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Mastering Fireground Command: 10 Commandments of Command

BY ANTHONY KASTROS

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Mastering Fireground Command:

10 Commandments of Command

Educational Objectives

On completion of this course, students will

1. Determine the number one causal factor of Line of Duty Deaths (LODDs).
2. Understand when size-up at an incident begins.
3. Establish when to call for additional resources and make tactical decisions as the incident commander
4. How to correlate search operations to age groups to make effective search decisions

BY ANTHONY KASTROS

IN “MASTERING FIREGROUND COMMAND: CALMING THE Chaos” (*Fire Engineering*, March 2011), I explained how improper risk assessment (poor size-up), lack of incident command, lack of accountability, inadequate communications, and lack of standard operating guidelines (SOGs)—or failure to follow them—can lead to firefighter line-of-duty deaths (LODDs) and injuries and chaos on the fireground. The proactive use of the incident command system (ICS) for all structure fires, including house fires, was also discussed. This article introduces the ICS formula and presents the 10 Commandments of Command and templates you can use for multifamily dwellings like duplexes, townhomes, and apartments.

Let’s start by looking at the following formula, which breaks down the saying “ICS is incident-driven” into something a little more tangible and, hopefully, a little more useful:

$$\frac{\text{Building} + \text{Conditions} + \text{Resources} + \text{Objectives}}{\text{Strategy/Tactics}} = \text{ICS}$$

The numerator of the formula deals with size-up. All too often, we do not obtain a sufficient and an ongoing size-up, pointing out, again, that inadequate risk assessment is the No. 1 causal factor of LODDs. Put another way, we do not perform an adequate ongoing size-up. We jump into the incident, full of adrenaline, and often don’t know what we really have. Or, we fail to recognize changing conditions.

Let’s look at the formula more closely. All buildings behave differently under fire conditions: A large single-story big box may require Divisions A, B, C, and D; a multistory building

may require Divisions 1, 2, 3, 4; and a two-story apartment building with units facing the A and C sides may be managed more efficiently by using Divisions A and C instead of Divisions 1 and 2.

That’s not the only ingredient, however. You must factor in conditions as well. Let’s look at the difference in conditions of a house fire, for example. A “routine” (be careful about using that term) house fire with no report of known victims in a house smaller than 3,000 square feet would probably be handled fine with an Interior Division supervisor who would be responsible for the interior objectives of fire attack and search while a Roof Division vertically vented, a rapid intervention crew (RIC) softened the structure, and a Medical Group stood by for any injuries (photo 1).

That same fire in that same house with a known victim reported on dispatch changes the whole nature of the incident. Now, bystanders could become victims in failed attempts at rescue, panicked family members could be outside and hampering your efforts, and your crews are likely to be more adrenaline-challenged than normal.

Instead of an Interior Division supervisor, consider splitting the interior functions into a Fire Attack Group and a Rescue Group. You now have two separate group supervisors managing the chaotic scene and two key objectives. As companies arrive and are assigned to the inside of the house, they know they are either pulling line working for the Fire Attack Group supervisor or searching/extricating victims working for the Rescue Group supervisor. This may seem overly analytical, but it’s based on real-world experience. I have seen a single division attempt to manage both fire attack and rescue with known victims trapped, and the supervisor quickly became overwhelmed.



(1) A “routine” house fire that can probably be managed by Interior, Roof, Rapid Intervention Crew, and Medical. Try to keep the Interior supervisor outside, where he can better account for crews and take laps around the house to conduct a continuous size-up. (Photos by author.)

RESOURCES

You may work in an area with very limited resources. Perhaps you cannot afford to set up a larger ICS because you do not have the personnel. Consider calling single companies by their function or divisional responsibility. For example, if you get only two engines and a truck (all with three personnel each) on a house fire, consider using Interior, RIC, and Roof instead of Engine 1, Engine 2, and Truck 1. This clarifies the functions on the radio. A good test of your system would be if someone from outside your area could listen to your fire and tell you if he knows what’s going on. Does he know the incident objectives, division of labor, and conditions?

