

Peacham Fire Dept Nozzles Notes			
Three functions of nozzles:		PSI Rule of Thumb	Nozzle Types:
1. Provide Reach	(distance; penetration)	solid bore = 50 PSI	- Solid bore
2. Control Flow	(gpm)	master stream = 80 PSI	- Fixed gallonage
3. Create Shape	(fog, narrow fog, straight stream, solid stream)	fog = 100 PSI	- Adjustable gallonage
		Combination = 50 PSI	- Automatic (constant pressure)
			- Multipurpose (Combination)
			- Specialty
Remember:			
- Choose the right nozzle for the job.			
- Nozzles can not "create water".			
- It is important to work closely with the pump operator.			
- NP=PDP-FL-OL <i>Nozzle Pressure = Pump Discharge Pressure - Friction Loss - Other Loss (appliance, elevation, etc.)</i>			
- Hose length, diameter, and GPM (volume) flowing all affect friction loss.			
Examples of Typical Pump Discharge Pressures			TYPICAL USE
A 150 foot length of 1.75 inch hose flowing 160 GPM has 60 PSI friction loss.	A 50 PSI NP requires PDP of 110 PSI		Engine 1 RED Line Solid bore only
A 150 foot length of 1.75 inch hose flowing 232 GPM has 125 PSI friction loss.	A 50 PSI NP requires PDP of 175 PSI		Engine 1 RED Line Combo
A 150 foot length of 1.75 inch hose flowing 289 GPM has 194 PSI friction loss.	A 75 PSI NP requires PDP of 270 PSI		Engine 1 RED Line Combo
A 250 foot length of 1.75 inch hose flowing 160 GPM has 100 PSI friction loss.	A 50 PSI NP requires PDP of 150 PSI		E1 Blue /Yellow Line Solid bore only
A 250 foot length of 1.75 inch hose flowing 200 GPM has 155 PSI friction loss.	A 75 PSI NP requires PDP of 230 PSI		E1 Blue /Yellow Line Combo
A 300 foot length of 2.5 inch hose flowing 250 GPM has 37 PSI friction loss.	A 100 PSI NP requires PDP of 137 PSI		E1 2-1/2 at 300'

ENGINE 1					
Rear Step					
<i>Designation</i>	Red	Yellow	Blue	2-1/2	Orange
<i>size hose (length)</i>	1-3/4 (150')	1-3/4 (250')	1-3/4 (250')	2-1/2 dead load	2-1/2
<i>nozzle</i>	Akron 1523 DSO SabreJet	Akron 1820 UltraJet	Akron 1523 DSO SabreJet	Akron 4826 Assault	Akron 1744 tip 1-1/2"
<i>Type</i>	Multipurpose	Multipurpose	Multipurpose	Fixed orifice high range	Adjust gallonage (Multi)
<i>GPM</i>	(7/8") 160@50psi / 200@75psi (fog) 95@50psi / 120@75psi (combo) 232@50psi / 289@75psi	(7/8") 160@50psi / 212@75psi (fog) 160@50psi / 212@75psi	(7/8") 160@50psi / 200@75psi (fog) 95@50psi / 120@75psi (combo) 232@50psi / 289@75psi	250 @ 100psi	125, 150, 200, 250 @100psi
<i>Nozzle PSI</i>	50-75, up to 100	50-75, up to 100	50-75, up to 100	100	100
<i>Feature</i>	• Can flow Fog and smooth bore at same time.	• Fog OR smooth bore	• Can flow Fog and smooth bore at same time.		
<i>Note</i>	• Open or closed.	• Open or closed.	• Open or closed.	• Open or closed.	• Open or closed.
	• Dual Shut Off!	• Flow stays the same regardless of shape	• Dual Shut Off!		• Ozzie or manifold
Operator's Comp					
	Akron stacked tips (solid bore)				
	1"	1 1/8"	1-1/4"		
<i>GPM</i>	210	270	330 / 400		
<i>Nozzle PSI</i>	50	50	50 / 80		
TANKER 1					
Rear Step				Operator's Comp	
<i>Designation</i>	Yellow	2-1/2	Red		Akron stacked tips (solid bore)
<i>size hose (length)</i>	1-3/4 (250')	2-1/2 dead load	1-3/4 (250')		1-3/8"
<i>nozzle</i>	TFT Automatic	Akron 1727 TurboJet	TFT Automatic	<i>GPM</i>	500
<i>Type</i>	Automatic	Adjust gallonage (Multi)	Automatic	<i>Nozzle PSI</i>	80
<i>GPM</i>	50 - 350	125, 150, 200, 250 @100psi	50 - 350		
<i>Nozzle PSI</i>	min. 100	100	min. 100		
<i>Feature</i>	• Constant shape and reach.	• High-Range Turbojet Tip with Twist Shutoff	• Constant shape and reach.		
<i>Note</i>	• Throttle the flow.	• Open or closed.	• Throttle the flow.		
	• Fwd to shut off	• with shutoff	• Fwd to shut off		