



NTSB National Transportation Safety Board

Office of Research and Engineering

**Safety Study Report:
Introduction of Glass
Cockpit Avionics into
Light Aircraft**

Study Overview

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NTSB Research Mandate

Title 49 United States Code, Chapter 11:

“The Board also shall carry out special studies and investigations about transportation safety, including avoiding personal injury;”

Why was this topic selected?

- Investigators began addressing accidents with glass cockpit-enabled airplanes
- Identified as an Emerging Technology Issue
- This study represents the Board's initial look into an important topic

The Traditional Cockpit Instrumentation



A New Light Aircraft Glass Cockpit



Light Aircraft Models



Diamond



Columbia



Cessna



Piper



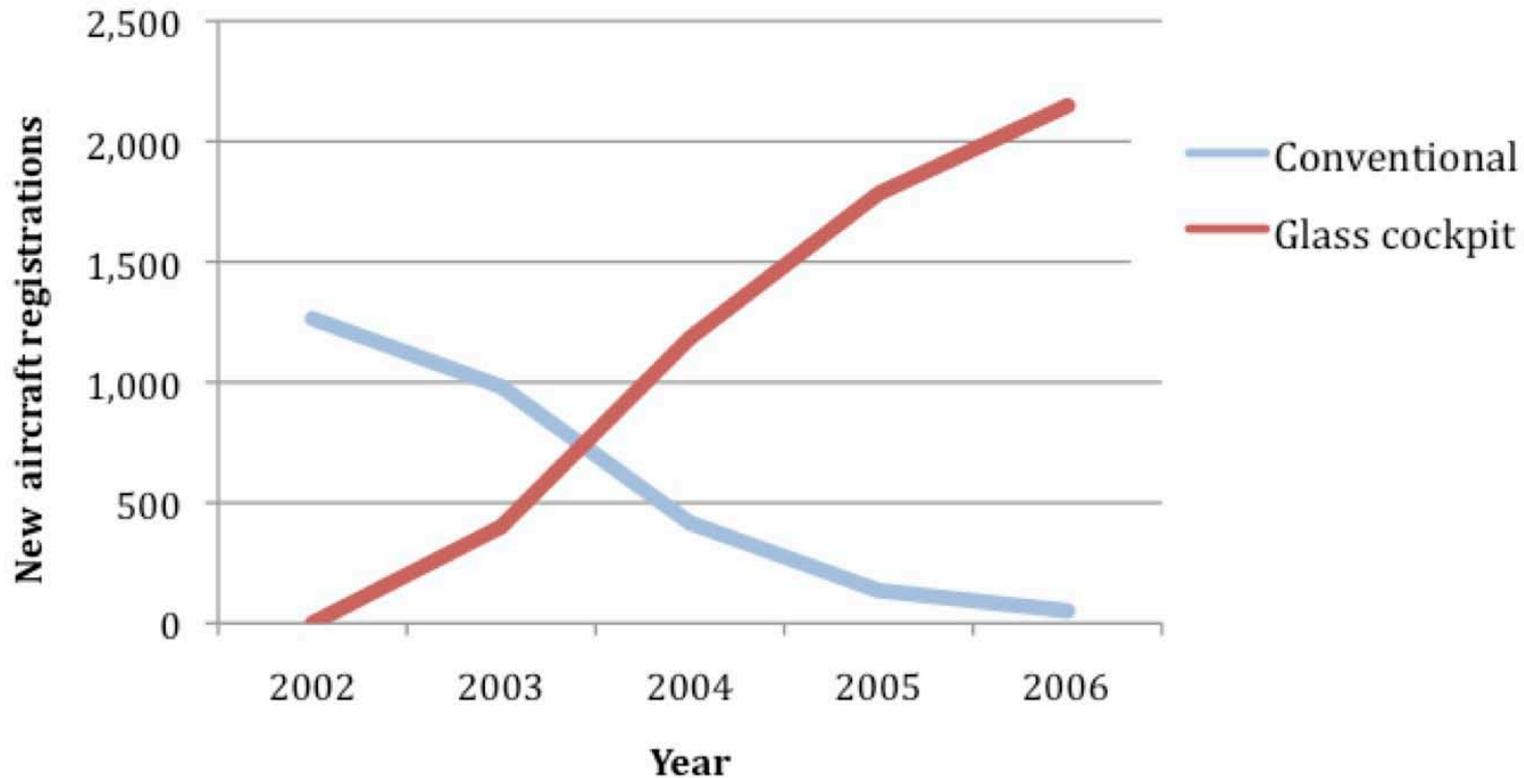
Cirrus



Mooney

A Narrow Window of Research Opportunity

New Registrations of Study Aircraft per Year by Cockpit Configuration, 2002-2006
(FAA Civil Aircraft Registry Data)



The Research Questions

- Quantitative Analysis
 - Has the introduction of glass cockpits made general aviation safer?
- Qualitative Analysis
 - Has the general aviation industry been properly prepared for the glass cockpit technology – e.g., are training and FAA oversight adequate?
- Case Study Review
 - What have we learned from the case studies of light aircraft glass cockpit accidents?

Organizations Providing Assistance to the Study

- Federal Aviation Administration
- General Aviation Manufacturers Association
- Cessna Aircraft Company
- Cirrus Design Corporation



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