TRAINING ALERT

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

Number 04-03 **May 2004**

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

ALTERNATE PUMP PRESSURES FOR 2 ½" HANDLINE

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. These tests utilized assorted lengths of 2 ½" hose with a "Marauder" shut-off and a 1 ¼" smooth bore tip and show some unique benefits for interior structure firefighting.

The hydraulic calculations are as follows:

NOZZLE PRESSURE		GPM	FRICTION LOSS PER 100' OF 2 ½" HOSE
Standard	50	325	25
Alternate	40	300	20

Effective stream

Easily handled by 2 firefighters

The lower pressure reduces the GPM to 300, but still gives an effective stream (90% of stream in a 15" circle) at 70 feet. Compared to a 1 ¾" hand-line that flows 200 GPM and loses a great deal of its penetrating ability at distances over 50 feet. This alternate pressure is NOT meant to replace the existing standard pressure nor the 2 ½" nozzle with the 1 ½" tip (with stream straightener) but to add another tool into our arsenal to attack fires.

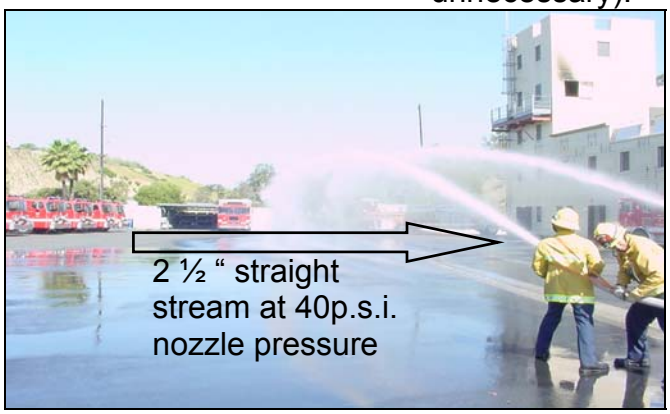
Pros and Cons Comparison

Standard pump pressure

- 50 p.s.i. to the nozzle
- 25 p.s.i. friction loss per 100’
- 325 Gallons per minute
- Excellent penetrating stream
- 3 members deploy hose-line
- High back-pressure makes line difficult to handle and advance.
- Safe movement of nozzle is limited.
- Nozzle operators often shut down stream to reposition hose-line (creating dangerous spikes in pressure for adjacent hose-lines).

Alternate pump pressure

- 40 p.s.i. to the nozzle
- 20 p.s.i. friction loss per 100’
- 300 Gallons per minute
- Excellent penetrating stream
- 2 members deploy hose-line
- Lower back-pressure makes line easy to handle and advance.
- Safe movement of nozzle is made easier.
- Nozzle operators do not shut down hose-line to gain control of line (making pressure adjustments by pump operators unnecessary).



REMEMBER: During drills this stream will give approximately 10’-15’ further reach than the standard 1 ¾” spray stream, but will give much more penetration and 50% more G.P.M. in an easy to deploy and handle firefighting line. This line is extremely effective in commercial occupancies that require a higher G.P.M. to affect a knockdown!