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REPUBLIC OF NAMIBIA

NAMIBIA CIVIL AVIATION AUTHORITY

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AIC
Series A
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AIRWORTHINESS
CAUTION
CARBON MONOXIDE CONTAMINATION IN AIRCRAFT

1. Attention is drawn to the danger which can exist from carbon monoxide (CO) contamination of the air in aircraft passenger and crew compartments. Carbon monoxide is the product of incomplete combustion of carbonaceous material. It is found in varying amounts in the smoke of and fumes from burning aircraft engine fuels and lubricants. The gas itself is colourless, odourless and tasteless but usually mixes with gases and fumes which can be detected by sight or smell.

2. Hot air from engine exhaust heat exchangers and combustion heaters can become contaminated with carbon monoxide from the exhaust gases when cracks or holes occur in such units. Improperly sealed holes in fire proof bulkheads, or holes in fuselages for control runs, camera apertures, etc., can also be sources of entry of engine exhaust gases.

3. It is therefore important that exhaust heat exchangers and combustion heaters be maintained in a serviceable condition at all times and that all apertures through which carbon monoxide can enter cabins and crew compartments, be adequately sealed or so designed to prevent the entry of unacceptable concentrations of this gas under all conditions of flight.

4. Should occupants of an aircraft feel a headache, drowsiness of sluggishness coming on or smell exhaust fumes, it should immediately be assumed that carbon monoxide is present and the following precautions should be taken:-
   4.1. Shut off all hot air supplies and any other openings which may connect the engine or combustion heater compartments with the cabin or crew compartments;
   4.2. Open any fresh air sources provided;
   4.3. Land at the first opportunity and inspect engine exhaust heat exchangers or combustion heaters and the engine exhaust manifold systems for serviceability.

5. The maximum acceptable concentration of carbon monoxide is 1 part in 20,000 parts of air (0,005 percent) and equipment to determine CO concentration is currently available. This Authority is also in a position to assist owners and maintenance organizations in assessing CO concentrations. A check for the presence of this gas is a requirement when any modifications which could lead to the entry of engine exhaust gases into passenger or crew compartments are performed.