In this example, Interior may have the objectives of fire attack and search; RIC may have two-in/two-out, utilities, and softening; and Roof, vertical vent. Perhaps you can combine the third member from the RIC with the third member of the truck to create a two-person search team that works for the Interior Division supervisor. When you are short on resources (both equipment and personnel), you must be efficient with every member on the scene. No standing around!

Given the previous factors, you arrive next at your objectives. For example, a strip mall (building) has a fire in the attic traveling laterally (conditions). You have five engines and three trucks responding (resources), so you decide to outflank the enemy by cutting off fire spread while simultaneously attacking the main body of fire. The objective of preventing lateral spread will further drive your ICS, as we will see below. You may decide to set up Divisions B and D on either side, if you have a good number of chief officers, while Division A attacks the main fire. If you have little or no such overhead support, you may streamline your ICS to fewer divisions.

STRATEGY AND TACTICS

Notice the denominator of the formula is Strategy and Tactics. As we noted in Part 1, “You cannot shoot a cannon

out of a rowboat.” Sound strategy and tactics form the strong and critical foundation of command. The prettiest ICS in the world is worthless without properly placed hoselines flowing the correct number of gallons per minute (gpm), properly placed ventilation holes of adequate size, and effective search techniques that give the victims the best chance of survival.

In the above example of a fire in a strip mall, you decide your primary tactics will be 1¾-inch lines on either side of the fire, 2½-inch lines on the main body, and strip cut vertical ventilation to put a box around the fire. Since you have only five engines and three trucks on the first alarm with no other chiefs responding, you decide to set up Division A with the objectives of fire attack and preventing extension in the adjacent attic spaces, Roof Division with the objective of heat and strip cuts vertically, and Division C with the objective of softening the rear and setting up additional ladders.

Additional condition-action-needs (CAN) reports state that this is a vacant commercial building. Although searching is still a priority, you set up a RIC Group to stand by and secure building utilities. Finally, a Medical Group is set up just in case there are firefighter injuries or unknown victims are found. “Vacant” commercial buildings still have our firefighters in them. Generally speaking, the greatest life hazard in a commercial fire is what we bring to the incident.

Now that we have reviewed the Command formula, let’s look at some examples of templates for multifamily dwellings. Here is where we earn our keep. We had better be good at commanding these high life hazards, or we had better get another job. Your troops cannot afford a chaotic, panicked incident commander (IC) who is disorganized and shoots from the hip every time. Nor can they afford an IC who requires all companies to report to him. As discussed in Part 1, this lack of proper ICS usage allows the National Institute for Occupational Safety and Health top five factors contributing to LODDs to align more easily. An ineffective ongoing size-up, unclear communications, and a lack of accountability will catch up with you. Remember, good luck reinforces bad habits.

THE 10 COMMANDMENTS OF COMMAND

Implementing the following rules in the command function will enable ICs to improve efficiency and safety:

1 Know the enemy. The enemy is the fire. Make no mistake about it. Fire hurts, destroys, and kills indiscriminately. Like any worthy adversary, our enemy adapts and becomes more advanced, lethal, and creative over time. The fires of 20 years ago are giving way to faster flashover rates and more explosive atmospheres.

Low-mass synthetic contents coupled with modern building construction techniques have combined to produce more explosive results. Building insulation ratings have increased, double- and triple-paned windows have become common, and stucco/tile exterior decor has sealed newer buildings tight. Plastic interior ventilation components, wall coverings, and furniture release heat at an alarming rate. As a result, smoke has become an extremely volatile and airborne fuel with ignitable characteristics similar to hydrocarbons. The fluid nature of the fuel

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causes it to ignite much farther from the seat of the fire.

For the IC, this means proper water flow and ventilation tactics. Positive pressure ventilation (PPV) may bring the smoke (fuel) into its ignitable mixture if it is too rich with the right amount of heat. Many firefighters have been injured and some killed because of the premature use of fans. I witnessed a fan-induced ignition of superheated smoke; two firefighters narrowly escaped injury as they evacuated with their turnouts off-gassing.

