BACKING FIRE APPARATUS INTO THE STATION BEST PRACTICES

Fire trucks are big and getting bigger. The reasons are many and varied. A common factor is a limited workforce. Some fire departments cannot staff multiple apparatus, so they purchase rigs that can be used for multiple types of incidents. The result is larger apparatus with larger blind spots. Larger blind spots create a greater hazard when backing. We have seen a significant rise among members in the frequency of backing accidents that involve fire apparatus. Many of these are backing into the fire station. You can take precautions to prevent this type of incident at your station.

Larger trucks are not the only factor in accidents while backing into the fire station.

- Firehouses and bay doors have generally stayed the same size. While raising a doorway to accommodate a bigger truck is not uncommon, when was the last time a bay door was widened?
- In today's fuel-efficient world, many cars we drive have gotten smaller. It is not unusual for driver candidates to never have driven anything larger than a compact car.
- New Jersey's traffic congestion continues to grow, and apparatus drivers may feel the need to rush to back out of travel lanes.
- The drivers of those cars are more distracted and insulated from the outside world (and us) than ever before.

While we can't fix the issue of traffic congestion, there are several things a fire agency can do to mitigate the hazard of backing into the fire station. Fire department leaders must take steps to assist the drivers in finding and putting the truck in the middle of the existing bay door opening.

1. Extend the Painted Lines on the Apparatus Floor onto the Apron – This will allow the driver to align the truck on the line before reaching the doorway. With the rear tire on the line, the driver knows the vehicle will be centered in the doorway when backing into the bay.

2. Use a Spotter Every Time – Probably no other practice has a more significant impact on safely backing large vehicles than a spotter. Even though a department's drivers are trained and experienced in using mirrors, large vehicles have large blind spots in which conditions can change. Department leaders and drivers who advocate a strong safety culture should insist on spotters whenever backing fire apparatus.

   Spotters and drivers must work together. While the apparatus is stopped on the apron before entering the bay, spotters should check the passenger side for obstructions, such as an open cabinet. They should then position themselves on the driver's side and slightly behind the apparatus. Spotters must stay visible in the driver's mirrors, and drivers must immediately stop if they lose sight of the spotter. Spotters should make it a habit to check the clearance at the top of the doorway. Accidents have occurred when the door was not fully opened as the truck entered the doorway or if the ladder or other equipment was not properly stowed.

   Communication between the driver and the spotter is critical. The spotters should use standard and distinctive hand signals. Page 4 of this bulletin provides samples of hand signals that may be used. Select the set of hand signals that best suits your department and make them part of your written policies.

   Consider two spotters when available. However, only the spotter on the driver's side should give hand signals to the driver. Additional spotters should relay information to the driver through the driver-side spotter or by voice. Drivers should focus on directions from one person.

Extending the painted lines onto the apron and having a spotter allows the driver to keep their attention focused on the driver-side mirrors. The driver should be able to see his rear wheel on the line and the spotter in his driver-side mirrors. Quick checks to backup camera monitor (if provided) can verify clear conditions, but by primarily watching one location (driver's side mirror), the driver can be confident they are clear to back.

To avoid backing too far (or not far enough), hash marks can be added to the lines on the floor to indicate the optimal position for the rear tire. The operator can also see the hash marks in the driver's side mirror.

3. Install Better Lighting Inside the Bay and on the Apron – A common problem encountered in many fire departments is sun glare during certain times of the day. This can make it difficult for drivers to see into the bays to visualize the spotter. Stations on poorly-lit streets may also consider additional lighting onto the apron so the driver can clearly see the lines and the spotter. When designing a lighting plan, consider all weather conditions and ensure the lights do not blind apparatus drivers and the motoring public. Departments can also increase the conspicuity of the doorway by adding brightly colored door edging around the bay door opening. Yellow is the standard color for warnings.

4. Install Bollards – As a mitigation measure, bollards can minimize damage to the fire station when all the above efforts fail. Striking a bollard at low speed may decrease the damage to the truck and eliminate damage to the fire station. Increase the visibility of the bollards by painting them yellow or other distinctive colors.

