



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

SAFO

Safety Alert for Operators

SAFO 18011
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Flight Standards Service
Washington, DC

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

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Fluorescent Luminaire Cabin Light Fixtures

Purpose: This SAFO cancels SAFO 07008 and advises directors of safety, flight crewmembers, training managers, directors of maintenance, aircraft mechanics, and responsible persons at certificated repair stations of correctly installed fluorescent luminaires, maintaining fixtures in an airworthy condition, and identifies failures caused by mishandling, leading to damage and consequent overheating or fire.

Background: Operators have reported several incidents of smoke in passenger cabins caused by overheated fluorescent luminaires and ballast coils. Frequently, the cause of overheating is aircraft mechanics (1) not fully inserting a luminaire into contacts, or (2) intentionally removing spring loading clips, placing tension on the luminaire. Partially inserted or unseated luminaires either vibrate without the clip, or arc within the fixture's contacts, overheating contacts and ballast coils, and increasing the possibility of smoke or fire.

Discussion: Operators should be particularly careful when inserting a fluorescent luminaire, to ensure the loading clip sufficiently tensions the luminaire. Aircraft mechanics should inspect luminaire (1) pins, (2) contacts, (3) connector blocks, (4) ballasts, and (5) wiring insulation for signs of damage, overheating, or melting. If discovered, operators should replace the parts. Visual inspection should verify the luminaire is correctly seated into its contacts. Reports of overheating due to arcing between luminaire pins and contacts have prompted the Federal Aviation Administration to publish airworthiness directives for several aircraft makes and models. As added protection, some manufactured ballast coils have installed arc fault protection, and some aircraft manufacturers have placed in aircraft maintenance manuals instructions for replacement of luminaires.

Recommended Action: Operators should be aware of potential hazards and mitigations discussed in this SAFO. Additionally, Title 14 of the Code of Federal Regulations (14 CFR) Parts 121.703 and 135.415 require that operators report these events under the Service Difficulty Reporting system and that manufacturers make such reports per 14 CFR part 21.3.

Contact: Questions or comments regarding this SAFO should be directed to the Safety Standards, Aircraft Maintenance Division, at (202) 267-1675.