.

- Chair’s Opening Statement
- Introduction of the Parties
- Introduction of the Exhibits
- Investigator-in-Charge (IIC) Opening Presentation

**Panel 1** . . . . . 10:00 a.m. – 1:45 p.m.

### Overview of B737-9 Manufacturing and Inspections

Witness Panel	Technical Panel
<b>Elizabeth Lund</b> , Boeing Commercial Airplanes <b>Doug Ackerman</b> , Boeing Commercial Airplanes <b>Terry George</b> , Spirit AeroSystems <b>Scott Grabon</b> , Spirit AeroSystems <b>Lloyd Catlin</b> , International Association of Machinists	<b>Pocholo Cruz</b> <b>Nils Johnson</b> <b>Sabrina Woods</b>
Issue Areas	
<b>B737-9 production (in general)</b> <ul style="list-style-type: none"> <li>» Fuselage manufacturing</li> <li>» Inspections at Spirit and Boeing</li> <li>» Company organization and reporting structure                             <ul style="list-style-type: none"> <li>- Reporting concerns/observations, stopping production from a line level staff concern</li> </ul> </li> </ul>	
<b>Training of mechanics/turnover/retention</b>	
<b>Mechanic experience/pairing &amp; assigning of tasks</b>	
<b>Process for documenting non-conformance (records, non-conformance order (NCO), work cards)</b>	
<b>Description of Shiplside Action Tracker (SAT) system and how is it intended to be used</b>	
<b>Description of Common Manufacturing Execution System (CMES) and how is it intended to be used</b>	
<b>Process for documenting removals of previously installed parts or components</b> <ul style="list-style-type: none"> <li>» Boeing process specs - Boeing Process Instructions (BPI) and Desktop Instructions                             <ul style="list-style-type: none"> <li>- Training process and details for BPI/etc end users</li> </ul> </li> </ul>	

**Lunch** (on your own) . . . . . 1:45 p.m. – 2:45 p.m.

**Panel 2** . . . . . 2:45 p.m. – 6:30 p.m.

### Events Surrounding the Opening and Closing of the Mid Exit Door (MED) Plug

Witness Panel	Technical Panel
<b>Elizabeth Lund</b> , Boeing Commercial Airplanes <b>Michael Riney</b> , Spirit AeroSystems	<b>Pocholo Cruz</b> <b>Nils Johnson</b> <b>Sabrina Woods</b>
Issue Areas	
<b>B737-9 production (specific to accident airplane #8798)</b>	
<b>Lack of documentation of the MED plug being opened and closed</b>	
<b>MED plug removal and reinstallation at Boeing - task management</b> <ul style="list-style-type: none"> <li>» Description of the normal task(s) to remove the MED plug, and how they are managed and tracked.</li> <li>» Comparison of previous MED plug openings vs accident airplane</li> </ul>	
<b>Description of flow and component travelling during assembly (for the processes surrounding MED plug removal/reinstallation)</b>	
<b>Assembly line flow pace (how is it determined)</b>	
<b>Boeing/Spirit procedures for reporting/addressing discrepancies anomalies or concerns from the floor up</b> <ul style="list-style-type: none"> <li>» Reports made regarding MED plug removal and reinstallation</li> </ul>	
<b>Explain what we learned from Shiplside Action Tracking (SAT) for this airplane</b>	
<b>Role of the Spirit employees (staffed by Aerotech, Strom Aviation, Launch) in Renton</b>	
<b>Changes after accident</b>	

**Chair’s Closing Remarks** . . . . . 6:30 p.m. – 7:00 p.m.

– DAY 1 ADJOURNS –

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## Alaska Airlines Flight 1282 [Boeing 737-9, Registration N704AL] Left Mid Exit Door Plug Separation

DAY 2: AUGUST 7

AGENDA, PANELS, AND ISSUE AREAS

9:00 a.m. – 7:00 p.m.

Times are approximate. Breaks will be announced.

### Opening Statements . . . . . 9:00 a.m. – 9:30 a.m.

- Chair's Opening Statement
- Introduction of the Parties
- Introduction of the Exhibits

### Panel 3 . . . . . 9:30 a.m. – 1:45 p.m.

#### Safety Management Systems (SMS) and Quality Management Systems (QMS)

Witness Panel	Technical Panel
<b>Paul J. Wright</b> , Boeing Commercial Airplanes <b>Hector Silva</b> , Boeing Commercial Airplanes <b>Doug Ackerman</b> , Boeing Commercial Airplanes <b>Greg Brown</b> , Spirit AeroSystems <b>William (Bill) Brown</b> , Spirit AeroSystems <b>Chris Eick</b> , Federal Aviation Administration <b>Michael Bartron</b> , Federal Aviation Administration <b>Steve Slagle</b> , Federal Aviation Administration <b>Brian Knaup</b> , Federal Aviation Administration <b>Lloyd Catlin</b> , International Association of Machinists	<b>Sabrina Woods</b> <b>Pocholo Cruz</b> <b>Nils Johnson</b>
Issue Areas	
<b>Safety Management Systems</b> <ul style="list-style-type: none"> <li>» Process of promoting effective safety culture</li> <li>» Voluntary</li> <li>» Implementation</li> <li>» Reporting (tracking) systems and (internal) audits</li> </ul>	
<b>Quality Management System process</b> <ul style="list-style-type: none"> <li>» Explain what QMS is and how it relates to manufacturing</li> <li>» External and internal                             <ul style="list-style-type: none"> <li>- Suppliers/process managing, reacquiring Spirit</li> </ul> </li> <li>» Describe significant challenges in the last 5 years</li> <li>» Hiring/retention/other (new, lesser experienced staffing)                             <ul style="list-style-type: none"> <li>- Other</li> </ul> </li> </ul>	
<b>Policy communications/dissemination</b>	
<b>Describe production rate evolution (-5 years, -10 years) and actions taken as rate changes</b>	
<b>FAA actions regarding NTSB recommendation SMS for manufacturing A-21-048</b>	
<b>Changes after accident</b>	

