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## Quint Operations – Does “One Size Fit All”?

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A fire department is comprised of many functional units, referred to as companies. At the basic level, most departments consist of mainly *Engine Companies* and *Truck Companies*. *Engine Companies* are responsible for securing water at the fire scene, putting initial hand lines in position, protecting exposures, operating master streams, and extinguishing the fire. *Truck Companies* specialize in other supporting operations, such as forcible entry, laddering, utility control, ventilation, and search and rescue. There are some departments that provide their firefighters with an apparatus and equipment that can accomplish most of these tasks with one unit. These apparatus are referred to as *Quints*.

Many an argument has been had at town halls and firehouse kitchen tables throughout the country about the true capabilities of the *Quint Company*. The question most ask is, “do those who support the Quint concept truly believe that this vehicle is the “fix-all” apparatus for the Fire Service?

### Quint Capabilities

A *Quint* is a motorized fire apparatus that has a permanently mounted fire pump, an on-board water tank, an area for hose storage, an aerial/elevated platform with a permanently affixed waterway, and an ample supply of ground ladders (fig. 1). These five basic components are what define the Quint’s capabilities. In the era of tough economic times, some have argued that having an apparatus that is equipped to handle multiple functions on the fireground is a good thing.

This flexibility allows the first arriving units to be adaptable to the needs of the incident, depending on when they arrive. Should they wind up being first on the scene, the crew may be required to establish a water supply and stretch in to extinguish the fire. In the event the Quint arrives after the first engine, the crew may need to begin the primary search and ventilation of the fire, as an example.

The Quint has become more user-friendly throughout the years. There have been great advancements in reach and stability, shorter wheelbases, and higher powered diesel engines, which have made these units more capable of any task on the fireground that is required. This apparatus can combat structure fires, provide continued elevated egress, and serve as an elevated master stream all within one unit.



**Fig 1.** A Quint is a motorized fire apparatus that has a permanently mounted fire pump, an on-board water tank, an area for hose storage, an aerial/elevated platform with a permanently affixed waterway, and an ample supply of ground ladders.

## Quint Shortfalls

While the deployment of these units definitely has its merit, there are operational deficits that must be identified as well. First and foremost (and this goes for any piece of apparatus), fire apparatus do not put out fires: **COMPETENT, TRAINED FIREFIGHTERS DO**. The common misconception that many departments make during the purchase of these units is that the crew is equipped to handle both engine company and ladder company responsibilities on the fire ground. To some extent, they are correct; however, the crew cannot handle **BOTH** responsibilities at the same time (Fig 2). So, for those who think that a quint staffed with 4 firefighters can take the place of two 4 member companies are in for a surprise. Combining companies to run with fewer personnel is unsafe and inefficient. This practice ultimately means less work on the fireground is getting done. Any type of firefighting apparatus that is “equipped” with less than four firefighters is unsafe and inefficient, no matter what the incident.



**Fig 2.** The Quint operating at the scene of this fire is operating at the full potential, based upon the amount of personnel that responded with it. While it may have multiple capabilities, multiple operations require a larger pool of manpower on scene.

Additionally, upgrades and advancements in apparatus technology come with some limitations. Smaller vehicles come with smaller capabilities, whether it is related to aerial reach, compartment size and location, or water tank and hose carrying capabilities. Trying to get all of the equipment necessary to function as two different companies onto the boundaries of one vehicle can be troublesome, requiring departments to make tough decisions on what tools and equipment are more important than other necessities.

### **A Quint – Informed Decision**

There are many conditions that will weigh heavily on a department's decision to purchase new apparatus. As most departments are facing financial hardship and are being forced to “do more with less”, the “Quint Concept” seems like an acceptable choice. But, before signing on the dotted line, department leaders would be wise to consider these three points:

**1. *Know your geographic area.*** It is not enough to know about the borders and response jurisdictions in your town. You need to know how the apparatus will arrive and operate at every location within your community. Many apparatus dealers have access to demo models that departments can look at prior to deciding on a unit. It would be wise to take the apparatus for a tour of the potential response areas, and see how it stands up to the needs of the department. Take the unit to the tallest structures in your area and “spot the turntable”. The goal of spotting the turntable is to get the turntable into a position that will allow the device to be used most effectively, usually in an area where the turntable is perpendicular to the objective in question. Does it reach all of the areas it needs to? Can it make it around tight areas to the rear of the structure when it needs to? How much total room is needed to set up for elevated operations? Most people that test a Quint before purchasing do not take into consideration how much room the unit requires when it is being set up for aerial operations.

Next, take it to the “set back” areas of the community, and observe how much aerial capabilities are exhausted just getting from the curb to the upper floor or roof. If the area is known for having large landscapes in front of the residences, what options does the unit have to compensate for reach? Can it make it up the drive way before setting up? Are there alternative angles/streets where you can position to compensate for the set back?

**2. *Know your options.*** There are many different apparatus manufacturers that can boast of the capabilities and options of the vehicles that they construct. Even after diligent note taking and research, departments can still find themselves at odds over certain options and potential that each vehicle offers. One of the best ways to determine which one offers the most value for the department’s dollar is to invite them all to bring their vehicles down to fire headquarters for a side-by-side comparison. Perhaps one manufacturer provides an option that another does not, but can come close to what is important to the department’s needs. Members of the department can also compare road handling and driving issues with each vehicle, and can make a more educated decision when compared side-by-side, or within days of each other.

**3. *Know your firefighter’s capabilities.*** Investing in the education and training of department personnel is one of the best ways to prepare for this transition. The combination of both engine and ladder company functions onto one piece of apparatus will require your staff members to take on more responsibilities, which will require more training in these areas. From a training officer’s point of view, it would be beneficial to know well in advance that the department was heading in a direction that will combine these duties onto one unit. This would allow the focus for preparation of staff members to be competent and cross trained in multiple responsibilities prior to when these vehicles arrive in their jurisdiction (Fig 3). This may be a difficult task for larger fire departments; having to provide this cross training for hundreds of staff members can be a logistical nightmare and a pricey undertaking, but it’s worth the trouble.



Because of the increase of capabilities a quint provides, the increase of needed personnel on the apparatus will help ensure you can maximize its benefits. For example, should this unit arrive first and have to perform multiple tasks upon arrival (i.e., stretch a line through the front door, and ladder the upper floors for rescue or ventilation), a minimum of 7-8 firefighters would be needed to effectively and safely operate and accomplish those tasks. If this unit will truly be responsible to “multi-task” at an incident, it will still require an adequate number of competent firefighters on-scene to perform these tasks.



**Fig 3.** Firefighters assigned to the Quint must be cross trained to be proficient in both Engine and Ladder Company functions; they may be required to do either when they first arrive.

## **Conclusion**

Multiple functioning fire apparatus is becoming the standard today, as volunteer companies struggle with dwindling membership recruitment and retention, and career departments are coping with shrinking budgets and higher operational costs. The use of the Quint in these departments can be a successful solution, so long as there is a clear understanding of their limitations. These units can indeed function as both an engine company and a ladder company. They just cannot do it at the same time without the proper amount of competent, trained firefighters on scene.

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