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April Horner  
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### **Airbag Equipped General Aviation Aircraft Incidents and Accidents**

Objective: General Aviation (GA) aircraft equipped with airbag restraint systems have been in service since late 2005, with approximately 6,000 aircraft in the field at the end of 2009. AmSafe monitors the incidents and accidents reported in the United States. The NTSB completed data collection on a safety study of airbag equipped aircraft in the summer of 2009. AmSafe cooperated with survival factors investigations of candidate accidents. The candidate accidents targeted severe but survivable accidents. A significant number of survival factors investigations has not been conducted on GA accidents since the NTSB GA study in the mid 1980's. The uncommon level of survivability information that will be available for the severe accidents of this population will be useful for researchers, and creates the need to know more about the full range of events.

Methods: The population of all incidents and accidents involving airbag equipped GA aircraft for a 3 year period from August of 2006 to August of 2009 is created from a combination of publicly accessible and manufacturer data. Distributions of aircraft type, accident severity, and injury severity are created. Results: A population of 121 notifications of incidents (n=44) and accidents (n=77) involving airbag equipped aircraft are presented. The rate of airbag equipped aircraft entering the field and the rate of notifications is provided and compared. Events involving single engine Cessna and Cirrus aircraft are the majority of the fielded aircraft and event notifications. The 77 accidents consisted of 46 with no injuries, 5 with minor injuries, 6 with serious injuries, and 20 with at least one fatality. Frequency distributions of other factors are also provided.

Conclusions: The frequency distributions and other results provide a modern dataset for survivability studies of GA aircraft.

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