2 Know the battlefield. The building is the battlefield. The enemy will use the battlefield to its advantage to outflank you or cause the battlefield itself to do the dirty work through structural collapse. We must know how the battlefield will react to the enemy and how the enemy will use the battlefield.

For example, in a home with balloon-frame construction, checking for vertical extension through the walls into the attic is a priority. In a strip mall, the priority is checking for lateral extension by way of the attic. In a center hall apartment, the priority is securing stairs and vertical shafts while aggressively attacking the enemy before it gains a foothold in the hallway of the fire floor.

In lightweight construction, the enemy may use the battlefield to kill your troops. It will weaken the roof in gusset trusses, weaken the floor in integrated truss joists (ITJ), or catastrophically collapse a flat roof with open web bar trusses. Roof reports are critical for the IC. The Roof Division should tell the IC the type of construction, the loading, and the fire/smoke conditions. Even interior crews may be able to assist with reading roof construction with a thermal imaging camera (TIC) as they pull ceiling in a commercial building. The best way to know the battlefield is to walk it before the battle. Preplanning is critical. Every day is a preplanning day!

3 Know the weapons and tactics of war. Unfortunately, some ICs have lost the expertise they may have had in the past regarding strategy and tactics. Lackluster training on the part of many chief officers gives way to falling out of the loop on advances in hoseline tactics, capabilities, and even the standard complement of hose on an engine. Some would say that it doesn't matter, that a chief officer doesn't need to know how much hose is on a standard engine in his department. Nothing could be further from the truth.

The more an IC trains with his engine and truck companies before battle, the less those companies will bleed in battle. The battalion chief, for example, should have an expert knowledge of the capabilities, strengths, and weaknesses of his companies and apparatus. He should have trained with his companies to know how many engines it takes to complete a 1,500-foot relay, how many trucks it takes to cut a strip on a standard strip mall and how long, and how long the average engine takes to get a 2½-inch line 50 feet into a commercial building.

That having been said, each company has individuals who have specific strengths and weaknesses as a crew. The astute IC knows the weaknesses early and whom to call for what job. As sad as it is to say, not all engine and truck companies are created equal. Know ahead of time; pick the right crew for

the right job—and then make all your crew members better. Train with your companies.

Here are some questions to ask yourself to check your level of tactical expertise:

- Do I know what vent-enter-search (VES) is and when to use it?
- Have I trained my companies in VES?
- Do I know what a pressure-reducing valve is and its implications for a high-rise fire?
- Generally speaking, which end of a rear-mounted aerial should face the building, and where should it be placed for a tilt-up building?
- Can my truck companies raise a 35-foot ladder with two personnel?
- How much 2½-inch attack line is on my engines?
- Could I teach a forcible entry, ventilation, search, or RIC drill, and would my troops actually learn something?

Look for “tactical points of opportunity” on the battlefield.

Just as an army general would use the terrain to his advantage, you must look for tactical advantages on the battlefield. For example, you have a two-story house fire at 2 a.m., and cars are in the driveway. The fire is in the front kitchen/living room on the first floor and advancing up the interior stairwell. You decide on a VES tactic by laddering the C-side window for rescue. You outflank the fire and get ahead of it to gain precious time and give the victims the greatest chance of survival.

As an army would choke off the enemy by using a valley or drainage to gain an upper hand, use breezeways, fire walls, and attic spaces to choke down the enemy and stop its advance. Containing a fire takes a lot less gpm than extinguishing it.

Several years ago, companies arrived to find a well-involved garage that was connected to a large single-story, ranch-style home by way of a common attic. A breezeway between the garage and home gave great access to the common attic space above. Rather than breach the attic and hold the fire, the captain chose to attempt to put out the garage fire with a deck gun. He ran out of water, and the fire consumed the entire attic over the house, causing major damage. Had he held the fire at the choke point, he could have easily contained it with smaller lines until a proper water supply was established. Then he could have gone in for the kill. Use the building to your tactical advantage!

4 Perform a thorough, ongoing size-up. As I have stated previously, the primary causal factor in firefighter LODDs is inadequate risk assessment, or poor size-up. We jump in with both feet and don't even know where we are going to land. Adrenaline overrides training.

