



3M Scott Fire & Safety Cost of Ownership for NFPA SCBA

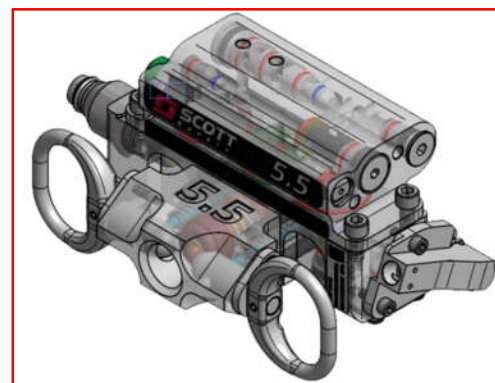
When considering purchases of respiratory equipment, one of the most important factors to evaluate is the lifetime Cost of Ownership of the product. A Self-Contained Breathing Apparatus (SCBA) is expected to stay in service for 10 or more years, so the long-term product support costs should be important factors in any evaluation or purchase decision. Those costs should include annual maintenance, such as functional testing on a breathing machine (commonly referred to as flow testing) and fit testing, or periodic maintenance such as required (forced) parts replacement and hydrostatic testing of cylinders. Lastly, the warranty of each manufacturer should also be reviewed closely. These costs factor into the total cost of ownership of the respirator.

3M Scott Fire & Safety believes it has the lowest cost of ownership of an SCBA for three main reasons:

1. Proven durability of the product
2. No forced parts replacement required
3. Robust warranty

Durability and reliability have been key contributors for the low cost of ownership associated with 3M™ Scott™ Air-Pak™ SCBA. Our engineering team push to exceed regulatory standards in our efforts to manufacture products that meet the rigors and demands of our customers. Some examples include the electronic assemblies which are completely encapsulated (potted) to prevent water ingress and insulate the circuitry from the extreme temperatures found in firefighting, as well as the use of a lightweight, aluminum alloy backframe because of its ability to withstand the punishment of the fireground. Each of these examples helps to ensure the highest degree of quality for one of the most important pieces of personal protective equipment worn by a first responder. Furthermore, the Air-Pak SCBA meets the strict requirements to be labeled as being “Made in the USA.”

3M Scott believes air delivery is the most important function of a SCBA, and one of the most difficult to achieve reliably. The dual-redundant pressure reducer used on the Air-Pak SCBA helps to monitor air flow by completing a diagnostic check of the pneumatic system every time the unit is pressurized. As the SCBA is pressurized, air flows through primary and secondary valves within the pressure reducer body as part of the initialization process. The low-pressure alarm found in the regulator, the Vibralert, will activate during initialization letting the user know the pressure reducer and alarm are functioning properly. If the Vibralert continues to alarm, this is an indication of a problem within the primary valve, whereby the air has been diverted to the secondary valve. The user is alerted to the problem because the Vibralert continues to alarm when the cylinder pressure is greater than the low-pressure alarm set point. Therefore, it is not necessary to do periodic overhauls of the pneumatic system of an Air-Pak SCBA. Other SCBA manufacturers recommend that the SCBA undergo periodic maintenance at specific time intervals. This recommendation is reinforced in OSHA 29 CFR 1910.134 – *Respiratory Protection Standard* – which states “repairs shall be made according to the manufacturer’s recommendations.” This periodic maintenance leads to higher out-of-pocket costs after the initial purchase of the product. As with all SCBA manufacturers, 3M Scott Fire & Safety recommends that the respirator be inspected prior to any use. During this functional and visual inspection, the user will be able to determine whether the Air-Pak SCBA is operating properly. If it is not, the unit should be removed from service as per the operations manual.

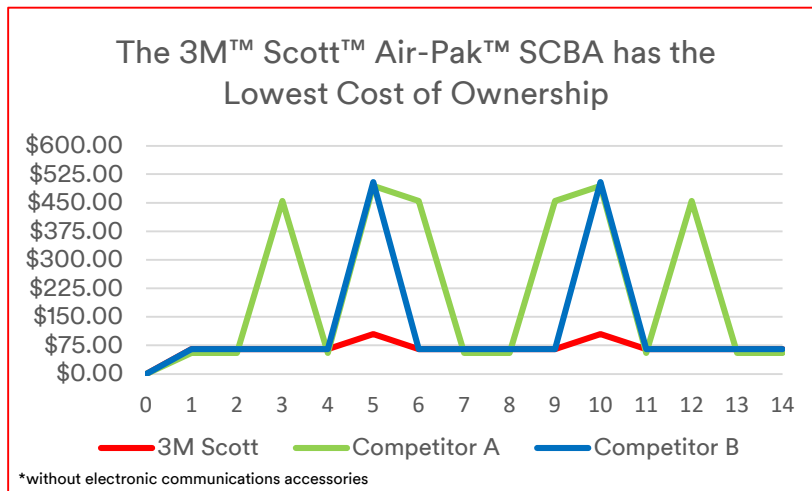


Providing options to extend the life of the SCBA is another way that 3M Scott can reduce the total cost of ownership of the Air-Pak SCBA. NFPA upgrade kits provide a path for updating older model, legacy Air-Pak SCBA to meet the current NFPA 1981 and NFPA 1982 standards. 3M Scott has historically offered these upgrade kits, dating back as far as the 1997 edition of NFPA 1981. These upgrade kits provide 3M Scott users the flexibility to add safety and performance features to the Air-Pak SCBA and extend the life expectancy of the Air-Pak SCBA, all at a fraction of the cost of purchasing new SCBA. 3M Scott is currently seeking approval for a NFPA 1981 and NFPA 1982, 2018 Edition upgrade kit.

The warranty associated with the Air-Pak SCBA is robust and backed by an extensive network of authorized service centers. All Air-Pak SCBA certified to the NFPA 1981, 2018 Edition standard are warranted to be free from defects in workmanship and materials for as long as the customer owns the SCBA. This bumper-to-bumper warranty includes the backframe and harness, pneumatics, electronics, facepiece, and cylinder. Facepiece-mounted and integrated communications are warranted to be free from defects in workmanship and materials for a period of five years. There is no required overhaul or periodic maintenance to maintain the warranty, and there is no registration required to activate the warranty.

The U.S. Department of Transportation (DOT) and Transport Canada (TC) mandate that all compressed gas cylinders used with SCBA be hydrostatically tested at a minimum of every five years. To receive NIOSH approval on an SCBA, a DOT/TC approved cylinder is required. Since all manufacturers use DOT/TC approved cylinders, the hydrostatic testing annual costs would be the same.

To summarize, the proven design and durability of the 3M™ Scott™ Air-Pak™ SCBA provides assurance to the user that the product will continue to perform over time. The self-diagnostic check that is completed during the initialization of every Air-Pak SCBA provides the necessary confidence in the pneumatics so that 3M Scott Fire & Safety does not require a periodic overhaul with mandatory replacement of parts. Lastly, the robust warranty provided by 3M Scott Fire & Safety aids in keeping costs of the product after the initial purchase to a minimum. The typical costs associated with owning an Air-Pak SCBA are the annual flow testing, annual fit testing, and hydrostatic testing of the compressed air cylinders every five years.



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