British Aerospace BAe 146 Series Aeroplanes

AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

AD/BAe 146/86 — Environmental Control System Inspection for Contamination — 5/2001 TX

Applicability: All British Aerospace BAe 146-100, -200 and -300 series aircraft.

Requirement:

1. At any time cabin air contamination is suspected to be associated with engine oil, carry out the inspections specified in British Aerospace Inspection Service Bulletin ISB.21-150, Paragraph 2A and 2B and the associated flow chart.

   If defective components are found during these inspections, either rectify such defects before further flight or isolate the defective component/s and operate the aircraft in accordance with the limitations specified in the approved MEL.

2. Carry out the inspections specified in British Aerospace Inspection Service Bulletin ISB.21-150, Paragraph 2A and the associated flow chart.

   The provision of Requirement 1 to invoke the MEL may be applied to this Requirement if required.

3. Report defects to British Aerospace in accordance with British Aerospace Inspection Service Bulletin ISB.21-150, Paragraph 2J.1 using the forms provided in the Service Bulletin. Additionally, whenever oil contamination of the cabin air system is confirmed, forward a copy of the associated report to CASA addressed to the Section Head, Systems, Fax No. 02 6217 1914.

Note 1: The CAA (UK) AD 002-03-2001 refers.

4. Ensure operating procedures include provisions for required action in the event of suspected cabin air contamination and for reporting such defects for maintenance action and that all flight crew are aware of those provisions.

Note 2: BAe 146/RJ Service Information Leaflet No21-45 and BAe 146/RJ Operational Notice OP 16 contain information with respect to required aircrew action in the event of a suspected cabin air contamination event. Such action includes specific provisions for oxygen usage by the flight crew.

Compliance:

1. Either before further flight **or** within 10 flying hours **provided** the source of the contamination is identified and isolated from the cabin environment before further flight, using either flight operations procedures or maintenance procedures.

2. Initially at the next A Check after the effective date of this Airworthiness Directive, and thereafter repeat the inspection at intervals not to exceed 500 flights.

3. As of the effective date of this Airworthiness Directive.

4. Unless previously accomplished, no later than 3 May 2001.

This Airworthiness Directive becomes effective on 3 April 2001.

Background: Cabin air quality has been the subject of intense investigation for a number of years. As a result, local BAe 146 operators have incorporated various modifications to the cabin air system, APU and engines. They have also introduced improved maintenance practices to further address this issue. These actions have resulted in a significant reduction in the number of cabin contamination incidents reported to CASA and the ATSB. In addition, the operators have changed the oil used in their respective fleets to Mobil 291; a fourth generation turbine oil.

The CAA (UK) has advised a recent crew incapacitation incident in the UK may have been associated with contamination of the cabin air system with engine oil. While overseas operators have experienced cabin air contamination events, these events have not generally been treated with the same degree of concern, as is the case with Australian operators. Consequently, overseas operators have not been as active in introducing the cabin air quality improvements into their aircraft.

This AD reflects action by the CAA (UK) and effectively mandates action already enacted by local operators to address cabin air contamination events. It also serves to satisfy the recommendation by the Senate Rural and Regional Affairs and Transport References Committee for improved reporting of cabin air contamination events in Australia.

Eugene Paul Holzapfel
Delegate of the Civil Aviation Safety Authority

30 March 2001

The above AD is notified in the *Commonwealth of Australia Gazette* on 3 April 2001.