

# Apparatus Operator: The Force Multiplier on the Exterior

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Traditionally, fire service training for a driver operator has focused on driving the apparatus and pumping. We need to challenge the thought of confining our drivers to the apparatus, they should not be sidelined. With proper communications, well-established expectations, and training, driver operators can become a force multiplier on the exterior, resulting in gains on the interior.

An efficient fireground begins in the station and is carried out into the streets. Firefighters must arrive at the station and be prepared to go to work. Retired Battalion Chief Wil Stephens, of the Richmond Heights (MO) Fire Department, used to tell his crews, “The station does not go out the door,” meaning take care of the rigs first, station second. Simply changing the phrase of going to work to reporting for duty changes your perspective. When you report for duty, you should have your gear at the apparatus and your uniform on. You remain that way until your relief is in that same position. And you must give and receive a thorough, pertinent apparatus report.

Apparatus checks can get mundane. Checking the rig repeatedly becomes difficult, when very little—if anything—changes. At times, your mind will play tricks on you and make you think you saw something in place, when you, in fact, did not. This is known as cognitive bias or frequency illusion. For example, if you typically drive to a four-way stop and do not encounter a car, your mind is trained not to see that other vehicle. Then one day the other car is there, and you completely miss it. This is why assigning a new driver to a company provides fresh perspective.

Companies must occasionally switch up the rig checks. Here’s a checklist:

- Check the rig as a company.
- Do a thorough inventory.
- Focus on a compartment. (Crews can conduct focused training on equipment in that compartment.)
- Clean the compartment and equipment.
- Inventory the equipment.
- Ensure the equipment has company markers on it.

Apparatus checks should ensure the truck is at top performance. Water tanks should be 100% full. (The driver fills the tank until it overflows.) For example, on your apparatus the tank gauge can show “full” with 160 gallons of water missing out of the tank. That’s one minute of flow time.

Air bottles should be at 100%. Once again industry standards state 4,000 PSI in a 4,500 PSI bottle is acceptable, with PSI equating to minutes. Fill the air cylinders to 100% full whenever you have the opportunity. What is the calibration due dates for equipment on the apparatus? As calibration dates

approach, follow the proper channels to ensure the equipment is calibrated on time. Equipment operating past calibration is a liability and can be dangerous.

Along the same lines as calibration dates are expiration dates of equipment, particularly EMS equipment. Read the owner's manuals on proper equipment maintenance, especially batteries. Batteries are becoming the mainstay of our equipment, and we must properly charge them for maximum efficiency and product life.

Know the flows of your handlines. Develop a pump chart to help you with proper flows when you're extending lines or line configurations beyond the standard layout. If you don't know how to develop a pump chart or you don't have the resources to perform a flow test, contact your local hose or nozzle company representative. They are typically more than willing to assist you with this project.

Look at the pump of your apparatus and identify the most efficient intakes and discharges based on pump piping configurations. Large-diameter intakes and discharges may not give you the greatest flow in the presence of bends and elevation changes. One of your greatest challenges may occur when you are operating on a rig you are not used to. This could be a new apparatus you are detailed to **for** another company, or it could be if you are operating in a reserve.

Each apparatus has its own personality. My organization has four identical pumpers, built and delivered at the same time. Even so, each one has its own personality. Take some time to become familiar with the apparatus you are assigned to, even if it is only for a day. When conducting a pump check perform it at fireground speed. Some apparatus have a quirk where a slight pause is required before it is placed into pump. When performing a pump check at a slower-than-fireground speed we might not identify that quirk during a truck check, this can become problematic on the fireground.

Our apparatus operator training has prepared us for the responsibilities of operating on the roadways. It's important to remember that apparatus accidents are still among the leading causes of firefighter line-of-duty deaths. The safety of the crew and the public is in your hands. Know your routes based on the following factors:

- Time of day.
- Construction activity in the area.
- Temporary road closures.
- Low bridges. Bridges with weight limits.
- Weather.

All of these factors can play into our routes if you have known low roadways subject to flooding. One thing our company does is have some standard landmarks to head to. For example, as the company officer, I will tell the driver to head toward the water tower. This gets him well on the path to the incident. This allows me time to finish preparing for the call and not having to give directions. Once we get closer, we can fine tune our travel path.

Always *position* an apparatus. Do not *park* an apparatus. Once again, this is about your frame of mind. Even when you go to the grocery store, you position your apparatus for an emergency departure. Proper positioning expectations should be communicated well before an incident. Positioning discussions should include fires based on order of arrival, EMS calls, roadway calls, and even fire alarms.

When you arrive on the scene of a fire alarm, your apparatus should be tactically positioned. This way, if a fire is discovered, you are ready to work rather than spending time repositioning. For example, your company arrives at a school known for having frequent false alarms. After repeated false alarms crews may want to simply pull up in the bus lane, let the crew off as if they were dropping kids off. We must tactically position the apparatus on every single alarm sound regardless if it's the first one ever or the fourth occurrence that day. As a driver, you must get into the habit of spotting fire hydrants anytime you position your apparatus. Practice this on building inspections, EMS calls, PR assignments. You should be able to spot hydrants anytime you step out of the rig. It needs to be second nature.

One limitation of ladders being deployed from the rear of the apparatus is that when vehicles park too close, access is blocked. Some companies have their apparatus operator place a cone behind the truck to reduce the risk of blocking access to ground ladders.

## On the Fireground

Once you're on the fireground, have your radio on, and on the proper channel, at the time of arrival. In the event an officer makes a discovery on their 360, an immediate need might be transmitted over the radio with the expectation that you are going to fill that need. For example, a victim may be hanging out a window and the officer may need a ladder on the C side. As the driver, you must practice a solid workflow plan, building efficiencies where movements flow naturally in a rhythm. Check that handlines are completely off the apparatus and assist crews in getting the lines into position. Once charged, check for kinks in the line and consider deploying a second line to prepare for the arrival of additional companies. Workflow must now continue to establish a water supply and support the operational needs of the company as they enter.

