ICAO Accident/Incident Investigation Workshop, Mexico 2015

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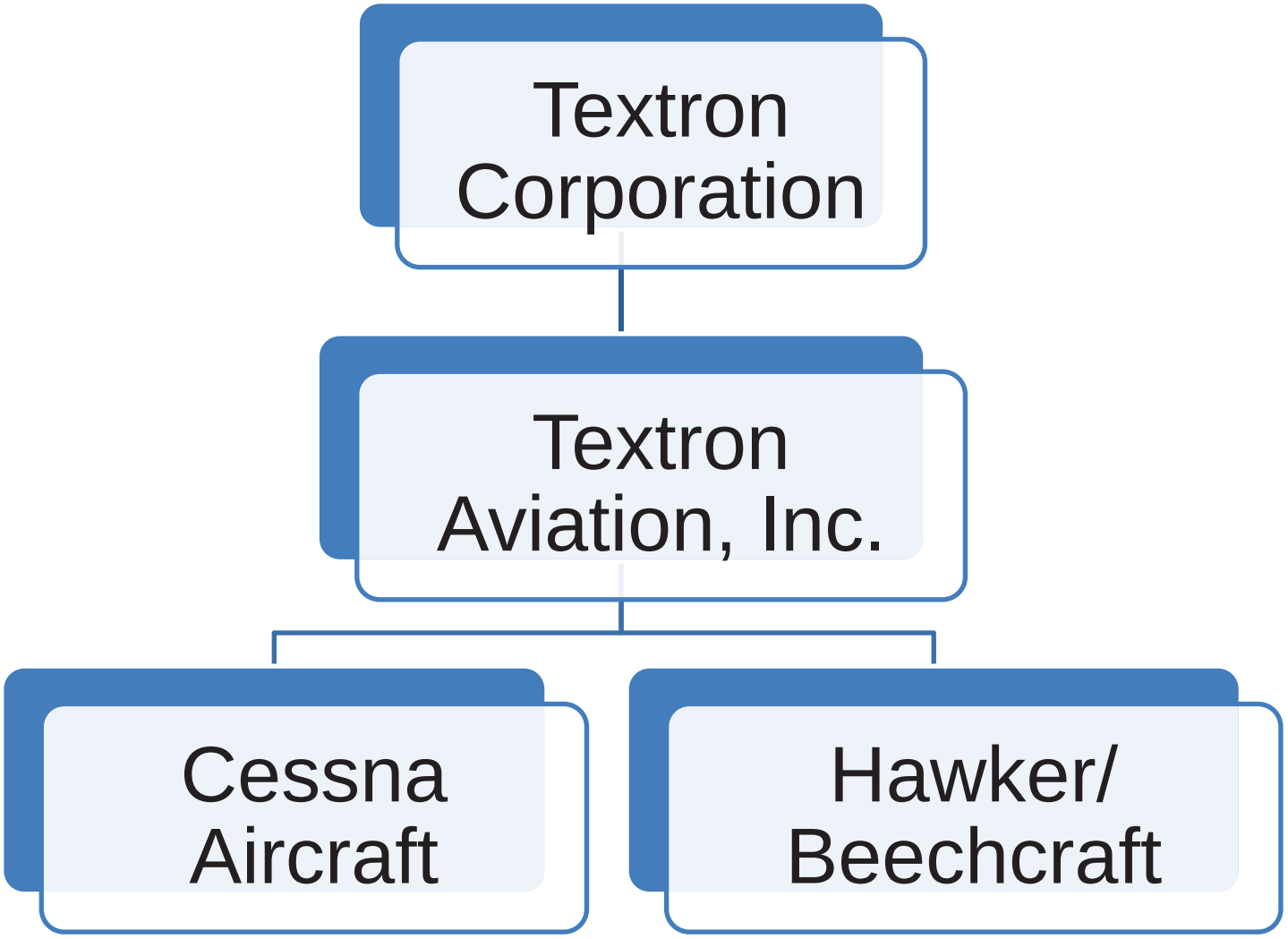
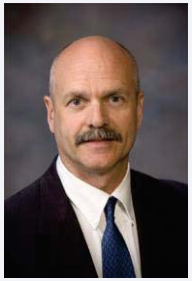
Who is Textron Aviation?


