AIRPORT PRODUCTS

INFORMATIONAL BULLETIN
NON-WARRANTABLE
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MODEL: ALL OSHKOSH ARFF
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Subject: Fluorine-Free Foam Transition Guide and Inquiry Form

This is an Informational Bulletin. Information contained in this bulletin is for reference only, and is not intended to imply that modifications or repairs are to be performed on the vehicle or vehicles to which this bulletin applies. Please contact Airport Products Support with questions concerning this bulletin.

Condition:

The United States ARFF industry is transitioning away from aqueous film-forming foam (AFFF) products, and adopting new fluorine-free foam (F3) products to replace them. Differences in viscosity between AFFF, which has a viscosity similar to that of water, and these new F3 products, which are generally thicker than AFFF, can cause certain foam proportioning system configurations to produce out-of-spec results.

Vehicles with fixed-orifice foam proportioning systems, often referred to as “poppet” or “multi-metering manifold” systems, will typically produce a lean (low percentage) foam concentration when flowing F3 through a system which is configured for AFFF. This is due to the higher viscosity of F3 products, which results in reduced foam flow through the metering orifices.

Vehicles with electronic foam proportioning (EFP) systems can generally accommodate the thicker F3 products without modification. These systems directly measure the volume of foam being metered, and continuously adjust foam flow to maintain the desired foam percentage.

When converting to F3 on vehicles with fixed-orifice foam proportioning systems, surrogate foam test systems, such as Oshkosh’s EcoEFP, must also be updated in order to continue producing accurate test results. All test systems currently approved by the FAA use water as a substitute for foam, and rely on the fact that water has a similar viscosity to AFFF. Unless the test system is updated, a foam surrogate test performed on a vehicle configured for F3 will produce rich (high percentage) test results, even if the system proportions accurately when flowing foam- the larger foam orifice diameters needed for F3 products will increase the volume of water flowing through the foam proportioning system during tests. Oshkosh is actively developing a software update available for the EcoEFP test system, which will enable it to account for the type of foam used on the vehicle and adjust test results accordingly. For updates to third-party surrogate foam test systems, please contact the system’s manufacturer.

Depending on the age and model of the vehicle, Oshkosh may be able to offer either replacement proportioning system components, which will be calibrated for the discharge flow rates and specific F3 product to be used, or suggestions on how to modify the proportioning system to accommodate a particular F3 product. To do so, Oshkosh will need to know which specific F3 product will be used with the vehicle- unlike with AFFF, the properties of F3 products may vary between manufacturers. Please review the information on the following page, and if necessary, fill out and return the intake form on Page 3 of this bulletin.

Please ensure the vehicle’s foam proportioning system is operating correctly **before** making modifications!

F3 Impacts on Oshkosh ARFF Vehicles:
If you have a Striker (Generation 1, 2, or 3) with fixed-orifice foam metering system, the metering orifices will need to be either replaced or machined to a larger diameter in order to accommodate F3 products. Oshkosh can offer replacement foam metering orifices to configure your vehicle for F3- if you are interested in purchasing these parts, please follow the steps in the "Action" section below. Note that the valve positions listed on the manual bypass valve operating instructions placard will be inaccurate for F3 products.

If you have a Striker (Generation 1, 2, or 3) with electronic foam proportioning (EFP) system, no changes are necessary, as the system can automatically adjust to handle thicker foams.

If you have a Stinger equipped with Fire Research Corporation's FoamPro electronic proportioning system, no changes should be necessary. FRC states that their system is compatible with any foam product with a viscosity below 2000 cP (approx. 1800-2000 cSt). FRC requests that you contact them directly with any questions about system compatibility with higher-viscosity foam products by calling (800) 533-9511, or via their contact page: fireresearch.com/frcnews/contact_frc

If you have a Stinger equipped with a manual foam proportioning system provided by either Fire Research Corporation or Williams Fire & Hazard Control, the system should be able to accommodate thicker foams at the required flow rates, but the valve positioning label applied near the metering knob will not be accurate. The proportioning system's manufacturer may be able to provide an updated label, otherwise the valve position required for a given flow rate and foam concentration will need to be determined through testing.

Oshkosh is continuing to develop solutions for older vehicles, including the T-1000, T-1500, TI-1500, T-3000, TI-3000, P-19, P-23, etc. Oshkosh can provide general guidance, but ultimately, proper orifice sizing will need to be determined by the customer through foam testing, and the existing foam orifices will need to be machined out or replaced until the correct foam concentration is achieved. Depending on the age and model of the vehicle in question, Oshkosh may be able to offer some parts for purchase to support this process.

Please contact Airport Products Support with any questions about transitioning to F3 products by calling (800) 222-6635, or by emailing customersupport@oshkoshcorp.com.

Action:
If a vehicle's foam proportioning system requires modification, please start by filling out the attached intake form. Email the completed form to customersupport@oshkoshcorp.com to open a technical support ticket, and a customer support representative will reach out to gather any additional information needed, as well as to provide options and recommendations for updating the vehicle's foam proportioning system.

Fluorine-Free Foam Transition Intake Form:

Please fill out the form below as completely and accurately as possible, and return it via email to customersupport@oshkoshcorp.com. If update information is needed for multiple vehicles, multiple copies of this form may be submitted in a single request, otherwise the information on this form may be supplied for each vehicle directly in the email.

Please include the phrase "F3 Foam Transition" in the subject line of your email- this will aid in tracking your request, and will enable Oshkosh to provide assistance in a timely fashion.

Be as specific as possible when describing the foam product you plan to utilize, and if possible, provide a datasheet and/or a picture of the manufacturer's packaging. This will allow Oshkosh to ensure that any modifications being recommended are correct for type of foam being used.

It is crucial that any modifications to the vehicle's foam proportioning system or any discharges (turrets, hoses, nozzles, flow rate changes, etc.) are reported on this form. Oshkosh's foam system update recommendations will be based upon the vehicle's factory configuration unless any modifications are noted below- recommendations can generally be adjusted to account for most aftermarket vehicle modifications, but Oshkosh's recommended updates will likely be incorrect if these modifications are not reported.

Vehicle model and generation:

Year of manufacture (if known):

VIN, serial number, CSO number, or Job number (found on vehicle data plate):

Foam proportioning system type (if known):

Specific manufacturer, brand, product line, and/or type of foam to be used:

Surrogate foam test system manufacturer and type (if present):

Modifications made to foam proportioning system or discharges since receipt of vehicle: