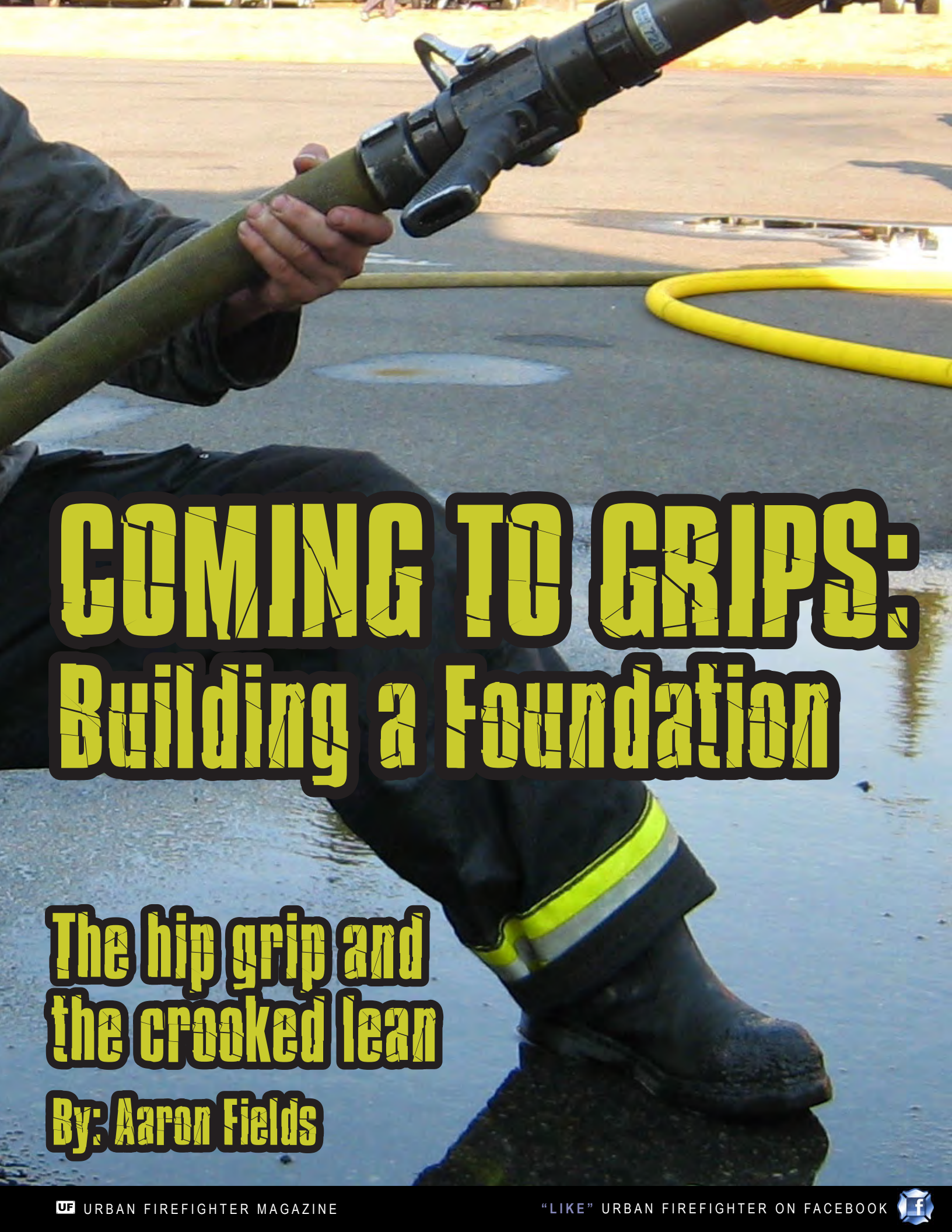

SEATTLE



COMING TO GRIPS: Building a Foundation

The hip grip and the crooked lean

By: Aaron Fields

Good engine work starts with good hose work. Being able to use our tools effectively increases function and ease. We are fighting fire, not fighting hose; mechanical advantage is our friend.