Textron Corporation
Textron Aviation, Inc.
Cessna Aircraft
Hawker/ Beechcraft

Air Safety Investigations (ASI)

Beechcraft | Cessna | Hawker
TEXTRON AVIATION

Manager
Welch

Senior ASI **A. Hall**	Senior ASI **Basile**	Senior ASI **Soderlund**	ASI **Asensio**	Senior ASI **Smith**	ASI **Weber**	Senior ASI **Yoos**	ASI **E. Hall**
							

Qualifications

- 9 College Degrees
- 5 Advanced Degrees
- Pilot Certificates
  - 4 CFI-I
- 9 A & P Mechanic Certificates
  - 4 Inspection Authorizations
- 140+ years of investigation experience
- 1,400+ field investigations

Primary Duties

- Provide assistance to NTSB, FAA, and foreign governments
- Conduct an accurate detailed investigation
- Reports
  - Field Notes
  - Preliminary
  - Final
    - Company Management
    - Engineering Department
- Offer technical assistance during separate component analytical examinations

- Fatal Injury
- Serious Injury
- When our help is requested
- Special interest
  - New production singles
  - Trends
  - Survivability
    - New seats and rails on new production singles
    - 206 rear door system
    - Air bags

Simple single engine

Challenging

Beechcraft | Cessna | Hawker

TEXTRON AVIATION

Drive-Up

Climb Up

Mountain Top

Swamp

Wind 30 knots; Temperature -20° F
Snow, 4’ Deep

Winds, Calm; Temperature 80° F; Sand, Warm

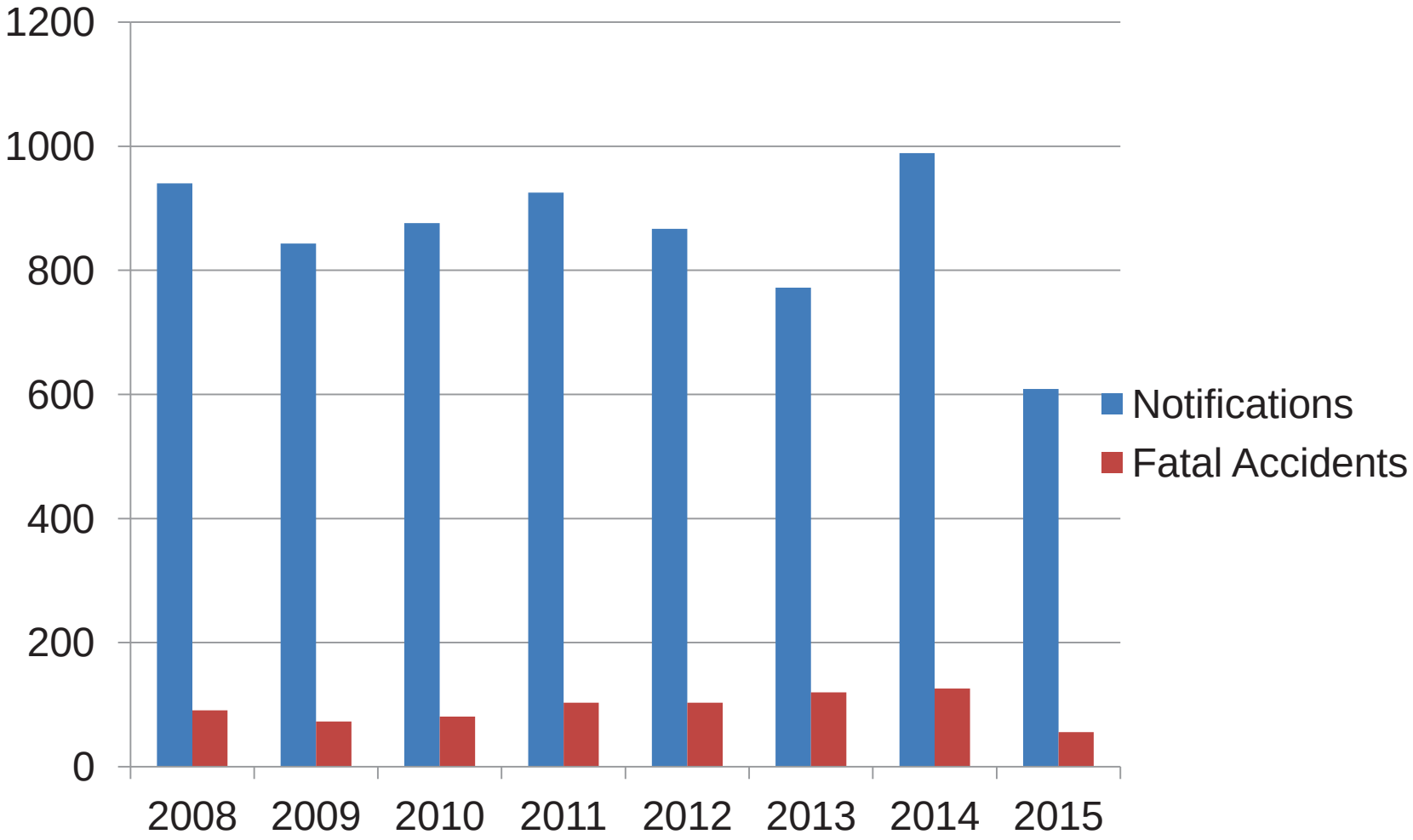
All Here

Consumed by fire

Notification of Accidents

- NTSB or Foreign Authority notification
- FAA Preliminary Accident and Incident Reports
- Local and International news services
- Law Enforcement
- Other manufacturers

Historical Data



Beechcraft | Cessna | Hawker

TEXTRON AVIATION

On Call

Beechcraft | Cessna | Hawker
TEXTRON AVIATION

24/7

Questions?

Case Studies

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Case Study 1

- Cessna 172M
- San Juan, PR
- During final approach
  - Fernando Luis Ribas Dominicci Airport (TJIC)
- Pilot reported problems with aileron control
- Aircraft impacted the water surface with the right wing tip
  - The aircraft cart wheeled and disappeared below the water surface
- Pilot received fatal injuries


N
Airport
Bahía de San Juan
Image © 2012 GeoEye
© 2012 Google
Cataño Pueblo
Google earth
Imagery Date: 6/6/2009
18°27'20.03" N 66°06'24.48" W elev 4 ft
Eye alt 9037 ft


