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NTSB STUDY SHOWS INTRODUCTION OF 'GLASS COCKPITS' IN GENERAL AVIATION AIRPLANES HAS NOT LED TO EXPECTED SAFETY IMPROVEMENTS

Washington, DC – Today the National Transportation Safety Board adopted a study concluding that single engine airplanes equipped with glass cockpits had no better overall safety record than airplanes with conventional instrumentation.

The safety study, which was adopted unanimously by the Safety Board, was initiated more than a year ago to determine if light airplanes equipped with digital primary flight displays, often referred to as "glass cockpits," were inherently safer than those equipped with conventional instruments.

The study, which looked at the accident rates of over 8,000 small piston-powered airplanes manufactured between 2002 and 2006, found that those equipped with glass cockpits had a higher fatal accident rate than similar aircraft with conventional instruments.

The Safety Board determined that because glass cockpits are both complex and vary from aircraft to aircraft in function, design and failure modes, pilots are not always provided with all of the information they need – both by aircraft manufacturers and the Federal Aviation Administration – to adequately understand the unique operational and functional details of the primary flight instruments in their airplanes.

NTSB Chairman Deborah A.P. Hersman highlighted the role that training plays in preventing accidents involving these airplanes.

"As we discussed today, training is clearly one of the key components to reducing the accident rate of light planes equipped with glass cockpits, and this study clearly demonstrates the life and death importance of appropriate training on these complex systems," said Hersman. "We know that while many pilots have thousands of hours of experience with conventional flight instruments, that alone is just not enough to prepare them to safely operate airplanes equipped with these glass cockpit features."

Today, nearly all newly manufactured piston-powered light airplanes are equipped with digital primary flight displays. And the number of older airplanes being retrofitted with these systems continues to grow.

"While the technological innovations and flight management tools that glass cockpit equipped airplanes bring to the general aviation community should reduce the number of fatal accidents, we have not – unfortunately – seen that happen," said Hersman. "The data tell us that equipment-specific training will save lives. To that end, we have adopted recommendations today responsive to that data – recommendations on pilot knowledge testing standards, training, simulators, documentation and service difficulty reporting so that the potential safety improvements that these systems provide can be realized by the general aviation pilot community."

Based on the study findings, the NTSB made six safety recommendations to the FAA:

1. enhance pilot knowledge and training requirements;
2. require manufacturers to provide pilots with information to better manage system failures;
3. incorporate training elements regarding electronic primary flight displays into training materials and aeronautical knowledge requirements;
4. incorporate training elements regarding electronic primary flight displays into initial and recurrent flight proficiency requirements for pilots of small light general aviation airplanes equipped with those systems, that address variations in equipment design and operations of such displays;
5. support equipment-specific pilot training programs by developing guidance for the use of glass cockpit simulators other than those that are approved by the FAA as flight training devices; and
6. inform the general aviation community about the importance of reporting malfunctions or defects with electronic flight, navigation and control systems through the Service Difficulty Reporting system.

The complete safety study will be available at www.nts.gov in several weeks.

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