When you're arriving as a second-in engine company, you can support the needs of the first company. A concept that is gaining traction in a lot of organizations is immediately connecting the first-in engine to the second engine for water supply.

This approach has several advantages. Once you're attached to a static water supply you'll have two booster tanks of critical reserve water in the event of a water supply interruption. When the hydrant line is connected to the second pumper you now have a redundant pump. Pump failures are not common, but this additional margin of safety is nice to have.

During residential house fires, our so-called bread and butter operations, extinguishment efforts can typically be handled by two booster tanks. The engine-to-engine water supply is not a replacement for establishing a longer-term water supply plan by utilizing a hydrant or tender shuttle. When you're establishing a water supply off a multioutlet hydrant, a gate valve should be placed on an additional outlet to allow for expansion of a water supply.

Be sure to perform a size-up as well. We often think of reading smoke as an officer's responsibility, but drivers must take classes to learn how to read smoke. Once a crew enters the structure, the driver is the only person left on the exterior, and the only one who knows what the conditions were on arrival. As the driver, you are going to be the initial safety officer. You must assist in identifying whether changing conditions will require a tactical shift.

Another size-up activity that you'll need to perform as the driver is assessing people on the scene. Consider the following:

- Is the occupant trying to get back into the structure?
- Are there familiar faces you have seen on previous fires? (If so, do we have an arson problem?)
- Is there increased aggression or agitation in the crowd?

All of these factors play into the safety of the crews operating in the interior.

The driver must be looking on the incident horizon to identify the crew's next needs, especially during first-due operations and prior to the arrival of a chief officer who will establish a formal command post.

One task that can be filled the role of tool sherpa, which is filled by the person who handles the following:

- Staging forcible-entry tools at the front door.
- Preparing the ventilation fan.
- Starting saws.
- Staging ladders around a multistory structure. (If you can't carry it, drag it.)
- Staging rapid intervention team (RIT) equipment.
- Staging a roof ladder and little giant ladder in the front yard of structures with basements for RIT purposes.

Statistically speaking, the first-in company is most likely to call the Mayday.

## In the Event of a Mayday

If you are the pumping apparatus at the time of a Mayday, start checking your operations. And remember that it is absolutely acceptable to ask another driver to double check your operations. Has there been a pump failure? Are all of your lines charged? If not, charge them.

Sometimes interior crews will misidentify the line or apparatus they took a line from. Check your gauges. Do you see any indication of lines that are flowing or worse, free flowing? If a crew is calling for water and it appears their line is flowing, there is a chance the line has burned through. Is there water in the tank? Have you lost your water supply?

Chase kinks out of all hoses. This should be a standard practice for everyone on the fireground, as kinks kill. Identify the problem and fix it. Drivers must be trained and challenged to overcome problems while pumping.

If your apparatus is not actively involved in the firefighting/Mayday operations, be prepared for reassignment. Command may assign you to become an attack pumper. You might be assigned to become a second RIT company with other drivers. You may be assigned to stage RIT equipment and support RIT operations. You might be assigned as a command aide to assist in listening to radio traffic or performing accountability.

As a driver, you must not lose sight of your personal safety. Don't be the reason a Mayday is called. Operate within the previously established plans. Wear your personal protective equipment (PPE), if you are encountering smoke or toxic gases wear self-contained breathing apparatus. PPE should include cut resistant work gloves to protect your hands. Firefighters have suffered degloving injuries removing kinks from large diameter hoses. Stay out of the immediately dangerous to life and health zones, including collapse zones. Participate in incident accountability. Participate in incident rehab, as drivers are often

overlooked for rehab operations. Operating at the fireground is stressful and physically asserting for all personnel on scene. Rehab helps us identify any immediate health issues. At the station, eat well and exercise.

## After the Fire

When the fire is over, you still have work to do. Set up a decon corridor for personnel, tools, and equipment. You want to leave as much contamination at the scene as possible. Once you're back in quarters, thoroughly clean and inspect all the equipment that has been used. Ensure it is in tip-top shape for the next incident.

We all know that cancer is the leading cause of firefighter deaths. Just because you survived the incident today does not mean it is not going to kill you tomorrow through cancer. Decontamination, clean equipment, clean PPE, and showering after incidents are all steps you can take to reduce your carcinogen and other toxic exposures.

The National Institute of Standards and Technology study found a four-person engine company is 25% more efficient on the fireground, if all members are engaged. The fewer people we have in a company or on the fireground, the more we are going to rely on the skills and abilities of all present. I recently had the opportunity to observe an organization performing National Fire Protection Association (NFPA) 1410, *Standard on Training for Emergency Scene Operations* drills. All crews performed well and times were all relatively close to one another; however, we know speed and efficiency saves lives on the fireground.

Companies must always strive for top performance. I spoke with a training officer who shared my perspective: The top times and the bottom times largely fell on the performance of the driver. For top-performing companies the driver was quick, efficient, and leaned forward in supporting the needs of the crews. The companies with the slowest time often fell into the workflow of the driver. This is easy to fix through training and development of a good workflow. This will increase the company's efficiency.

The internet is full of parody videos and memes created at drivers' expense. Many driver operators are performing to the expectations of their organizations and/or company. It is time we raised expectations. For a fire company, the apparatus operator is in a unique position. In many cases, they work independently of the company on the incident exterior. There is a fine line between operating independently vs. Freelancing. Setting clear lines of expectation and training assist in reducing this risk. We need to fully engage all our available resources for a safe and efficient fireground.

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