

# FireHawk® M7 Air Mask

## Cost of Ownership Position Paper



Due to the importance of understanding cost of ownership in the selection of SCBA, MSA provides this detailed explanation of an MSA air mask's operating costs during a 15-year time span.

Although some SCBA manufacturers advise their customers that service is not required unless an SCBA malfunctions, MSA believes that preventative maintenance should be performed on all critical life-saving equipment. Because user safety is paramount, **preventative maintenance** is the basis for MSA's service policy.

The purpose of conducting preventative SCBA maintenance is to replace pneumatic seals and other **critical elastomeric components** that are **not visible for daily inspection**. Although MSA has no reported instances of seal failure with the FireHawk Air Mask, the consequences of such an occurrence with any SCBA brand could be catastrophic.

Seals and other elastomeric materials used in SCBA regulators are common to all brands regardless of manufacturer. Therefore, **MSA seals** are **no more susceptible** to damage than any other brand. Listed here are a few facts concerning seals that users should know:



## Facts Concerning Pneumatic Seals

- Seal failure could result in SCBA failure to function properly or rapid air loss during firefighting.
- Pneumatic seals typically **wear faster** than do other seal types such as hydraulic seals, because air dries seals over time, causing them to lose lubricity.
- Seal life is dependent upon many external factors, such as thermal and chemical exposure, that are often unknown to firefighters.
- Seals, as with most materials, commonly fail while under **high stress dynamic load**, exactly the load type to which most seals are subjected during firefighting.
- A room temperature flow test **is not** an accurate means of determining seal condition. An SCBA can pass a flow test and experience seal failure during the next use. Firefighting conditions are significantly more demanding than is the controlled environment of a flow test.
- O-ring manufacturers offer the latest compounds to all SCBA manufacturers, giving no single manufacturer a material or design advantage.

*Because every life has a **purpose...***

## Service Frequency

MSA understands that fire departments vary greatly in their SCBA use. Because pneumatic seals last longer when used less frequently, MSA has developed three categories of use to minimize frequency of replacement. Listed here are categories of use and corresponding overhaul frequency.

	Category	Average Cylinder Usage	Pneumatic Seal Replacement		Flow Test
<b>SERVICE FREQUENCY</b>	Category I	One 30' cylinder per day or greater	Once every 3 years		Every year
	Category II	One 30' cylinder every other day	Once every 8 years		Every year
	Category III	One 30' cylinder per week or less	Once every 15 years		Every year

## Cost of Ownership Summary

Total cost of ownership during a 15-year span is summarized in the following table according to frequency of air mask use. In addition to cost of replacement seals, an allowance should be included for an annual flow test.

	Category	Seal Replacement Kits						
		#	Cost	Total				
<b>TOTAL COST OF OWNERSHIP</b> <i>during 15 years for an MSA FireHawk M7 Air Mask</i>								
	Category I	4	\$145.70	\$582.80				
	Category II	1	\$145.70	\$145.70				
	Category III	0	\$145.70	\$0.00				

In conclusion, even at reasonably high frequency of use of one cylinder every other day, the cost of ownership of an MSA FireHawk Air Mask is **as little as \$15.85 per year**. This small price helps to ensure reliability of equipment that firefighters' lives depend upon with each and every use.

Although some manufacturers may boast a maintenance-free policy, and in effect "bet the odds" with firefighter safety, the need for preventative maintenance of all SCBA is unquestionable to MSA. This philosophy extends far beyond cost of ownership and instead reflects an ethics policy consistent throughout all aspects of MSA.

Firefighters can be assured that from initial air mask manufacture to warranties and post-sales support, they will be protected by a 100-year old company that is built upon the unwavering value of safety.

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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