Throughout my career to date I have only really wanted to be a good engine guy. Over the years I have done what everyone does, take classes, read journals, trying to stay up on the job, trying to refine my own skills, make my own small contributions. I have done this by mostly listening and sweating.

History makes everyone humble, (if we are paying attention,) nothing is new. Nevertheless we can all leave an imprint on the mold from which we are borrowing. Over the years I have tweaked and adapted methods to fit my environment. Originally I worked for a department that staffed rigs with three bodies. Today, working for the Seattle Fire Department, we get off the rig with four.

Despite the logistical differences between departments, the objectives of engine company work don't vary. My focus on hose work stems from originally doing with fewer bodies what many places do with more. I needed mechanical advantage; I needed a model that would allow the line to make the push towards the seat, I needed to overcome the lack of backs with technique.

In regards to the following article, the terminology is simply an effort to be descriptive. Take what works, call it what you will, fit those things into your own skill set.

At the worst, we should be able to advance a line while keeping the nozzle in a "combat ready position." Hoisting it over your shoulder and crawling isn't always an option. The ability to apply water at any moment is a critical skill.

We need to commit enough folks to the line, create nozzle teams, (as compared to nozzle a nozzle person,) moves quickly extinguish the fire. The following positions are two of the three foundation positions that we work.

(Before a safety chief somewhere blows a gasket, the lack of gloves in the following photos is so the hands stand out clearly. What you will find is that gloves don't hinder the grips at all, as the "grip" is coming from pressure and friction. I promise no hands were hurt in the photo sessions for this article.)

The ability to advance a line while controlling the fire-stream is a critical skill for every nozzle team. Simply put, the focus on the technique is often overlooked. With many companies across the country under-staffed we must adapt methods which allow us to reach our goals.

The two grips that are being discussed are tried and true deviation of several different techniques ranging from Oakland to New York, and many places in between. My variations are designed to give the nozzle team more function, control, and the ability to move and flow water at the same time, in addition to employing the same technique in a "hit and move" situation. Finally rather than simply a collection of techniques, these center around a principle of line use, a mechanic of positioning oneself to a line as well as another member. Of these principles the following are two

examples, the “hip grip” and the “crooked lean.” We should have one skill-set usable for both hand-lines.

As a firefighter riding an engine with four members, the need to increase mechanical advantage on the line, while allowing for the same accomplishment of tasks was my motivation.

The principle of this method is one of triangles. The nozzle-person and the number two, sometimes called the “heel,” must orientate themselves to the line and each other using a series of triangles. This gains mechanical advantage and will allow the nozzle to focus on directing the stream, rather than pulling hose. If we are fighting the line we are not fighting fire.

The methodology starts with the standard “hip grip” for the nozzle-person. The basic grip is the standard grip both standing and the ground. This grip allows for the greatest control and flexibility in line use.

This is the foundation grip for both 1 ¾ and 2 ½ hand-lines. No matter if we are standing or kneeling, the technique is the same. Create a “corner” or “shelf” between our hip and the top of our thigh and press the line into the shelf.

