



## Continuing Education Course



# Quality Hoseline Management for a Better Forward Advance

BY RAY McCORMACK

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# Quality Hoseline Management for a Better Forward Advance

## Educational Objectives

On completion of this course, students will

1. Determine options for hoseline placement
2. Describe a problem encountered when using the first hoseline for both exterior and interior attack, commonly referred to as "Transitional Attack"
3. Understand principles of managing hoselines in commercial fires
4. Understand principles of managing hoselines in high-rise residential fires

**BY RAY McCORMACK**

**H**OSELINE PLACEMENT IS A CHOICE SUBJECT these days, with options from the front door, rear door, or side entrances. Windows, however, don't count because hoseline advances don't take place there, at least not typically. The unspoken problems of transitional attack (from exterior to interior attack) and using the same line for both are the likelihood of numerous kinks in the line when the line is finally brought back to the entrance door and that the line will most likely also suffer from a poor layout position unless efforts are taken to correct both.

Engine companies that stretch their hoseline to the entrance door and do not position it for a rapid interior advance are doing only a portion of what is required and are setting themselves up for a more difficult and frustrating interior advance. When you encounter a fire at street level, the lead length of the hoseline should be folded into a "U" shape. To do that, bring the first coupling back from the nozzle up to the same location as the nozzle. The hoseline should also be in line with the entrance door, which will allow you to check on the line's status as it is charged. Additionally, with the hoseline perpendicular to the entrance door, there is less friction advancing the line. If the line is laid out parallel to the entrance door, it will be more difficult to advance because two friction forces are working on it both forward and lateral. Positioning the line correctly lays the foundation for a smoother advance into the occupancy.

Once entry is made into the fire occupancy, no one should be racing through it; overall speed is determined by several factors such as conditions encountered, the interior's layout, visibility, proximity to the fire, heat levels, and clutter. When your attack hoseline is rubbing on the entrance door frame unnecessarily because you skipped laying out the lead length

of the hoseline, you are causing a delay and extra work for the nozzle team.

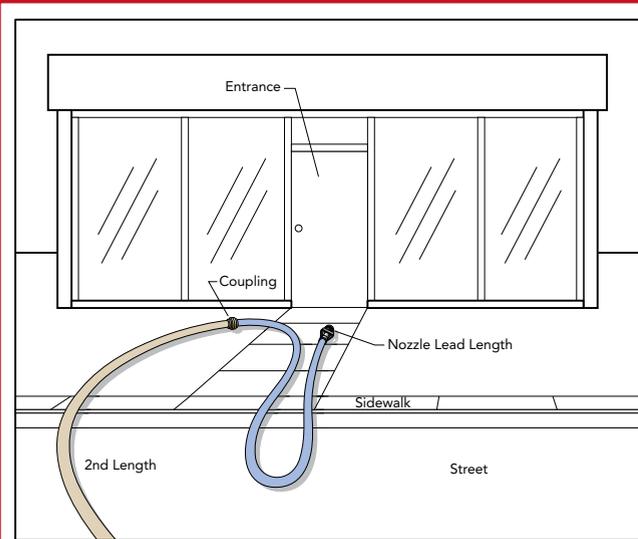
### OVERSTRETCHING

The vast majority of handlines stretched are preconnected, which engine companies tend to overstretch, not always to a critical level, but overstretching is still an issue. As an example, 150 feet of attack line is stretched directly to the home's front door. Without a proper setup (attack length placed into a "U" shape), the total weight of the hoseline will be pulled forward as the line advances. Stretches from static hosebeds also suffer from overstretch; however, because long stretches usually occur in combination of horizontal and vertical segments, pulling the full amount of hose as you advance doesn't usually occur. What is pulled, if above street level, is what you have positioned near the fire occupancy.

