

Fire Engineering®

Back to Basic: Drilling for the Engine Company, Part 1 – Initial Considerations for the Fire-Due

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SIZE-UP:

- ❖ Provide “CAN” report:
 - **C**onditions
 - **A**ctions
 - **N**eeds
- ❖ Quickly survey the building – perimeter & interior (if possible)⁷
- ❖ “BAG it:”³
 - Where’s the fire...
 - **B**een
 - **A**t
 - **G**oing
- ❖ “Not fighting the fire you see in street, it’s the fire you’ll fight once you get inside”³

DETERMINING HANDLINE PLACEMENT:

- ❖ Identify the exact location and extent of the fire before committing
- ❖ Take the most linear/unobstructed route
 - Initiating an aggressive attack as soon as possible⁶
 - Protecting life is the number one priority⁷
- ❖ Purpose of the first (interior) line is to protect the primary means of egress⁷
 - Typically the front door – even if it's the area of involvement ('burned side')⁵
 - Grants access to the building's main arteries
- ❖ Position the line to "take/control space" – safeguarding victims & search crews:³
 - Placed between the fire and interior exposures
 - Drive byproducts of combustion away from the survivable space
 - Allow for rapid advance to the seat of the fire to complete extinguishment

ESTIMATING THE STRETCH:

❖ Rig to Door + (Door to Floor) + Feet to Seat = Minimum Amount Required

❖ 'DOSE':⁷

- **D**istance (from apparatus to building entrance)
- **O**bstacles (objects, conditions or topography affecting stretch)
- **S**tairs (straight run – return/scissor – right angle – cork screw)
- **E**levation (# of floors)

❖ Factor in a little extra – rounding up to the nearest length

❖ Rules of thumb:

- One (50') length will cover the fire floor in most dwellings
- Return stairs typically require one length per floor
- Well-hole or rope stretches can cover five floors per length
- One length covers two floors on cork screw stairs

SELECTING THE APPROPRIATE HANDLINE:

❖ GPM vs HRR

- Extinguishment = Overcoming HRR
- Requires “overwhelming superior force”³
- Exceeding the “critical flow rate” (minimum GPM required)¹

❖ Reach and penetration suitable for the environment

❖ 2.5” hose for 'ADULT(S)' fires⁴

- Advanced - Defensive - Unknown (size) - Large (area) - Tons (water) – Standpipe

❖ Greater water delivery = less steam production (& faster knock-down)

- Poor flow/stream causes “premature vaporization” – limiting heat absorption²
- Steam disrupts the thermal balance – reducing visibility & tenability

REFERENCES:

- ¹Clark, William (1991). *Firefighting Principles and Practices*, 2nd Ed. Saddle Brook, NJ: PennWell.
- ²Comella, Jay (2003). *Planning a Hose & Nozzle System for Effective Operations*. Fire Engineering
- ³Fields, Aaron (2016). *The Nozzle Forward Curriculum & Manual*.
- ⁴Fredericks, Andrew. (1996). *The 2 ½ Inch Handline*. Fire Engineering.
- ⁵Fredericks, Andrew. (1997). *Stretching and Advancing Handlines, Part 1*. Fire Engineering.
- ⁶Fredericks, Andrew. (2000). *Handline Placement*. Fire Engineering.
- ⁷Klett, Tim (1999). *Stretching & Operating the First Line*. Fire Engineering.