

# Fire Engineering®

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- [Jason Jefferies](#) on November 20, 2012 at 7:49am

Now that I have your attention, it is time we speak about buckling up. Before your attention wanes because you think this is yet another fire service writer imploring you to wear your seatbelt, realize that I do not wish to speak of seat belts in this post. I do wholeheartedly agree with wearing a seat belt on the apparatus, but that is a subject for another day. Take a look at the photos below, and I want you to take in the stark difference between the two.



Despite what you may have been told, what you may personally believe, or even the way you were trained, if you wear your SCBA like the photo on the bottom, you are wearing it incorrectly. Wearing it in this manner is incorrect on many levels—philosophically, ergonomically, and functionally. Your SCBA was not designed to be donned and worked in with the waist belt unfastened. Furthermore, traipsing around the fireground with an unfastened waist belt can actually jeopardize any operation in which you participate. The reasons why firefighters are willing to don their SCBA incorrectly are numerous; poor discipline, poor fundamental skills, and even a desire to appear “cool” play into the equation. Look in any trade journal and sometimes, even on the cover photos, you will see firefighters operating with their waist belt dangling by their legs. Wearing it in this manner is incorrect on many levels, and there are many reasons to support this.

The FSW Ethos, which can be found at [www.fireservicewarrior.com](http://www.fireservicewarrior.com), states “Fire Service Warriors wear seat belts, helmet straps, SCBA, and all PPE.” This part of the Ethos does not differentiate between automatic fire alarms, odor investigations, or working fires. It is intended to mean ALL responses where the possibility of

encountering the products of combustion could be present, including car fires, dumpster fires, rubbish fires, and of course building fires. I have responded to thousands of automatic fire alarms in my career. Over 99.9% of them have been false alarms, yet there are seven that stand out. Those seven were incidents where there was actually a



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working fire in the building instead of a malfunctioning or maliciously activated alarm system. Had I taken a lackadaisical approach to donning my gear, I would have been literally caught "with my pants down." Despite the fact that we have the potential to fight fire at any alarm that sounds, I always see firefighters without their waist belt fastened. This has caused me to ask many of them, "Why?" Most of the time my query is met with a roll of the eyes and some dismissive remark. I can accept that—You cannot change some people. What shocks and dismays me are the firefighters whose answer is something like this: "I wear it like this because it is an alarm. If we were at a working fire, I would fasten it. Why don't you chill out you gear Nazi?" I am sure many of you have heard something similar. What is more shocking is that there are tons of evidence in print, on video, and in firefighters' experiences that show that there are firefighters operating at working fires without their waist belt fastened. One could say that at least they are wearing their SCBA; they could have left it off. This philosophy is a set up for failure. The firefighter who possesses this type of mentality is one who I am sure has no qualms about taking other shortcuts in this profession, whether it is failing to carry a tool on a job or pencil whipping the morning apparatus inspection. Being "Combat Ready" and "Expecting Fire" is not a sometimes mentality; it is an every response mentality. Furthermore, the firefighter that claims to wear their gear one way on one type of call and another way on another type of call is developing a muscle memory that will negatively influence their actions when correct action will be called for. Think about it, how many fires do we respond to in comparison to alarms, odor investigations, and false calls? Being consistent in donning your PPE is crucial. So, wear your gear in a consistent manner so that when the automatic alarm turns out to be a working building fire, you are prepared to fight.