### COMMERCIAL FIRES

Hand stretches for commercial buildings are often overlooked as a contributing factor in an inability to defeat the fire. Many street-level commercial buildings contain a difficult fire package for firefighters—from large amounts of stock to high ceilings to deep-seated fires. Building entrances are often not far from the street, and parked cars contribute to a poor hose layout and subsequent slow advance. The reality is that even if we cannot get the hoseline set up optimally (in a direct line with the door), we still need to use a secondary "U"-shaped hose layout. When the hoseline cannot be laid out directly in line with the building's entrance door, placing it parallel to the entrance is still a better option than dragging the whole line set as one piece. If fire conditions allow, you can advance the hoseline into the occupancy and then bring the coupling into the occupancy so that the space for

**Figure 1. Creating “U” Shape for Entry**



Illustrations by author.

the “U” layout is gained, and then continue your advance. The importance of segregating the lead length from the balance of the hose stretch is vital for ease of movement because you are now basically working with only one length of hose and are not initially dragging along additional hose.

Your hoseline layout will assist with your forward advance and extinguishment, but only if you work at it. As an example, 200 feet of 2½-inch hose is stretched from the apparatus to the fire and just the nozzle is near the entrance door. With a large handline, this problem is often chalked up to the fact that the hoseline is heavier than the smaller handlines typically used for residential fires, tricking us into blaming weight as the issue. Weight is always an issue, but it is not the problem. The problem is that you are pulling multiple 50-foot sections of hose as you start the advance. You want to pull only a portion of the lead length of hose as you make entry. As you go deeper, the balance of the lead length enters the occupancy, allowing the stretch to advance more quickly and easily. For a store that is 100 feet deep, one length of hose fully deployed will get you halfway back. Combine this with stream reach, and you have good positioning and a scrub area equal to the occupancy depth, and possibly its width also.

## UPPER FLOOR, RESIDENTIAL

When you reach the fire area via the stairs, you have several options for hoseline placement between the staircase landing platform and hallway or off apartment. You need to control the fire area door and then lay out the hoseline. By taking advantage of the hoseline’s weight, you can place your “U” on the stairs, matching the first coupling back with the nozzle on the fire floor landing. This places your lead length in an advantageous position. Gravity and the weight of the hose will provide forward momentum into the fire area as the hose travels down the stairway toward the entrance door.

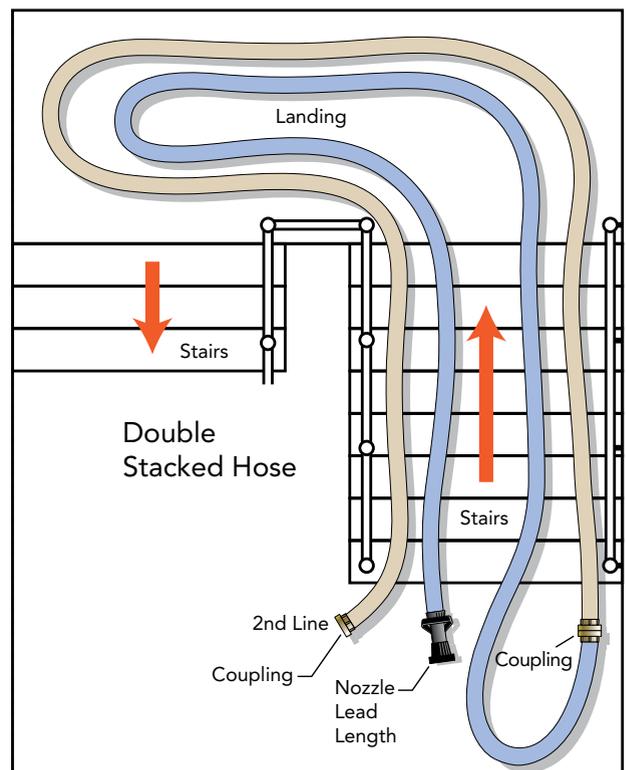
We can also use the off apartment for laying out the lead length. The best area to use is an occupancy that is directly

across and in line with the fire occupancy. By using this space, you have basically built a large runway for your advance into the fire area similar to a long hallway. You may be turned off to using this approach because you may have to force entry into an uninvolved occupancy; however, the advantages of this initial positioning far outweigh some limited collateral damage. By using the off apartment, you already have your line squared away and will be advancing directly into the apartment. If you were to charge the line from a position below the fire floor, the hoseline would most likely suffer from a rubbing issue as you enter the entrance doorway if the apartment is not directly in line with the stairway steps.

