

TRAINING ALERT

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

Number 04-04

May 2004

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

USE OF 1 ½" TIP ON A 2 ½" NOZZLE

The In-Service Training Section and selected companies from Battalion 3 have recently completed testing of alternate pump pressures for the 2 ½" hand-lines (see Training Alert 04-02). During these tests questions arose about revisiting the use of an 1 ½" tip on the nozzle of a 2 ½" handline. An original article about the use of this nozzle was placed in the QI newsline back in 1996 (see QI newsline special edition 3-96). The following will discuss issues relating to engine pressures and personnel safety.

Components:

- Assorted length of 2 ½" hose.
- 2 ½" Maurader shutoff butt.
- 2 ½" stream straightener.
- 1 ½" smooth bore tip.

When a large volume of fire is showing, consider using a 2 ½" handline with an 1 ½" smooth bore tip. This operation is accomplished by pumping 100 psi friction loss per 100' of 2-1/2," plus 60 psi nozzle pressure, resulting in 530 gpm delivered through the handline. Two members can effectively handle this handline.

Safety

The use of this hoseline is presented as an option for officers on the fireground. When a higher GPM is warranted, this nozzle provides the reach, penetration, and mobility necessary in an easy to deploy handline.

When using this handline it is recommended that:

- Firefighters do not attempt to advance or retreat this hoseline with water flowing.
- This handline is used from a safe location. It should not be used from a ladder, a pitched roof, or any surface where footing is an issue.
- Members should always be aware of where their hose stream is directed and where other members are operating in the area.
- Always open and close the shut-off butt slowly. Remember that you are controlling over 500 gpm.

The hydraulic calculation is as follows:

NOZZLE PRESSURE	GPM	FRICTION LOSS PER 100' OF 2 ½" HOSE
60	530	60

Two recommended methods of handling this hoseline are:

1. Strap a crowbar directly behind the shut-off butt with a ladder strap.
2. Use the doughnut method with one member sitting on the line and one member as a back-up.

