



## EASA Safety Information Bulletin

**SIB No.:** 2009-07  
**Issued:** 27 March 2009

**Subject:** **Resetting Tripped Circuit Breakers.**

**Ref. Publications:** EASA Certification Specifications (CS) 23.1357, CS 25.1357, CS 27.1357 and CS 29.1357.  
 FAA Flight Standards Information Bulletin for Airworthiness (FSAW) No.00-08A.  
 Transportation Safety Board of Canada Safety Recommendation A03-05.  
 FAA Advisory Circular (AC) No.120-80 'In-flight Fires'.  
 FAA AC No.25-16 'Electrical Fault and Fire Prevention and Protection'.  
 UK CAA Civil Aviation Publication (CAP) 768.

**Description:** **Background**

This Safety Information Bulletin (SIB) follows some recent in-flight incidents and accidents due to fire and smoke in the cabin. Those events occurred after the pilot's attempt to reset a tripped circuit breaker (CB).

- In October 2006, a Reims Cessna F172 made an emergency landing after the reset of a tripped circuit breaker caused a fire behind the left side instrument panel.
- In June 2007, a pilot of a Pioneer 300 reset six times the landing gear CB. The landing gear seized in the partially extended position and during the subsequent landing, the nose gear collapsed allowing the propeller to make contact with the runway.
- In July 2007, a Cessna 310R crashed in a residential area after an in-flight fire forced it to enter into an emergency descent.

Several similar incidents have been encountered on other aircraft types.

Resetting of circuit breakers could result in an aircraft fire. The one-time reset of tripped CBs has historically been common practice. However, this practice does not consider the cumulative nature of wiring damage and the fact that the removal of power only temporarily stops the progression of the damage. A number of major aircraft manufacturers advise that CBs should only be reset once and only when the system is essential for the safe operation of the aircraft.

### Purpose

The basic purpose of circuit breakers is to protect wiring and connectors against short-circuits - thus minimising the risk of electrical fires - and isolate equipment during maintenance.

Conventional “thermal” CBs are not designed to be routinely used to switch on and off systems. Using them for this purpose causes premature wear and increases the risk of failure.

According to CS 2x.1357, if the ability to reset a circuit breaker is essential to safety in flight, that circuit breaker must be located and identified so that it can be readily reset in flight.

CBs are usually grouped in panels placed around the cockpit and most of them can be manually tripped (or pulled out). On most recent aircraft, trend for CBs is to be put out of the cockpit and not accessible in flight. Conventional CBs are also gradually replaced by “electronic” CBs which combine the functions of a circuit breaker and a switch, which could also be reset in flight although not located in the cockpit.

### **Recommendation**

Crewmembers may create a potentially hazardous situation when they reset a CB without knowing what caused it to trip. A reset should only be done after consulting the relevant documentary resources e.g. the quick reference handbook (QRH), the minimum equipment list (MEL), the aircraft flight manual (AFM), the company operations manual, and/or maintenance manuals.

**A tripped circuit breaker should not be reset in flight unless deemed necessary for continued safe flight and landing. Only one reset should be attempted.**

On ground, the flight crew may reset a tripped CB, if the flight crew coordinates the action with maintenance technicians and provided that the cause of the tripped CB has been identified.

Whenever any circuit breaker trips while the aircraft is in operation, a thorough investigation including a visual inspection of the appropriate electrical wiring and cable harnesses should subsequently be undertaken.

Operating manuals and training programmes should contain policies and explicit procedures regarding the resetting of tripped CBs, both in-flight and on-ground. The procedures shown in the manuals used by the operator’s crewmembers, maintenance personnel and aircraft ground servicing personnel should be consistent with the aircraft manufacturer’s guidance.

**Applicability:** All aircraft.

**Contact:** For further information contact the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA.  
E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).