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## No. CF-90-03R2

### AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to Canadian Aviation Regulation (CAR) 593. Pursuant to CAR 605.84 and the further details of CAR Standard 625, Appendix H, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with CAR 605.84 and the above- referenced Standard.

This AD has been issued by the Continuing Airworthiness Division (AARDG), Aircraft Certification Branch, Transport Canada, Ottawa, telephone (613) 952-4357.

### CF-90-03R2 EXHAUST TYPE CABIN AND COCKPIT HEATERS

Applies to exhaust type heat exchangers (muff heaters) used as a source of cabin and cockpit heat.

Compliance is required:

A. Before next flight, unless previously accomplished in accordance with Airworthiness Directive CF-90-03R1; and

B. Subsequently, at intervals not to exceed one year or 150 flight hours, whichever occurs first.

NOTE: A non-cumulative 10-flight-hour tolerance is authorized for the repetitive 150-flight-hour inspection requirement.

Incidents involving exhaust gases entering the heating system continue to occur and in some instances result in fatal accidents due to carbon monoxide poisoning of the aircraft occupants.

To detect the deterioration of exhaust type heat exchangers, accomplish Part I or Part II as applicable:

**Part I:** For heat exchangers wherein the fresh air supply encloses the engine exhaust pipe.

1. Remove the heater jacket (when removable) and inspect the outer surface of the inner core (exhaust pipe) for signs of combustion products.
2. Thoroughly clean the exhaust pipe of all dirt and corrosion.
3. Carefully inspect the exhaust pipe, using a hand-held magnifying glass and light/mirror, for signs of cracks and pinholes. Pay particular attention to welds, seams, and their adjacent areas.
4. Any suspect areas are to be further evaluated by a pressure test or other means recommended by the aircraft manufacturer.
5. Repair or replace, before further flight, exhaust type heat exchangers containing cracks or holes in the exhaust pipe.

**Part II:** For heat exchangers wherein the fresh air intensifier tube is enclosed by the engine exhaust pipe.

1. Remove the intensifier tube (if removable) from the exhaust pipe.
2. Ensure that there are no obstructions in the intensifier tube which may restrict the flow of air through the exchanger, and clean thoroughly the exterior of the tube.
3. Perform a close visual inspection of the intensifier tube for signs of cracks and pinholes.
4. Any suspect areas are to be further evaluated by a pressure test.
5. Repair or replace, before further flight, intensifier tubes containing cracks or holes.

Alternative means of compliance with the requirements of this directive may be used only if approved by

the Director, Airworthiness Branch, Transport Canada, Ottawa. Any application should be made to the appropriate regional office.

This directive supersedes Airworthiness Directive CF-90-03R1 issued 8 March 1991, but does not supersede applicable airworthiness directives issued by other airworthiness authorities addressing the inspection of exhaust type cabin and cockpit heaters. However, compliance with this directive may be used to satisfy equivalent requirements of other airworthiness directives.

This directive becomes effective 31 August 1992.

Pursuant to CAR 202.51 the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address. To request a change of address, contact the Civil Aviation Communications Centre (AARC) at Place de Ville, Ottawa, Ontario K1A 0N8, or 1-800-305-2059, or <http://www.tc.gc.ca/civilaviation/communications/centre/address.asp>.

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