



**U.S. Department
of Transportation
Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

Subject: Right-Hand Control Wheel Removal for Skydiving Operations.

Purpose: This SAFO serves to warn operators conducting skydiving operations of the dangers of improperly removing the right hand control wheel and leaving the associated control tube in place.

Background: In 2008, an accident involving a Cessna P206 during skydiving operations resulted in two fatalities and two serious injuries. The operator had removed the right-side control wheel, and left in place the right-side control column protruding from the instrument panel. It is important to note that the protrusion of the control column impaled the skydiver sitting on the floor in the copilot's position, causing fatal injuries. The left-side control yoke remained installed, and the pilot, seated next to this skydiver, survived the accident.

In 2009, a Federal Aviation Administration (FAA) aviation safety inspector (ASI) surveilling a Cessna P206A skydiving operation, noted the right-side control wheel had been removed, and the control column protruding from the panel was capped with what appeared to be a tennis ball. Even though the ball is intended to protect the skydiver, not removing the right-side control column along with the control wheel can be fatal in certain types of accidents. Moreover, if the right-side control column is not removed and a passenger (skydiver) occupies the position next to the pilot, that person's presence blocks full movement of the control column, which could hinder the pilot's ability to control the aircraft.

Discussion: FAA aviation safety inspectors discovered on three separate occasions that aircraft configured for skydiving operations had been improperly altered. Specifically, the improper alterations involved removing the right-side control wheel without removing the associated control tube, leaving it protruding from the panel. These alterations leave a protuberance capable of extending into the cabin at varying lengths depending on the position of the elevators. The travel of the elevators could also be limited by a skydiver sitting in that position. This control tube extension is directly in line with a skydiver's head/body, as the skydiver would be seated on the floor where the co-pilot's seat is normally located.

The airworthiness standards under which the Cessna P206A was type-certificated required that: "The cabin area surrounding each seat, including the structure, interior walls, instrument panel, control wheel,

pedals, and seats within striking distance of the occupant's head or torso (with restraint system fastened) must be free of potentially injurious objects, sharp edges, protuberances, and hard surfaces." (14 CFR § 23.785(i)). This standard might not be met with the control wheel removed and the control tube left in place. The aircraft in this condition may not be in conformance with its type certificate, and therefore it could be considered unairworthy. The removal of only the control wheel, as described above, may be considered an improper alteration of the aircraft.

Evidence from accidents of Cessna single-engine, dual-control aircraft used in skydiving operations shows that if the right-hand control wheel is removed, associated removal of the control tube is essential to safe operations. Covering the end of the tube, such as with a tennis ball, is not sufficient to allow for safe operations through the tube's range of motions necessary for flight, or in an accident, to protect skydivers from the control tube being located at head or torso level. The FAA does not recommend that operators configure their aircraft in this manner.

Recommended Action: All Cessna single engine operators engaging in skydiving operations should check their aircraft to ensure, when the control wheel is removed the remaining control tube be removed as well to prevent a hazard and loss of controllability of the aircraft. This work should be done by an appropriately certificated and qualified personnel preferably with maintenance experience on Cessna single engine aircraft.

Contact: Questions or comments regarding this SAFO should be directed to the Aircraft Maintenance Division's General Aviation Branch at (202) 267-1675.