N731S
BIOHAZARD
BIOHAZARD

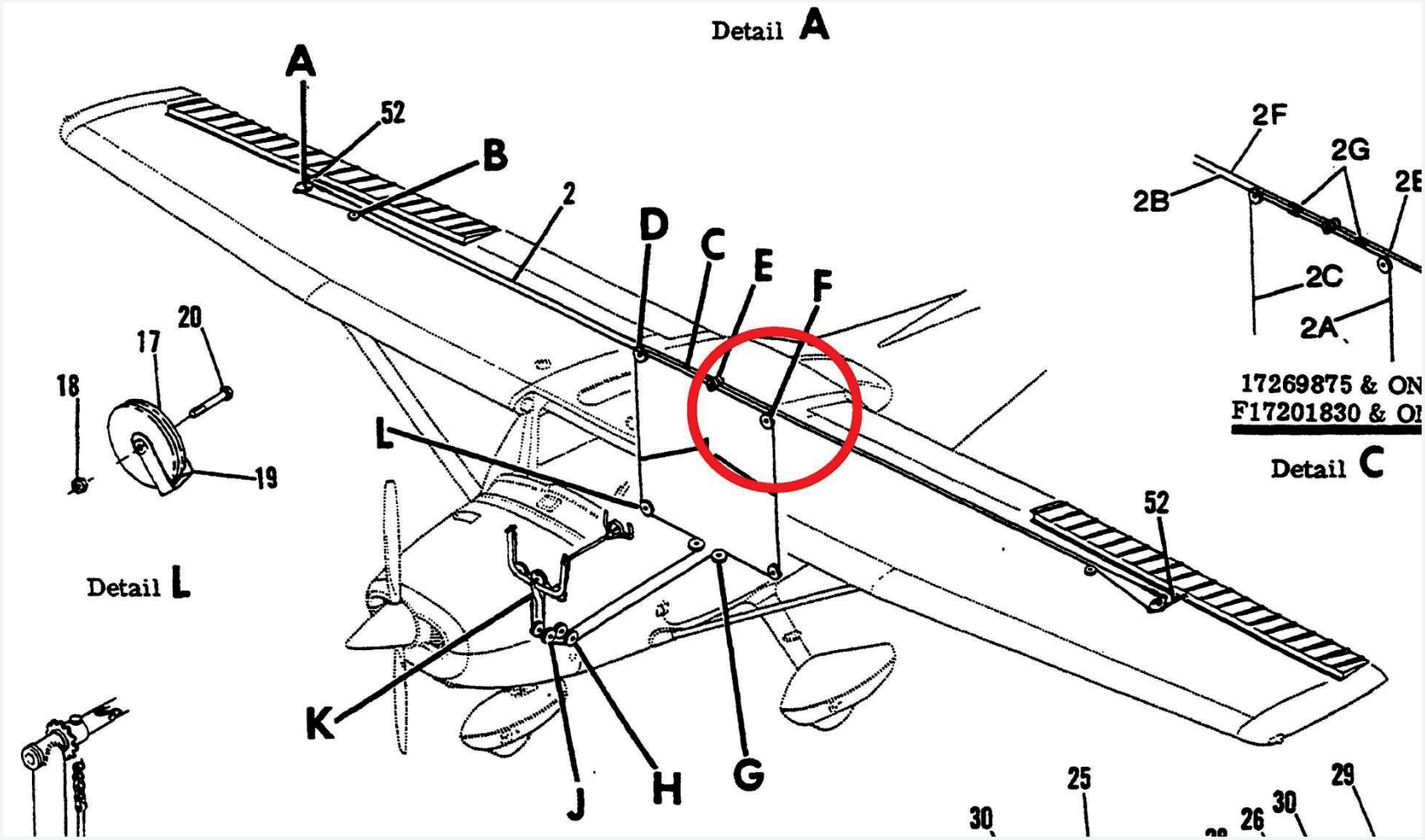
Investigation

- All flight control surfaces were observed and attached
- Left and right wings remained attached to fuselage
- Control cable continuity was established
  - Through multiple cable separations
- Flap actuator was found at 10º
- Elevator trim was found with 10º tab up
- Co-pilot control yoke was fractured
  - Recovered within the pilot's hands
- Pilot control yoke remained attached
  - Operation and continuity of the control yoke was confirmed

Investigation

- Ailerons interconnect control cable exhibited broomstrawing
- Right aileron direct control cable was found separated
- Top left doorpost pulley exhibited signs of scoring on the rim

Aileron Pulley



NTSB Probable Cause

Beechcraft | Cessna | Hawker
TEXTRON AVIATION

"Maintenance personnel's improper lubrication of the right direct aileron control cable and failure to detect the severe corrosion of the cable during a maintenance inspection, which resulted in the in-flight failure of the cable, the pilot's subsequent inability to maintain aircraft control, and the airplane's impact with terrain."

Questions?

Case Study 2

- 525B (CJ3)
- Sao Paulo, Brazil
- Owner is PIC
- Low time co-pilot
- Landed at Congonhas Airport (SBSP)
  - Runway 35R (4,708’ x 148’ Asphalt)
- Aircraft exited the end of Runway 35R
  - Impacted the perimeter fence
- Crew reported brake issues to SERIPA


PR-MRG

Investigation

- Aircraft flying too fast and too high.
- Aircraft touched-down halfway down the runway and bounced.
- Touched-down a second time almost at end of runway.
- Radar shows aircraft airspeed of 170 knots
  - 100’ from Runway 35R threshold
- Landing calculations
  - Approach Speed (Vapp) of 117 knots
  - Touchdown Speed (Vref) of 107 knots
- Flaps 15º (Takeoff and Approach)
- The tires had no flat spots, the wheels spun normally, and the brake pads were not worn.

Questions?