

## Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

Amendment 39-5956; AD **68-01-01** R1

Airworthiness Directive; British Aerospace Model BAC 1-11 200 and 400 Series

PDF Copy (If Available):

#### ▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT

EFFECTIVE DATE: July 18, 1988.

#### ▼ Regulatory Information

**68-01-01 R1 BRITISH AEROSPACE:** Amendment 39-998 as amended by Amendment 39-5956. Applies to Model BAC 1-11 200 and 400 series airplanes.

Compliance required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent heat damage or fire in the airframe plenum of the auxiliary power unit (APU) installation, accomplish the following:

A. For use of the APU on the ground, accomplish the following:

1. Visually check the fiberglass surround of the APU intake of the fuselage

immediately behind the intake grill for evidence of heat discoloration. If evidence of heat is present, remove the non-return valve located in the APU air delivery duct, Part No. 525180, and replace with a serviceable Part No. 525180 or modified Part No. 1398B000, 1398B000/1398B999, or 3031B000.

2. Install a placard adjacent to the APU control panel in clear view of the pilot and amend the airplane flight manual limitations Section 2, to read as follows: "Close APU air delivery valve when starting an engine from an external supply or by cross-feeding air from an operating engine. Close APU air delivery valve and shut down APU for takeoff and flight operations." When all actions required by paragraph B., below, are accomplished, the placard may be removed or the foregoing amendment to the airplane flight manual should be deleted, as appropriate.

3. Remove all APU plenum chamber sound proofing.

B. For operational use of the APU in flight, accomplish the following:

1. Remove non-return valve, Part No. 525180, located in the APU air delivery duct and replace with non-return valve, Part No. 1398B000, 1398B000/1398B999, or 3031B000, in accordance with British Aerospace BAC 1-11 Service Bulletins 36-PM3254 or 36-PM4912.

2. Perform the following modifications in accordance with British Aerospace BAC 1-11 Service Bulletin 53-PM3148:

a. Install additional fire-proof, stainless steel skin over existing light alloy outer skin on top of the fuselage, between Stations 936 and 958 to isolate the APU plenum chamber from the fin structure.

b. Replace the light alloy wall separating the APU plenum chamber from the hydraulic compensator unit compartment by installing a stainless steel wall enlarging the hydraulic compensator box and replacing light alloy structural parts with stainless steel.

c. Install revised spring loaded door in the bulkhead at Station 936 and modify the hydraulic compensator drain box and drain outlet.

3. Install sealing plates around the control guard, located above the rudder power control units, and over the hole in the fin rear spar, to provide restriction to the airflow into the fin, in accordance with British Aerospace BAC 1-11 Service Bulletin 55-PM3177.

4. Install an additional bi-metallic temperature sensor in parallel with the existing mercury sensor in circuitry for controlling the electrically actuated primary temperature valve located in the low pressure bleed flow duct to the heat exchanger, in accordance with British Aerospace BAC 1-11 Service Bulletin 21-PM 2780A, or install Graviner bi-metallic sensor in accordance with BAC 1-11 Modification 21-PM-2545 Part A.

5. Perform a magnetic check to identify "felt metal" jet pipe installed on the APU manufactured from type "430" stainless steel post PM 209 in accordance with British Aerospace BAC 1-11 Service Bulletin 49-A-PM3313. Thoroughly inspect

the jet pipes thus identified for cracks adjacent to the weld. Replace cracked pipes with serviceable pipes manufactured from 430 or 347 material. Jet pipes identified as manufactured from "430" stainless steel and found by inspection to be in a serviceable condition, may continue in operation provided that the inspection is performed thereafter at intervals not to exceed 160 hours time in service. Type "430" jet pipes must be removed from service upon accumulating 3,000 hours time in service.

6. Add a new paragraph at the end of Section 2, Page 15, of the BAC 1-11 airplane flight manual entitled "APU Supply and Air Conditioning," to read as follows:

"The following limitations on the use of the APU air supply and integrated air system shall be observed to limit the time of exposure of the common duct to the simultaneous delivery of air from the engines and the APU.

a. Whenever an engine is being started by air from an external supply or by cross-feeding air from the other engine, the APU air delivery valve shall be closed.

b. When one or both engines are running and the APU is supplying air for both air conditioning systems, the master valve switch for each system must be set to APU.

If the APU is only supplying air for one system, the master valve switch for that system must be set to APU and, for the system not in use, the master valve switch must be set to CLOSE and isolation valve switch must be set to CLOSE.

c. After take-off and when changing the source of supply from the APU to the engines, the APU air delivery valve switch must be set to CLOSE immediately on completion of the change-over drill. Refer to Section 4."

C. An alternate means of compliance or adjustment of the compliance time, which provides an acceptable level of safety, may be used when approved by the Manager, Standardization Branch, ANM-113, FAA, Northwest Mountain Region.

**NOTE:** The request should be forwarded through an FAA Principal Maintenance Inspector (PMI), who may add any comments and then send it to the Manager, Standardization Branch, ANM-113.

D. Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate airplanes to a base for the accomplishment of the modifications required by this AD.

All persons affected by this directive who have not already received the appropriate service documents from the manufacturer may obtain copies upon request to British Aerospace, Inc., Librarian for Service Bulletins, P.O. Box 17414, Dulles International Airport, Washington, D.C. 20041. These documents may be examined at the FAA, Northwest Mountain Region, 17900 Pacific Highway South, Seattle, Washington, or Seattle Aircraft Certification Office, 9010 East Marginal Way South, Seattle, Washington.

This Amendment, 39-5956, revises AD **68-01-01**, Amendment 39-998.

This Amendment, 39-5956, becomes effective July 18, 1988.

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