## HIGH-RISE RESIDENTIAL

A hoseline set up at a high-rise residential building takes the form of either a wet or a dry stretch. In the dry stretch, you lay out your attack line from the standpipe on the floor below to the fire apartment. This stretch should be clean and direct. That means that, most likely, the lead length will be the only thing that moves once the line is charged. You accomplish this by knowing your buildings, but even if you do not know the layout or the expected amount of hose required inside the fire occupancy, you will still lay out the hose the same way, making sure not to have excess hose on the fire floor. You must estimate the distance to the fire area using the floor below as a guide; if the distance is significant, you may have to place the third length on the fire floor. If your estimate from the floor below is less, then one length of hose will be needed from the attack stairway door to the fire occupancy.

**Figure 2. Double-Stacking the Hoseline**





# Quality Hoseline Management for a Better Forward Advance

### COURSE EXAMINATION INFORMATION

To receive credit and your certificate of completion for participation in this educational activity, you must complete the program post examination and receive a score of 70% or better. You have the following options for completion.

#### Option One: Online Completion

Use this page to review the questions and mark your answers. Return to [www.FireEngineeringUniversity.com](http://www.FireEngineeringUniversity.com) and sign in. If you have not previously purchased the program, select it from the "Online Courses" listing and complete the online purchase process. Once purchased, the program will be added to your **User History** page where a **Take Exam** link will be provided. Click on the "Take Exam" link, complete all the program questions, and submit your answers. An immediate grade report will be provided; on receiving a passing grade, your "Certificate of Completion" will be provided immediately for viewing and/or printing. Certificates may be viewed and/or printed anytime in the future by returning to the site and signing in.

#### Option Two: Traditional Completion

You may fax or mail your answers with payment to *PennWell* (see Traditional Completion Information on following page). All information requested must be provided to process the program for certification and credit. Be sure to complete ALL "Payment," "Personal Certification Information," "Answers," and "Evaluation" forms. Your exam will be graded within 72 hours of receipt. On successful completion of the posttest (70% or higher), a "Certificate of Completion" will be mailed to the address provided.

### COURSE EXAMINATION

- Which of the following is not an option for placing hoselines?
  - Door
  - Side entrances
  - Rear doors
  - Windows
- Windows are not usually considered an initial hoseline placement option, why?
  - Hoseline advances usually do not take place there
  - Windows are difficult to enter
  - Windows are hard to chock open
  - Energy-efficient windows are difficult to ventilate prior to advancing
- The unspoken problem of transitional attack with the initial hoseline, and using the same line for both exterior and interior attack is:
  - Likelihood of injuring firefighters
  - Likelihood of numerous kinks in the hoseline
  - Poor initial hoseline placement
  - Usually need two different diameter hoselines
- If the initial hoseline is used for transitional attack, and then brought back to the entrance door, the line will most likely suffer from a:
  - Poor layout position
  - Increased friction loss
  - Decreased water pressure
  - Short hoseline stretch
- Engine companies that stretch their hoseline to the entrance door, and do not position it for a rapid interior advance, are doing only a portion of what is required, and are setting themselves up for a more difficult and frustrating interior advance
  - True
  - False
- When you encounter a fire at street level, the lead length of the hoseline should be folded into what shape?
  - O
  - Z
  - W
  - U
- To create a "U" shape in the lead length:
  - Bring the first coupling back from the nozzle up to the same location as the nozzle
  - Bring the second coupling back from the nozzle up to the same location as the nozzle
  - Create the "U" in the hosebed, and carry it to the entrance
  - Bring the nozzle to the first coupling, leaving the first bend of the hose near the entrance
- The lead length of the hoseline should be in line with:
  - Engine apparatus
  - Pump panel
  - Entrance door
  - Either the "B" or "D" exposure building
- With the hoseline perpendicular to the entrance door, there is more friction advancing the hoseline
  - True
  - False
- Overall speed of the hoseline advance determined by which of the following:
  - Conditions encountered
  - Interior layout
  - Visibility
  - All of the above
- The vast majority of hoselines are stretched from what type of hosebed?
  - Preconnected
  - Rear
  - Divided
  - Long
- Stretches from static hosebeds can also suffer from overstretching
  - True
  - False
- Hand stretches for \_\_\_\_\_ buildings are often over-looked as a contributing factor in an ability to defeat the fire
  - Residential
  - High-rise
  - Commercial
  - Loft



## Quality Hoseline Management for a Better Forward Advance

### PROGRAM COMPLETION INFORMATION

If you wish to purchase and complete this activity traditionally (mail or fax) rather than Online, you must provide the information requested below. Please be sure to select your answers carefully and complete the evaluation information. To receive credit, you must receive a score of 70% or better.