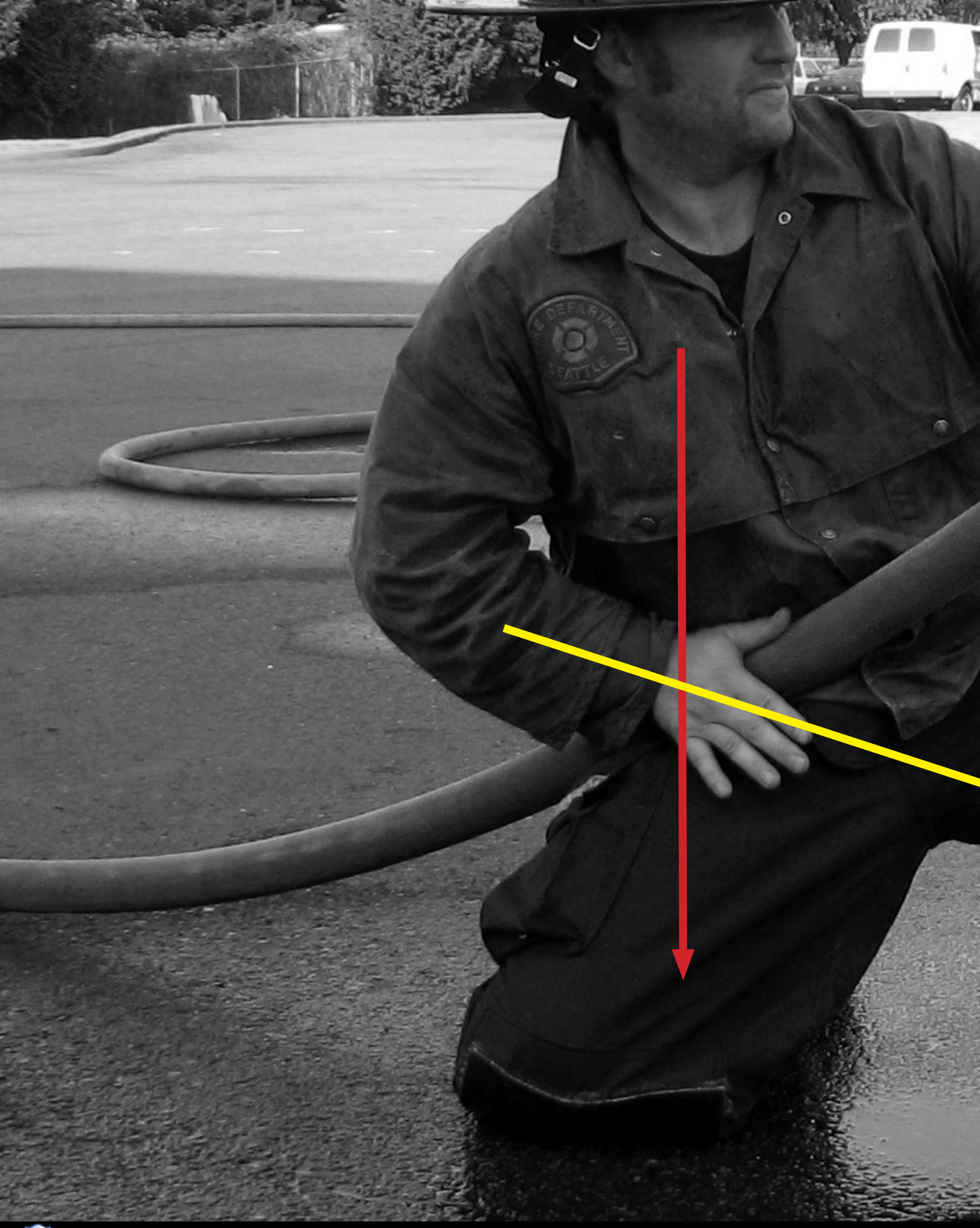
In cases where the line is a low pressure line, especially when using a 1 ¾ line, the nozzle person may need to adjust the amount of hose kept in front of them to prevent kinking. In addition, they may opt for a low pressure hip grip, where the rear hand elbow has taken the place of the back hand, allowing the hand to come forward on the line and add support.

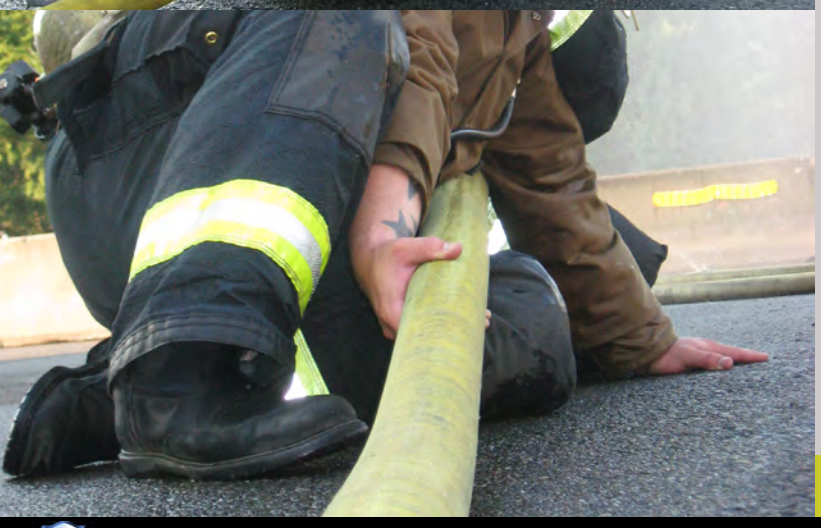
An arm’s length of hose should stay in-front of the nozzle-person. If the nozzle-person can reach the tip of the nozzle with the lead hand, it is usually an accurate measure of correct spacing on the line. Nevertheless, each person will need to find their own ideal spacing. The hands never cross and never use pistol grips. Directing the stream is primarily done with the hips, leaving the lead hand to fine tune the stream.