Another problem is that size-up is often misunderstood and improperly defined. Size-up is a mental and ongoing process. This is *not* the same as an arrival report. Arrival reports are verbal and are conducted on the arrival of the first officer or IC. Size-ups are mental and ongoing.

Size-up begins the day before your shift. Weather, staffing, training, holidays, traffic patterns, and a host of other factors can be processed before you get to work. The morning of your shift should begin the next phase of size-up to confirm

company status, call volume, special events, and so on. Once the alarm is received, the third phase of size-up begins and continues throughout the incident.

FPODP

Lloyd Layman developed the “FPODP” system in the 1950s. This size-up acronym is still a very useful and simple tool for today.

Facts: What are the facts for sure?

- Two-story home with heavy fire on the A side, second floor.

Probabilities: What can you forecast? Fire spread and victim profile should be top priorities.

- May have victims trapped in upstairs bedrooms.
- May have fire in the attic.

Own Situation: Your current resource level.

- I am the first engine with two engines and a truck en route.

Decision: Your strategic decision—Offensive, Defensive, or Combination?

Plan of Operation: Your initial tactics.

- Pull a ¾-inch line up the stairs.
- VES the C side.
- Vertical ventilation.

As I stated in Part 1, multiple division and group supervisors will be the eyes and ears for the IC and play a critical role in ongoing size-up and accountability.

5 Stay ahead of the incident power curve. As I stated in Part 1, the IC must plan ahead, staying ahead of the incident power curve. Anyone can evacuate the building *after* a collapse. The IC cannot afford to be reactive. He must call resources and make tactical decisions *before* they are needed. Forecasting is the IC’s job. Use division and group supervisors to give ongoing size-up and CAN reports. Decentralize your decision making so that your supervisors take the initiative in making tactical decisions and maintaining command presence.

Always stand alert, even during overhaul. Many injuries and some fatalities have occurred during the “wind-down” part of an incident.

“Command lag” occurs in the time between when a tactical decision is required and the time the order is actually given—the greater the lag time, the greater the consequences. If vertical ventilation should be ordered and the IC does not ensure that it is underway for five minutes, a flashover could result or victims could perish. The command lag results are worsened each minute that goes by. Victims can stand carbon monoxide and heat for only so long, and flashovers are prevented only by proper ventilation or proper gpm flow.

The key is to stay ahead of the curve. Anticipate the need for ventilation, extra hoselines, secondary searches, multiple alarms, and so on. Be proactive, not reactive. You can always cancel an order or an alarm. It is better to have it and not need it than need it and not have it.

6 Communicate in a calm, clear, confident fashion.

Panic and chaos are contagious. If the IC loses his cool or speaks too loudly, too quickly, unclearly, or with doubt, the whole incident will go in that same direction. Conversely, an IC who is cool, calm, clear, and confident will instill those traits in others. The divisions, groups, and companies will rise

or fall to the level of the IC.

At an apartment fire with three victims, I had to tell all companies to “calm down” when they started talking over each other and getting frantic on the radio. A fire with multiple victims trapped should sound the same as a fire for food on the stove.

Be concise. Long-winded transmissions are usually unnecessary and almost are always difficult to follow. Think about what you are going to say *before* you say it.

A great way to practice is to run every fire with the same tone and tempo. Practice false alarms, small fires, and vehicle accidents with consistency so that you have the muscle memory for the big one. Also, simulation training is extremely effective. Don’t just wait for promotional testing. This should be part of your organization’s ongoing annual training curriculum.

7 Give clear objectives. Clear objectives are key to any organized operation. Even if you have well-written SOGs, giving clear and concise objectives reinforces the plan to everyone on the scene. For example, if you want a second hoseline to the front door of a commercial structure to back up the interior line, your transmission may be, “Engine 3, on arrival, your objective is to stretch a second hoseline to the A side; you are working for Division A, who is Engine 2.”

This gives the incoming officer his objective (hoseline to the A side) and boss (Division A/Engine 2). On the fireground, we should always know our job (objective) and our boss.