Now that our stations are prepared, let's discuss the driver. The drivers should be equally prepared to operate large vehicles safely, these three factors will largely influence the safety of backing apparatus into the station:

1. Driver Selection – Fire departments and fire districts have an obligation to ensure driver candidates are carefully screened and meet strict qualifications. We recommend three years of experience as a firefighter and one year as a firefighter in your community before a member should begin driver training. Formal driver training at a local fire academy should be required.

   Motor Vehicle Records (MVR) should be checked. Again, fire departments and districts have an obligation to know their drivers have acceptable driving records. Agencies should establish acceptable MVR criteria and include them in their written policies. Please refer to the MSI Safety Director Bulletin Motor Vehicle Record Check for Non- CDL Drivers Best Practices for additional guidance.

2. Driver Training – Emphasize the backing of fire apparatus in the fire agency's training process. After intersections, backing is the second most hazardous operation of driving fire vehicles. It should be recognized as an essential skill and given the appropriate emphasis in your training program. Knowledge and repetition are key components in building competency. Skills that must be demonstrated should include approaching and backing into the fire station under multiple conditions (direction of travel, times of day, traffic and weather conditions, etc.). Don't forget to train spotters.

3. Driver Evaluations – Apparatus drivers arguably have the most significant impact on firefighter safety. Establish a training and evaluation process that includes a list of required knowledge and skills, ample supervised practice time under various conditions, and demonstrated proficiencies. Do not forget routine tasks, such as backing into the fire station in the department's training and evaluation program.

   Periodic driver re-evaluations should include both formal re-qualification testing and critiques by fire officers who rode the front passenger-side seat, often referred to as the 'Officer's Seat'. Fire agencies may periodically require drivers to demonstrate proficiencies on a course reflecting the driving and positioning apparatus challenges in their district.

   Periodic driver evaluations may also include medical screenings for eyesight, hearing, and physical ability to handle the demands of driving large vehicles in tight spaces under severe time constraints.

   After a response, immediate feedback to the driver is just as important as formal training. Be specific when providing feedback. Telling a driver, "nice job" does not adequately describe what was observed and what the driver did right. It is more effective to say, "I noticed how quickly you were able to get the rear tire on the line," or a similar observation. Officers should also be reminded that positive reinforcement is more effective in promoting desirable behaviors than negative reinforcement is in changing undesirable behaviors.

4. **Written Policies** - Lastly, fire agencies should have strong written policies to guide the actions of drivers, line officers, and training officers. Some items to consider when writing or reviewing Standard Operation Procedures (SOP) include:
    - Who is responsible for ensuring a spotter is in place before backing the vehicle? The driver? The officer or senior firefighter? The other firefighters on the vehicle who will act as spotters?
    - Include pictures of the department's standard hand signals for spotters in the policy. Select one hand signal for each maneuver.
    - Maintenance issues – who is responsible for periodically inspecting lines, lights, and other devices? Is checking that the backup alarm is working a part of your periodic vehicle inspections?
    - If an accident occurs, who will investigate the circumstances and write the report? In what timeframe will this be done? Every investigation should conclude with two items:
        - A letter in the driver's file stating the accident was investigated, the findings, and the resulting action plan. Even if the driver was found to be not at fault, such a letter sends a strong message that all accidents are evaluated to learn something that can improve the organization.
        - An action plan designed to improve the driver and the department. Action plans should answer the question, "Who will do what by when?"

Fire departments back their vehicles into their stations hundreds of times a year. There is a significant history of trucks striking doors and buildings when backing. Even minor incidents can cost thousands of dollars in repairs to apparatus and buildings and can sideline a critical fire department asset for weeks or months. Strong leadership can minimize damage to fire department equipment and operations from this hazard.

We want to thank the Bordentown Township Fire District #2, the Pleasantville Fire Department, and the Wildwood Fire Department for assisting with the pictures.

Safe to Proceed Backward

Stop the Vehicle

Move the vehicle to the right

Move the vehicle to the left

Go Slow. Close to an Obstruction