The backhand keeps the line pressed in and down through the hips, usually the back hand is slightly forward of the hip bone. This grip gives the nozzle the greatest control over the line and application of water in addition to controlling the nozzle reaction.

The grip on the line comes from the friction created between the line and the “corner” we have created with our hip. The back-hand can increase and decrease the pressure as needed. Typically when the nozzle-person is standing the back-hand pressure is increased, when compared to kneeling.

In comparison to a more standard under the arm grip, the hip grip


DEPARTMENT
SEATTLE



provides greater control as the nozzle reaction and weight of the line is taken up by the skeleton rather than relying on compression between the arm and ribs. In addition, by putting the nozzle in line with center mass, the skeleton takes the nozzle reaction.

The bodyweight triangle of the nozzle-person should always be leaning forward or backwards when using the line. When kneeling the nozzle-person will lean back from the nozzle pressure, allowing the "heel" person or the ground to absorb the nozzle-reaction. In addition, the amount of line in front of us is often a few inches less than when compared to standing.

When standing the nozzle person will lean backwards into their heel person if that person is present. If it is a "quick hit" situation and the nozzle finds themselves standing without help, they will lean their bodyweight forward.

Nozzle reaction is a force that we should employ to help with balance. The ability to anticpate a correctly flowing line is by feel is critical.

Again, the line will be pressed into the "corner" but also should be pressed down toward the front of the hip.

Keep the hose coming straight into the nozzle-person's hip. The line should always come straight into the nozzle-person's, (or nozzle team's,) back hip from the ground.

The "Crooked Lean" is position for a nozzle team to employ when the need arises for two person nozzle work with either the 1 ¾ or 2 ½ hand-line.

The crooked lean works while kneeling or standing. In addition, it gives the nozzle team a way to advance the hose while flowing water as well as flowing water for extended periods of time without moving. Finally the position's use for a "hit and move fire" should not be overlooked.

Relying on mechanical advantage, it allows the nozzle team control and the ability to move quickly and without undo fatigue.

The heel person is angled forward with their shoulder, (or arm in the case of a 1¾,) pressing into the nozzle-person's back. The point of contact for the heel's shoulder is where the nozzle-person's bottle and shoulder meet. The nozzle should again, be leaning back into the "heel."

In the crooked-lean the bottles over-lap, adding stability to the position, especially when moving.

Pay attention to the triangles in the bodies, as well as the triangles within the individuals' positions. The nozzle team should be coordination and connected when moving. They must maintain their respective leans into one another.

The photo to the right shows the control that the nozzle team has with the "crooked lean," It is for demonstrative purposes only. Such "Tom Foolery" is clearly the actions of unsupervised firefighters.

While moving, (a "push",) the key is that the nozzle-person is lifted and pushed forward from the heel position. The nozzle's back leg should be light and their center of gravity higher than the heel's. The lead leg should be stepping when pushed forward allowing the back leg to "shuffle forward." Do not anticipate the forward push from the heel position, simply allow the bag leg to slide forward and then extend the lead leg.

