



AEROSPACE INFORMATION REPORT

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History of the SAE A-10 Aircraft Oxygen Equipment Committee

RATIONALE

This SAE Aerospace Information Report is intended to provide comprehensive reference and background information pertaining to the origination and history of the SAE Committee A-10.

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1. SCOPE:

The following is the history of SAE Committee A-10.

2. HISTORY:

The SAE Committee A-10, Aircraft Oxygen Equipment, started its existence in the early to mid-1950s as a subcommittee of the A-9 Aerospace Environmental Control Systems Group. It was during this period that Boeing, Douglas, and later Convair announced the development of their new jet-transport aircraft which were for the first time to regularly fly to the "horrendous" altitude of 40,000 ft. de Havilland's "Comet" Transport was already flying at these altitudes, but with disastrous explosive-decompression consequences.

Because of concerns that cabin pressure decompression in these new transport aircraft could be a recurring hazard, a mid-1950s meeting of Industry and Government Regulatory Agencies resulted in the decision that emergency standby oxygen equipment for passengers would be provided. The Federal Aviation Administration (FAA) then recognized the lack of commercial oxygen systems rules for crew and passenger hypoxia protection covering these altitudes. Therefore, they were going to have to promulgate new Civil Aviation Regulations for these new aircraft. They asked for help from the Society of Automotive Engineers. An SAE A-9 Subcommittee, then known as "Aircraft Air Conditioning," responded to FAA's request. This group formed a central forum of industry experts. In an all-night session at Denver's Brown Palace Hotel, an ad-hoc subcommittee of A-9 produced a "minimum physiological requirements" proposal, which was subsequently adopted by FAA. Concurrent with this effort, A-9 labored over what was to later become AIR505, "Oxygen Equipment, Provisioning and Use in High Altitude (to 40,000 ft) Commercial Transport Aircraft", a system performance specification.

Recognizing the need for a separate Oxygen Committee in early 1957, the SAE split-off the group from A-9 and designated it A-10. Later in 1957, they met as the newly-formed A-10 Committee to revise and finalize AIR505. It was completed and presented to FAA, who wrote their jet-transport CAR (Civil Air Regulation) around it. Inexplicably, AIR505 did not finally "issue" until 1961. The reason for this delay is lost. Issued or not, it was acknowledged to be "the only authoritative guide" of the time.