

# TRAINING ALERT

Train as if your life depends on it... **BECAUSE IT DOES!**

Number 04-02

April 2004

The In-Service Section will issue training alerts as the need arises. They are intended to be shared at line-up.

## NEW 1" SPRAY TIPS

The Equipment Engineering Unit is in the process of replacing the current Twister D1024 and Akron Marauder 1" spray tips. They are both being replaced by the Twister D1040 1" spray tip. The difference between the spray tips is that, both, the Twister D1024 & Akron Marauder have a maximum of 24 gpm @ 75 psi nozzle pressure, while the Twister D1040 has a maximum of 40 gpm @ 100 psi nozzle pressure.

The new hydraulic calculations for the Twister D1040 1" spray tip is as follows:

GPM	NOZZLE PRESSURE	FRICITION LOSS PER 100' OF 1" HOSE
10	100	N/A
40	100	25

**The 200-psi nozzle pressure for 1" spray tips is being eliminated.** This is due to the fact that at 200-psi the D1040 will flow close to 60 gpm. The friction loss and pump pressures for 60 gpm through a 1" hose line is excessive.

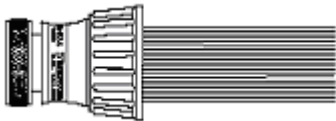
There is no friction loss noted above for the 10 gpm setting. This is due to the fact that the friction loss is based upon the 40 gpm setting only. The 10 gpm setting is used when less water is needed or when water needs to be conserved. All hydraulic calculations should be based on the 40 gpm setting.

The Twister D1040 1" spray nozzles are dual flow nozzles. The flow setting is changed by rotating the shaper (tip) which also controls the spray pattern.

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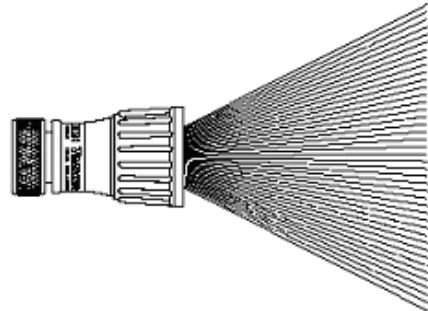
### LOW-FLOW (10 GPM)

From the nozzle operator's view, rotating the tip to the right or in a clockwise direction will narrow the spray pattern until the flow stops...



... As the tip is rotated to the left or in a counter-clockwise direction from this position the flow pattern will be narrow and GPM in the low-flow setting.

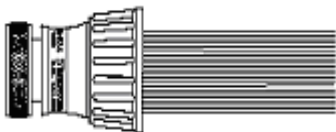
Further rotation to the left will produce a narrow fog pattern and GPM in the low-flow setting.



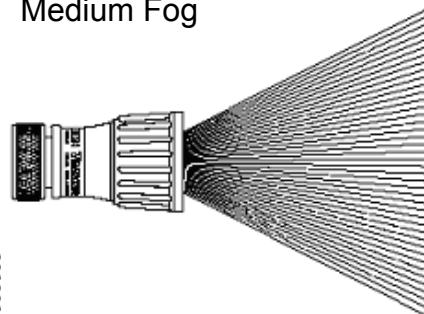
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### HIGH-FLOW (40 GPM)

Straight Stream

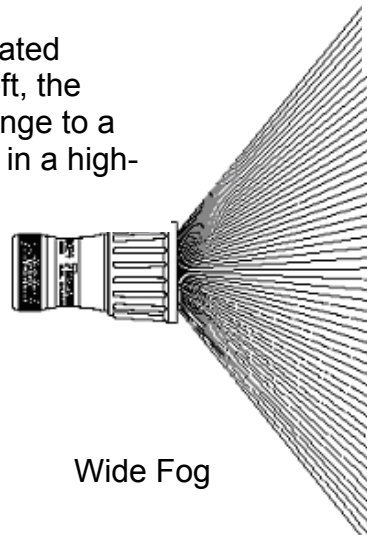


Medium Fog



As the tip is rotated further to the left, the pattern will change to a straight stream in a high-flow setting.

Continued counter-clockwise rotation will produce a high-flow medium and wide fog pattern.



Wide Fog