THE "CROOKED LEAN"

The heel person should maintain the same position while moving. Keys to remember are:

1. Back leg stays up, lead leg stays down.
2. Back arm stays straight and drops down inside the back knee. The hose should never be lifted over the back leg. (Remember the line always comes from the ground to the hip.) Also notice the back-arm's grip. The under-grip gives better control and less fatigue than grabbing over the line. In addition, it reduces thetendency to try and pull the line with the arm. Consider this back arm a "cable."
3. The lead arm, (left arm in this case,) is on the ground when moving. The elbow of the lead arm assists the nozzle person in keeping the hose locked into a "hip grip." In addition, the drive when moving comes from the lead arm and back leg.
4. When moving don't pull the hose with the back arm. Maintain a "locked in" position, letting the body movement itself drag the line. As the heel, our goal is to move the whole "structure" without changing our spacing on the line.

When moving, regardless of kneeling or standing, one person is the "motor" for the movement.
When moving forward, the heel person is the push and the nozzle slides along for the ride.

When moving backwards, the nozzle-person is the motor and the heel person is sliding along for the ride.

One fine point to note as the nozzle-person's back leg and the heel's lead leg are not touching. Both members are leaning on the other. When the two legs come together the ease in movement is reduced. Also, the heel's back hand is kept in line with their up knee. Reaching too far back hampers their ability to lean forward.

Communication is a must, not only with each other, but also with the other members on the line. Take the time to get this position set up, prior to moving. Don't be in a hurry to get somewhere without getting the team situated correctly.

When moving through a structure and flowing water make a inverted "U" pattern up the walls and over the ceilings, brushing back and forth. Also, don't forget to paint the floor in front of you, clearing the floor of debris and embers. It should be noted that this position works well to advance hose without flowing water as well. All the same principles apply.

When in a crooked lean, the nozzle-person's job is to fight fire and maintain an arm's length of line in front of themselves. There are two options regarding hand placement.

In this photo you can see that the nozzle person has slid the backhand forward out of the standard "hip grip." This makes it very easy to maintain sufficeint line in front of themselves.

As you can see with the picture to the right, the nozzle-person and the heel person's arms are doing the job of the back hand found in the "hip grip." (The two arms are keeping the line pressed into the nozzle-persons hips and maintaining the fricition point on the "shelf" of the thigh.) The above position works very well for 1 ¾ lines, as the lines are more likley to kink than a 2 ½ line. The backhand being more forward gives the working portion of the line more stability.

The second position is a typical "hip grip" position that is described earlier. The photo to the right shows this option. The nozzle-person's backhand presses the line into the "shelf" created on top of the thigh and the hips. (Remember, typically pressing in and down slightly forward of the hip gives the best results. Also, notice that gripping the hose with the backhand is not necessary in a well-done hip grip. The control from the grip is still from the pressure in and down. Even when the fingers close around the line, keep the grip loose.

This photo illustrates how the nozzle person should prop themselves up on the heel. This helps the heel on the advance, by allowing them to not only push the nozzle forward as well us up, relieving the weight

This shot to the right shows a top view of the interlocking of the bottles. The bottles add stability to the position when properly positioned.

To the right is the “heel’s” position when recovering line for the nozzle or when the line is not moving but flowing water for extended periods of time. Notice the inside legs and the amount of space between them and how the lead arm of the heel and the rear arm of the nozzle are connected and keeping the line pinched on the nozzle-person’s hip.

When the nozzle-person has lost adequate hose in front of them the advance will stop and the heel will grip the line and pull, shoving line to the nozzle-person. Once sufficient line has been pushed forward, the nozzle team can begin the advance again.

Finally, here is a heel and the third back (door-man) using half of a “Crooked Lean” to move hose further back on the line. Notice the backhand has gripped under the hose and the arm is kept straight. These are critical points when using any variation of the “Crooked Lean.”

Move hose well, be able to direct water in any direction at any time and don’t fall into the “Metallica” trap. Firefighting is a smooth process not a frantic one. Competency and comfort allow us to work our environment; our tools cannot take focus away from what we are actually doing. By moving more like Marvin Gaye, smooth and efficient, we allow ourselves to pay attention to what we are doing. With regards to engine company operations it all starts with hose. Do good work. UF