Your SCBA harness is designed so that it distributes the weight of the unit across your hips. This can only be accomplished by fastening and tightening the waist belt. Over the course of my career, I have found that I am most comfortable with the waist belt cinched down tight and the shoulder straps slightly loose. Wearing the SCBA in this manner causes the unit to ride on my hips freeing my shoulders and maximizing my range of motion. With the waist belt unfastened, only the shoulder straps support the weight of the unit. Wearing the SCBA in this manner will restrict the mobility of your upper body by pulling down on your shoulders, as well as increase fatigue in your upper body as you work. By having the SCBA donned incorrectly, tasks such as swinging an axe, raising a ground ladder, or pulling ceilings with a hook are much more difficult due to the weight of the SCBA pulling downward on your shoulders. The added strain of supporting the weight of the SCBA as well as the weight of your arms and a tool overhead rapidly decreases the level of physical endurance of any firefighter. Should that firefighter be in less-than-desirable physical condition, how effective do you think they truly are? Not only does bucking the waist belt decrease the strain on your shoulders, it keeps the SCBA stationary on the center of your spine. While the unit changes our center of gravity, it being stationary will allow us to compensate for the difference. Having the waist belt unfastened and the shoulder straps let out will cause the unit to ride low on the spine and become unstable when we bend, turn, or move in an erratic manner. An SCBA that is in constant motion must constantly be adjusted to return to the center of the back; whereas an SCBA that is correctly donned will remain stationary and only need minute adjustments periodically to keep it in the correct position.

On a functional level, there are several instances where not having the waist belt fastened can hamper our efforts. Think about the force required to turn on the main cylinder valve. Most manufacturers have cylinder valves that require the user to push in and then rotate to open the cylinder. With your waist belt fastened and the SCBA in a stationary and secure position, the friction of the waist belt will keep the unit "solid" enough so that we can reach behind our backs and turn on the cylinder. Conversely, opening the cylinder valve on an SCBA without the waist belt fastened will be more difficult due to the possibility of the frame shifting when we deliver the force required to turn the valve. The same applies to accessing your "Buddy Breathing" connections on SCBAs that are equipped with that feature. When the chips are down and conditions dictate that we engage that system, the speed at which we can access those components is paramount. Reaching for a "Buddy Breathing" hose on an SCBA that is shifting on your back may make the difference in surviving and not surviving. Some SCBA designs now feature a bail out system integrated into the frame of the unit. With the waist belt unfastened, accessing and using this system could be severely impacted, not to mention the fact that most of the systems are directly connected to the waist belt. Therefore, on every response you should be dressed out for war, not for play.

The potential to become entangled is increased with an unfastened waist belt. Consider the fact that the male end of the buckle is narrow and heavy. If it falls into the grate of a floor drain, all it takes is a slight twist in the unsecured end to become tangled and this could prove tragic.



The female end is large enough to hinder us should the strap fall and slide under a doorway.



While these are examples that are not highly probable, there still exists the potential for them to occur. Despite our best intentions, Murphy's Law has always found a place on the fireground. There are enough variables we cannot control, so controlling those that we can is extremely important. There are plenty of places on our protective ensemble for us to become snagged or entangled. Be smart and do not add two more by leaving the waist belt unfastened.

It is conceivable that a firefighter who wears their SCBA belt unfastened can go through his or her career and never encounter a major problem during fireground operations or even in training. There is nothing about the waist belt that affects the function of the unit delivering air from the cylinder to the face piece. It may seem to you that I am on a soapbox about a relatively benign subject, and that not fastening the waist belt has no consequences for others. Look at it from this perspective: What if your slack man on the initial attack line has his belt unfastened, and instead of humping hose towards you, he's fumbling with his SCBA to get it re-centered on his back so it does not slide around? Now your advance is delayed and the fire extends out of its compartment towards you and there is kink in the hose where your partner is fiddling with his gear. Or this scenario: The firefighter tasked with opening the roof has her belt unfastened and is struggling to swing the axe with sufficient force to cut the decking, due to the added strain on her shoulders from the SCBA weighing her down. Now ventilation is delayed, the attack team is taking a beating, and search crews are slowed due to very low visibility. When you look at it in those terms, it is easy to see that wearing our PPE in the correct manner can have a direct impact on the entire operation. Be smart, control what you can control, and for the sake of yourself, your crew, and everyone else on the box alarm, BUCKLE UP!!!