

Oxygen Masks for Flight Crews

NOTE

This paper supersedes 14POS02, of the same name.

BACKGROUND

Preventing an incapacitation due to a lack of oxygen or toxic smoke is an important aspect of flight safety. The optimum mask design for both threats is a full-face, quick-donning mask, which should be constructed to enable the wearer to purge any smoke which has accumulated on the inside. It should fit the wearer correctly and be able to accommodate eyeglasses.

MASK REQUIREMENTS

Weight and Size

The mask should be of minimum weight and size commensurate with a firm attachment that will not allow the mask to leave the face in the event of a sudden loss of pressure. In the absence of masks and stowage facilities suitable for the above requirements, specified crew members should wear the available masks at flight altitudes above 20,000 feet.

When operating at flight altitudes above 41,000 feet, the crewmembers referred to in this paragraph should consider wearing an oxygen mask at all times, regardless of whether the mask is a full-face, quick-donning type or not.

Equipment

The mask should be provided with full radio/inter-communication facilities, automatically connected to the normal systems and available for immediate use.

Oxygen supply

The mask should be connected to the oxygen supply by a lightweight system allowing the wearer to carry out all his duties with the minimum of discomfort, and without significant interference.

Flight crews and passengers should be supplied from separate sources. If this is not possible, the supply system should readily permit the separation of supplies to the crew and the passengers. The oxygen supply system should contain a positive indication (e.g. a flow meter) of the oxygen flow to the individual mask.

When the storage system consists of liquid oxygen, the delivery system should ensure that the temperature of the oxygen at each mask is physiologically acceptable. Oxygen supply lines to each mask should be of a length such that all controls, switches, and emergency equipment on the flight deck can be accessed and operated by each flight crew member without removing their mask, disconnecting the supply line, or having the mask unseal from the flight crew member's face. The supply to each mask should be controllable.