

# SOUTH PORTLAND FIRE DEPARTMENT

## STANDARD OPERATING GUIDELINES

<b>SOG #:</b>	6.229	<b>Effective Date:</b>	2/12/2014
<b>Title:</b>	1 ¾ Nozzle Pressures	<b># of pages:</b>	3
<b>Category:</b>	Fire Ground Operations	<b>Classification:</b>	Red

1. **PURPOSE:** To establish standard initial engine pressure and nozzle settings for 1 ¾” Akron handline nozzles as well as other standard pressures for alternate flow rates.
2. **PROCEDURES:** Standard initial engine pressure for all 1-3/4 nozzle types shall be 150 psi.

### **Akron Low Pressure Turbojet:**

Low Pressure Turbojet nozzles shall be set at the 150 GPM setting.

This allows all pump operators to start at the same engine pressure regardless of nozzle type. Operators shall ensure that the nozzles are set to the proper gallonage selection to ensure correct flows.

Because of tactical considerations the nozzle firefighter and/or officer may readjust the gallonage setting as required during operations. This information should be communicated to the pump operator so that he/she may adjust to the correct engine pressure. Operators are not to increase engine pressures above the Standard initial pressure unless in contact with the nozzle firefighter due to increased nozzle reaction at higher flows. Below is the engine pressure information for each nozzle at various flows.

This nozzle when attached to a 200’ 1 ¾” hose line should be pumped at an engine pressure which matches the selected gallonage for flows of 95 gpm or more as shown.

95 psi for 95 gpm  
 125 psi for 125 gpm  
**150 psi for 150 gpm**  
 200 psi for 200 gpm

For a flow of 30 gpm pump at 75 psi.  
 For a 100’ bumper line at 125 gpm pump at 100 psi

Since this is not an Automatic nozzle, if the engine pressure is too low for the selected gpm a stream of poor quality will be evident. The selector ring may be turned to a lower gallonage setting to improve stream performance until a higher engine pressure can be reached.

This nozzle is also a break apart nozzle equipped with a 7/8” smooth bore tip. When used as a smooth bore tip this nozzle will flow as follows:

<u>Engine pressure</u>	<u>Flow</u>
200 psi	200 gpm
<b>150</b>	<b>170 gpm</b>
50 psi	100 gpm

### **Akron 15/16” smooth bore**

This nozzle when attached to a 200’ 1 ¾” hose line should be pumped at an initial engine pressure of 150 psi. Achievable flows are as follows:

<u>Engine pressure</u>	<u>Flow</u>
200 psi	210 gpm
<b>150 psi</b>	<b>185 gpm</b>
100 psi	150 gpm

### **Akron Akronmatic**

This nozzle when attached to a 200’ 1 ¾” hose line should be pumped at an engine pressure of selected gallonage plus 25 psi as shown.

125 psi for 100 gpm
150 psi for 125 gpm
175 psi for 150 gpm
200 psi for 175 gpm
For a 100’ bumper line at 100 gpm pump at 115 psi

Since this is an Automatic nozzle, if the engine pressure is too low for the selected gpm, the nozzle will automatically adjust to give a good looking stream at potentially a substantially lower flow. The operator will not be able to tell “by eye” that the flow is too low.

This nozzle has no break apart or solid bore capability.

Nozzle reaction for the smooth bore 7/8” at 100 gpm is approximately ½ that of the Akronmatic and 17 pounds less than the Turbojet at the same flows and approximately equal to the Turbojet at the higher flows.

### 3. REFERENCES:

- None

By Order Of:

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