Complete online at: [www.FireEngineeringUniversity.com](http://www.FireEngineeringUniversity.com)

### PERSONAL CERTIFICATION INFORMATION:

\_\_\_\_\_  
Last Name (PLEASE PRINT CLEARLY OR TYPE)

\_\_\_\_\_  
First Name

\_\_\_\_\_  
Profession/Credentials License Number

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Suite or Apartment Number

\_\_\_\_\_  
City/State Zip Code

\_\_\_\_\_  
Daytime Telephone Number with Area Code

\_\_\_\_\_  
Fax Number with Area Code

\_\_\_\_\_  
E-mail Address

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Mail or fax completed answer sheet to  
Fire Engineering University, Attn: Carroll Hull,  
1421 S. Sheridan Road, Tulsa OK 74112  
Fax: (918) 831-9804

### PAYMENT & CREDIT INFORMATION

Examination Fee: \$25.00      Credit Hours: 4

Should you have additional questions, please contact Pete Prochilo (973) 251-5053 (Mon-Fri 9:00 am-5:00 pm EST).

- I have enclosed a check or money order.
- I am using a credit card.

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### ANSWER FORM

Please check the correct box for each question below.

- |   |   |
|---|---|
| 1. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 11. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 2. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 12. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 3. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 13. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 4. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 14. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
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| 8. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 18. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 9. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D  | 19. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 10. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 20. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |

### COURSE EVALUATION

Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 1.

- |  |       |   |   |     |    |
|--|-------|---|---|-----|----|
| 1. To what extent were the course objectives accomplished overall?                           | 5     | 4 | 3 | 2   | 1  |
| 2. Please rate your personal mastery of the course objectives.                               | 5     | 4 | 3 | 2   | 1  |
| 3. How would you rate the objectives and educational methods?                                | 5     | 4 | 3 | 2   | 1  |
| 4. How do you rate the author's grasp of the topic?  | 5     | 4 | 3 | 2   | 1  |
| 5. Please rate the instructor's effectiveness.   | 5     | 4 | 3 | 2   | 1  |
| 6. Was the overall administration of the course effective?                                   | 5     | 4 | 3 | 2   | 1  |
| 7. Do you feel that the references were adequate?  |       |   |   | Yes | No |
| 8. Would you participate in a similar program on a different topic?                          |       |   |   | Yes | No |
| 9. If any of the continuing education questions were unclear or ambiguous, please list them. | _____ |   |   |     |    |
| 10. Was there any subject matter you found confusing? Please describe.                       | _____ |   |   |     |    |
| 11. What additional continuing education topics would you like to see?                       | _____ |   |   |     |    |

### PLEASE PHOTOCOPY ANSWER SHEET FOR ADDITIONAL PARTICIPANTS.

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**COURSE EVALUATION and PARTICIPANT FEEDBACK**  
We encourage participant feedback pertaining to all courses. Please be sure to complete the survey included with the course. Please e-mail all questions to: [Pete Prochilo, peter@penwell.com](mailto:Pete.Prochilo, peter@penwell.com).

**INSTRUCTIONS**  
All questions should have only one answer. Grading of this examination is done manually. Participants will receive confirmation of passing by receipt of a verification form.

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Completing a single continuing education course does not provide enough information to give the participant the feeling that s/he is an expert in the field related to the course topic. It is a combination of many educational courses and clinical experience that allows the participant to develop skills and expertise.

**COURSE CREDITS/COST**  
All participants scoring at least 70% on the examination will receive a verification form verifying 4 CE credits. Participants are urged to contact their state or local authority for continuing education requirements.

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