### Lunch (on your own) . . . . . 1:45 p.m. – 2:45 p.m.

### Panel 4 . . . . . 2:45 p.m. – 6:30 p.m.

#### FAA Oversight

Witness Panel	Technical Panel
<b>Hector Silva</b> , Boeing Commercial Airplanes <b>Bill Brown</b> , Spirit AeroSystems <b>Brian Knaup</b> , Federal Aviation Administration <b>Bryan Kilgroe</b> , Federal Aviation Administration <b>Lloyd Catlin</b> , International Association of Machinists	<b>Sabrina Woods</b> <b>Pocholo Cruz</b> <b>Nils Johnson</b>
Issue Areas	
<b>Describe work plan and process for oversight of production</b> <ul style="list-style-type: none"> <li>» How is the audit schedule determined</li> <li>» Other methods/tools for oversight</li> <li>» Changes in oversight methods                             <ul style="list-style-type: none"> <li>- Designated vs direct</li> <li>- Other</li> </ul> </li> </ul>	
<b>Results of FAA audit of Boeing</b> <ul style="list-style-type: none"> <li>» Describe how/why/procedure for auditing</li> <li>» Issues with process and documentation and non-conformance</li> </ul>	
<b>Effectiveness of FAA guidance and actions on manufacturing</b> <ul style="list-style-type: none"> <li>» SMS currently is not a requirement - how does this affect tasking for FAA oversight now, and in the future when it is required?</li> <li>» QMS</li> <li>» Training/enhanced oversight programs</li> </ul>	
<b>FAA oversight of:</b> <ul style="list-style-type: none"> <li>» Manufacturers records keeping</li> <li>» History of audits - undocumented removals - (BPI for part or assembly removal)</li> </ul>	
<b>Boeing</b> <ul style="list-style-type: none"> <li>» History of BPI for part or assembly removal</li> </ul>	

### Chair's Closing Remarks . . . . . 6:30 p.m. – 7:00 p.m.

– HEARING ADJOURNS –

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#### WITNESSES

#### PANEL 1: Overview of B737-9 Manufacturing and Inspections

Witnesses #1–5

##### Elizabeth Lund

Chair, Quality Operations Council  
Senior Vice President, Quality  
Boeing Commercial Airplanes  
Seattle, WA

##### Doug Ackerman

Vice President of Supplier Quality  
Boeing Commercial Airplanes  
Seattle, WA

##### Terry George

Senior Vice President  
General Manager Boeing Programs  
Spirit AeroSystems  
Wichita, KS

##### Scott Grabon

Senior Director 737/P8 Quality  
Spirit AeroSystems  
Wichita, KS

##### Lloyd Catlin

Business Representative  
International Association of Machinists  
Renton, WA

#### PANEL 2: Events Surrounding the Opening and Closing of the Mid Exit Door (MED) Plug

Witnesses #6 & #7

##### Elizabeth Lund

Chair, Quality Operations Council,  
Senior Vice President, Quality  
Boeing Commercial Airplanes  
Seattle, WA

##### Michael Riney

Senior Manager – Manufacturing General Support  
Spirit AeroSystems  
Seattle, WA

#### PANEL 3: Safety Management Systems (SMS) and Quality Management Systems (QMS)

Witnesses #8–17

##### Paul J. Wright

Senior Director, Safety Management System  
Chief Aerospace Safety Office  
Boeing Commercial Airplanes  
Seattle, WA

##### Hector Silva

Vice President, Regulatory Compliance and  
Core Quality  
Boeing Commercial Airplanes  
Renton, WA

##### Doug Ackerman

Vice President of Supplier Quality  
Boeing Commercial Airplanes  
Seattle, WA

##### Gregg Brown

Senior Vice President – Quality and Support  
Spirit AeroSystems  
Wichita, KS

##### William (Bill) Brown

Senior Advisor – Quality  
Spirit AeroSystems  
Wichita, KS

##### Chris Eick

Aerospace Engineer, Policy & Standards Division  
Federal Aviation Administration  
Washington, DC

##### Michael Bartron

Chief Scientist and Technical Advisor for Safety  
and Risk Analysis  
Federal Aviation Administration  
Washington, DC

##### Steve Slagle

Program Manager, Project Management Section  
Federal Aviation Administration  
Washington, DC

##### Brian Knaup

Manager AIR-580 – System Operation and  
Oversight Branch  
Federal Aviation Administration  
Washington, DC

##### Lloyd Catlin

Business Representative  
International Association of Machinists  
Renton, WA

#### PANEL 4: FAA Oversight

Witnesses #18–22

##### Hector Silva

Vice President, Regulatory Compliance and  
Core Quality  
Boeing Commercial Airplanes  
Seattle, WA

##### Bill Brown

Senior Advisor  
Spirit AeroSystems  
Wichita, KS

##### Brian Knaup

Manager AIR-580 (System Operation and  
Oversight Branch)  
Federal Aviation Administration  
Lakewood, CA

##### Bryan Kilgroe

Manager, AIR-582B, Airplane Oversight Section,  
Designated PC700 Principal Inspector  
Federal Aviation Administration  
Charleston, SC

##### Lloyd Catlin

Business Representative  
International Association of Machinists  
Renton, WA

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