

ISRP 2000 abstract

Presenter/author	Title	Abstract
<p>Capon, Andrew (Dr)</p> <p>Avon Technical Products, UK</p>	<p>Modification of Avon Military Respirators for Use with Breathing Apparatus in Hostage Retrieval Situations</p>	<p>In some anti-terrorist operations, such as hostage retrieval, it may be necessary for the security forces to use devices that lead to fire or dense smoke in a confined space. In such situations the atmosphere can become oxygen deficient very rapidly and the NBC, or smaller anti-riot filters normally used with the respirator will not sustain life. A supplied air source is required to enable the snatch squad to complete its mission and evacuate the confined space with the recovered hostages.</p> <p>Avon Technical Products has developed a simple modification for the S10 and FM12 families of military respirator that enables the masks to be used with either a conventional filter or a positive pressure demand valve, instantly switching from one to the other.</p> <p>The Avon respirators are designed with side entry ports for the filter and secondary speech transmitter. The ports are interchangeable, left to right, either by hand (FMI2) or with the aid of special tools (S10). When used with breathing apparatus the demand valve replaces the secondary speech transmitter.</p> <p>Positive pressure demand valves require a positively biased exhalation valve. In the Avon respirators the unique folded acoustic horn-shaped primary speech module (PSM) houses the normal exhalation valve within a cone. The outer edge of the cone forms an ideal seat for a second spring-loaded exhalation valve, giving a positively biased exhalation pressure. The front cover of the PSM, suitably modified, provides a simple means of holding the positive pressure exhalation valve in place.</p> <p>This paper describes the components that make the Avon respirators into interchangeable air filtration/air supplied masks. It discusses possible novel air containers for use with the system and indicates that the concept has wider applications, such as in NBC fire-fighting or in combined protective equipment for chemical demilitarisation or chemical weapons inspection.</p>