New 125-gpm Foam Eductor and Nozzle Kit

By Battalion Chief Steven San Filippo

Changes to our foam apparatus, appliances and operations are continuing to move forward. Recently, the Department placed five new foam tankers in service, upgraded its foam product to Universal Gold one to three percent and added five new brush fire units, which are equipped with compressed air foam, to the Department's foam arsenal.

One of the changes that has been a long time coming was upgrading FDNY's foam hand-line equipment and how members operate a foam hand-line. For more than 38 years, the Department has operated a foam hand-line with the same equipment that has been issued to every engine, the 120-gpm Spamco nozzle (red) educator. Anyone who has operated a foam hand-line using this eductor can attest to some of the difficulties and shortcomings with this equipment. In the ongoing search to upgrade the Department's foam operations and appliances and find a better eductor, the FDNY has opted to purchase the 125-gpm foam eductor and nozzle kit.

Equipment

The new equipment will be issued to all engine companies, squads, tech engines and any company that previously carried a foam eductor. The equipment comes stored within a pelican case, which provides additional protection while stored on the apparatus. This is a tremendous advantage over the previous way in which FDNY's foam equipment has been stored on apparatus. Providing a secure, protected case ensures that the equipment will be operational when required and deliver a professional foam operation at all times. Within the kit (pelican case) is a 125-gpm, three-position, pistol grip adjustable nozzle, a go-gauge, metering head capable of providing one-, three- and six-percent finished foam and an extra-long pickup tube (Figure 1).

Advantages of New Eductor

This new eductor kit is specifically made to be used with Universal Gold one- to three-percent foam concentrate. The Universal Gold container has a red band and replaces the old brown band (fluoroprotein) and green band (fluoropolydohl) foam concentrate. As was the requirement before, each engine company must carry three red band containers and each ladder company must carry two red band containers. This equipment is capable of managing a 1,250-square-foot fuel oil/gasoline fire or 625-square-foot alcohol fire.


Figure 1


Figure 2

Note: *If replenishment is required at any time, all 19 foam depots currently are supplied with Universal Gold one to three percent (red band) containers of foam concentrate.*

Operating this new equipment differs completely from how members operated previously. The new eductor must be *operated from the pumper outlet on the pump panel side of the apparatus at all times* (Figure 2).

Operating the eductor from the pump panel side outlet provides members with several advantages. It enables the engine company chauffeur (ECC) to maintain control of the operation at all times. In this position, the ECC also can monitor hydrant intake pressure, water flow, foam percentage, foam concentrate usage and whether there are any problems with the foam line. Additionally, as soon as the line is charged, this eductor provides immediate finished foam from the nozzle. It no longer is necessary to wait for foam production.

Advantages

- ***Faster foam on fire--***As soon as the operation is set up and the Officer calls for foam, water and foam are injected and mixed together at the eductor outlet immediately, providing finished foam at the nozzle. There is no waiting period for finished foam.
- ***Quicker cleanup***—Cleanup of eductor, hand-line and nozzle no longer requires 15 minutes to flush. See details on cleaning and flushing on page 15. After equipment is cleaned, repack into case, ready for future operation.

Note: *While flushing eductor and pickup tube, cycle metering head through one-, three- and six-percent positions. This ensures complete cleaning.*

- ***Longer stretches of either 1¾ or 2½ inch--***Depending on the incident encountered, this system provides a choice between stretching six lengths of 1¾-inch or 10 lengths of 2½-inch hose.
- ***Better reach***--The reach of the stream using the 125-gpm foam nozzle provides a significant improvement over the previous foam nozzle and eductor.

Operating Procedures

When a foam hand-line operation is required, the ECC or company member removes the pelican case from its secure location on the apparatus. The member removes the foam educator from the case and attaches the eductor to the required outlet on the pump panel side of the apparatus. The member attaches the metering head to the pickup tube and then attaches metering head to the eductor body. Hose then is attached to eductor outlet. Selection of hose can be either all 1¾ or all 2½ inch; hose should not be mixed. Selection of hose size depends on incident encountered, length of stretch and amount of concentrate on-hand. The metering head should be set to the proper percentage as determined by the Officer, who, on arrival, evaluates and decides on the required foam percentage.

Settings for the metering head follow:

- One percent on hydrocarbon fires (no al-

About the Author

Battalion Chief Steven San Filippo has served the FDNY since 1978. He is assigned to Haz-Mat Operations as the Foam Manager. He has completed the West Point Counterterrorism, Leadership and FDNY Officers Management Institute (FOMI) programs. He holds a Bachelor's degree in Fire and Emergency Management and a Master's degree in Emergency Management from John Jay College. He was part of the FDNY contingent that responded to New Orleans following Hurricane Katrina. He has written numerous articles on firefighting foam operations for *WNYF*. This is his last *WNYF* article as he has reached retirement. He was proud to serve with this Department and its members.