

Federal Aviation Agency



ADVISORY CIRCULAR

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PROCEDURAL

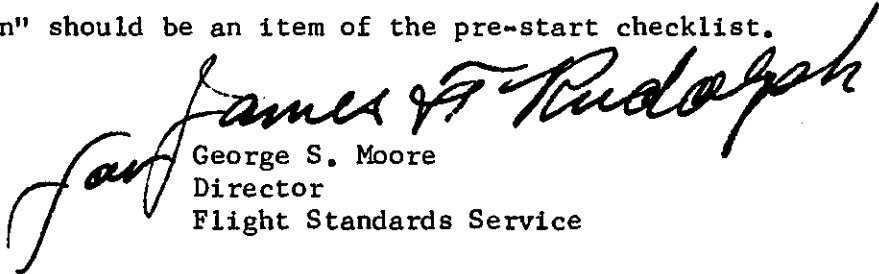
EFFECTIVE :

8/21/64

SUBJECT : OPERATION OF OXYGEN SYSTEM HIGH PRESSURE VALVES

1. PURPOSE. This Advisory Circular presents information concerning the importance of proper "opening" of oxygen system high pressure valves.
 2. BACKGROUND.
 - a. During routine maintenance service and replacement of an oxygen bottle on an air carrier aircraft, a fire occurred in the cockpit near the oxygen reducing regulator. A line fitting failed due to too rapid opening of the high pressure valve. The carrier then installed cautionary placards at the oxygen cylinder valve adjacent to the high and low pressure gauges concerning the possible hazards of rapidly opening the high pressure valve.
 - b. A check of several air carriers indicates most of them have adopted a policy of opening the high pressure valve when a cylinder is replaced or recharged and leaving the valve in the "open" position until maintenance or recharge is necessary. Other carriers and general aviation operators have indicated that their policy is to close the high pressure valve after each flight, but require it to be opened as a preflight function of the flight crew. If such opening is inadvertently overlooked and an immediate need for opening arises while at cruising altitude, the probable rapid opening of this high pressure valve could create a hazard to safety such as the rupturing of a line, fitting or regulator, allowing pure oxygen to escape and combine with combustible material which could cause a fire or explosion.
 - c. A review of all recent malfunction reports does not reveal a large number of failures concerning aircraft oxygen systems; however, it must be recognized that any such failure could occur and would be most serious if it occurred at cruising altitude.
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3. RECOMMENDED ACTION. The information set forth above should be brought to the attention of all air carrier and general aviation operators of oxygen equipped aircraft. Additionally, it should be suggested that the following action be taken:
- a. Caution personnel that the high pressure valve of an aircraft oxygen system should be barely "cracked open" and after waiting about five or more seconds, slowly open to the "full open" position.
 - b. Encourage all operators of oxygen equipped aircraft to open the high pressure valve of the aircraft oxygen system and leave open at all times, except when routine maintenance or replacement is necessary.
 - c. The oxygen system "on" should be an item of the pre-start checklist.


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