

GR No. 11 Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems

(Previously Issued as Airworthiness Notice No. 41, Issue 9, 29 October 2001.)

I Introduction

1.1 The previous issues of Airworthiness Notice No. 41 referred to investigations of a fatal accident to a large transport aircraft which had revealed that the flight crew may have been suffering from carbon monoxide poisoning brought about by the gas escaping from combustion heaters or their associated exhaust systems.

NOTE: Carbon monoxide (CO), a poisonous gas, is a product of incomplete combustion and is found in varying degrees in all smoke and fumes from burning carbonaceous substances. It is colourless, odourless and tasteless.

1.2 Fitment of oversize nozzles to combustion heaters will increase the concentration of carbon monoxide in the exhaust gases and may cause operating difficulties with the heater. Therefore it is imperative that only nozzles of the type quoted by the manufacturer are fitted and that servicing, overhaul and inspection standards of combustion heaters and their associated exhaust systems are maintained at a high level.

1.3 This Generic Requirement accommodates revisions related to ICAO definitions.

2 Servicing and Overhaul

The requirements of this paragraph 2 are applicable to all aircraft whether maintained to an approved Maintenance Schedule or not.

2.1 Except where otherwise agreed by the CAA, servicing, overhaul and inspection of combustion heaters and their associated exhaust systems shall be in accordance with the instructions contained in the appropriate manuals produced by the aircraft manufacturer and the equipment manufacturer. If the instructions in the aircraft manufacturer's manual differ from those in the equipment manufacturer's manual, those of the aircraft manufacturer shall be assumed to be overriding.

2.2 In addition to compliance with the provisions of the approved Maintenance Schedule and appropriate instructions, compliance shall (unless already accomplished in the course of aircraft maintenance) also be shown with a) and b), at intervals not exceeding 500 heater operating hours or two years, whichever is the sooner (but see paragraph 2.3).

a) Combustion heaters and their exhaust systems shall be completely dismantled and inspected, and restored to the extent necessary to ensure continued safe operation. Combustion chambers shall, in addition, be pressure tested.

b) The hot air outlet ducting adjacent to the heater shall be inspected for exhaust contamination and the appropriate action shall be taken where there is any evidence of contamination.

2.3 Unless equipment which records heater operating hours is installed, it must be assumed that heater hours are equal to aircraft flying hours; or some percentage of flying hours that has been agreed with the CAA. Applications for the agreement of a flying hour percentage should be made to the CAA, Safety and Airspace Regulation Group, Gatwick.

3 Maintenance Schedule Amendment

- 3.1 Appropriate amendments must be submitted by all holders of CAA Approved Maintenance Schedules affected by these revised requirements.
- 3.2 Proprietary carbon monoxide detectors are available. Whilst the use of such detectors may be an aid to the detection of carbon monoxide contamination in aircraft, their use is not considered to be a satisfactory substitute for the procedure detailed in this Generic Requirement.