HIGH SPEEDS CAN DAMAGE FIREFIGHTER TURNOUT GEAR

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Whether it's a commercial laundry facility or an on premises laundry (OPL), a common concern is production. How many pounds of laundry per hour or per day will the equipment process? The rationale for quick turnaround is apparent in a commercial facility or in a large hospital or hotel. Similarly, in a fire station with an established policy for cleaning turnout gear in accordance with the latest guidelines (National Fire Protection Association Bulletin 1851, Chapter 5), of primary concern is how quickly the cleaned gear can be returned to service. As this article will show, the quickest turnaround is not necessarily what is best for the garment in terms of functionality and longevity.

First, consider the washing process in a commercial quality front-loading washer-extractor. Milnor machines, like all machines of this kind utilize water and a lift-and drop action (as opposed to agitation used in top-loading machines) as recommended by NFPA 1851 and reinforced by the FEMSA (Fire and Emergency Manufacturers and Services Association) pamphlet on protective ensembles for structural firefighting. (Both publications emphasize the importance of using machines dedicated to cleaning turnout gear as opposed to washing at home or using a commercial launderer not set up to handle firefighting gear specifically.)

After the garments or inner linings are cleaned and rinsed, the washer-extractor will go into its extract cycle. Regarding water extraction, it is important to know what the effects are on the materials that make up the typical ensemble. During the laundering process, water circulates in and around the outer shells and inner linings. It is recommended that these be washed separately, unless the protective inner lining is sewn into the shell, to avoid cross contamination. One of the problems that can arise is associated with the moisture barrier. These moisture barriers are of two main varieties: a Teflon-type and a polyurethane-coated mesh as made by various companies for use in protective clothing. When turnout gear is subjected to high-speed extraction, water is violently pulled from the goods. Since the moisture barrier is by necessity waterproof, water must pass either around or *through* the barrier. Water is often trapped within the folds of the gear during the wash process. This results in small microbursts of the fabric that leads to premature moisture barrier failure when using excessively high extract speeds. This effect will also be evidenced by the premature deterioration of the reflective striping (safety striping, name, number, etc.) on the gear. This can lead to increased maintenance cost, premature gear retirement, or worse still, increased risk to the firefighter.

Damage to inner liners from excessive G-forces exerted in the final extraction step of the wash cycle was the reason for the 100 G extraction limit

specification in NFPA 1851. Milnor washer-extractors like the 30015 T5X and 30022 T5X with Gear Guardian® formulas are ideal for cleaning turnout gear because the extract speeds minimize wear and tear. Another valuable feature is that Gear Guardian formulas suspend basket motion during water refills to avoid tumbling the gear, unless the water level is satisfied. This reduces undue wear on the fabric, enhancing its longevity even further. The higher extract machines such as the 30015 V7J or 30022 V6J with Gear Guardian formulas can also be used for cleaning turnout gear as long as the extract rates are set according to the garment being laundered in accordance with the manufacturer's instructions. *(Please consult the Gear Guardian brochure for a comparison of the Milnor washer-extractors offered with the Gear Guardian concept of ten pre-programmed wash formulas for the goods most commonly found in a fire station.)* Naturally, the dryer the goods are when the leaving the washer-extractor, the shorter the dry time will be. Milnor machines, like all washer-extractors, remove water centrifugally so goods can be dried in a short amount of time. However, shorter dry times should not come at the expense of excess wear. Beware, then, of competitors' claims of faster dry times due to their high extraction rates. ***Remember: The most important factor in choosing a washer-extractor should be what is best for the turnout gear itself***.

This brings us to drying methods, which is mentioned here as a conclusion to the subject of turnaround time for turnout gear. Please consult the specific drying instructions from the gear supplier for guidance on drying since many gear suppliers prohibit tumble drying due to the potential for damage to various elements of the ensemble. Milnor solves this problem by offering an all-stainless steel drying cabinet in two size capacities: the 40"-wide model for up to 3 sets of gear; and the 61"-wide model for up to 6 sets. The Milnor drying cabinet uses directed hot airflow (instead of the mechanical action of a tumble dryer) to quickly return the clean gear to useful service (typically in about one hour). Otherwise, simple hang-drying (perhaps aided by a ventilation fan) also works, but takes more time.

In conclusion, Milnor Gear Guardian washer-extractors and cabinet dryers are the ideal choice for use in fire stations. The preprogrammed formulas and controls design make them simple to use, and their rugged construction ensures many years of dependable service. The lift-and-drop wash action and NFPA 1851-compliant extract speeds of the Milnor Gear Guardian washer-extractor help to maximize the service life and protective attributes of turnout gear.

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