Some say that giving objectives on the fireground is micromanaging. It’s not micromanaging if you remain at the tactical level. If you get down in the weeds at the task level, then you are micromanaging. For example, a task-level micromanaging version of the order above would be, “Engine 3, on arrival, park in a safe place, don your personal protective equipment, and bring a 2½-inch line with a one-inch tip to the A side. Get on air before you enter, and ensure you have enough personnel to stretch the line.”

As an IC, I always give objectives, and my officers have never accused me of micromanaging. The key is to remain at the tactical level in your orders.

8 Establish (ICS) groups and divisions early. Many of the above commandments can be accomplished by establishing groups or divisions as early as possible. Waiting to be overwhelmed in your span of control is a great way to get behind the power curve and hamper communications.

Setting up groups and divisions will do the following:

- Keep your span of control manageable.
- Give you more eyes and ears to size up the fireground.
- Increase accountability through hands-on, eyes-on command presence of the supervisors.
- Reduce radio traffic, since companies will be communicating face-to-face with their respective division/group supervisor.
- Improve communication through more face-to-face dialogue.
- Enhance safety by having guardian angels throughout the incident simultaneously focusing on the tactical level while not getting too caught up in the tasks.

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(2) Two-story homes with a confined room-and-contents fire can most likely be managed with one Interior Division supervisor overseeing the inside operations. Again, for this fire, other tactics (and supervisors) would include vertical ventilation (Roof), RIC, and Medical.

(3) Duplexes almost always have extension into the attic of the adjacent unit. Plan ahead. If it's in one attic, it will be in both attics.

For example, companies operating inside the rear of a commercial structure would be working for the Division C supervisor. This supervisor would be responsible for making tactical decisions, calling additional companies, accounting for the companies, watching building and fire conditions, and so on. He would make resource requests and CAN reports to the IC.

9 Have a plan B and C. Again, plan ahead. Plan B is evacuating and going to a defensive strategy. You should have a plan and trigger to transition based on the incident conditions and resource levels, not some preestablished time-frame that may or may not be relevant.

For example, you see black turbulent smoke from multiple attic spaces on a house fire in which Interior Division declared “all clear” on the secondary search. Crews have been actively attacking the fire for 10 minutes. You know that the roof is lightweight and has tile. You assess the risk vs. gain. There is no life to be gained since search is complete; there is a lot to be lost since three companies are still inside. Your transmission may be, “Interior Division, Command. If I don't see a conversion of the attic fire in two minutes, we are going defensive.”

You may give Interior Division more time if the construction is conventional with dimensional lumber. Notice that the Interior Division supervisor was in the loop. He knew what command was thinking and could, therefore, make informed decisions and be part of the solution. Command is not poker. Let the division and group supervisors know the plan. They should help you drive it since they most likely have a better view. Play the hand you are dealt; don't bluff.

Plan C is the unthinkable. Be ready for firefighters down. You may be in the overhaul phase, or the fire may seem incipient. Do not get caught unaware. Expect the unexpected. Have the resources necessary for the risk and *potential* risk at hand. Always have one ambulance standing by on scene for your troops.

10 Have the guts to say no. Finally, leave your ego at home. Don't take the enemy personally. Live to fight another day. Your troops may want to stay inside a vacant building with a questionable roof that has an all-clear on the

search. The media may have 20 cameras on you. The mayor may be asking what's taking so long. The fire chief may want you to call another alarm and dig in. At the end of the day, have the guts to say no. If you believe that the risk is unacceptable, say no!

ICS TEMPLATES

As stated in Part 1, one size of ICS does not fit every incident. That being said, a group of incident-driven templates, in which you may train, can be set up quickly to get you started. You can adjust the templates as needed, depending on the incident and resource levels. Although Interior and Roof Divisions and RIC and Medical groups may work for a room-and-contents fire in a house that is smaller than 3,000 square feet, we should use different templates for other fires in other buildings.

Larger/Complex Homes

Larger homes are those larger than 3,000 square feet. This is a rule of thumb based on experience. One Interior Division supervisor could have a hard time lapping, sizing up, and accounting for crews in a home that's larger than 3,000 square feet or complex, based on terrain or layout and access. You do not have to measure or ask the owner for a set of plans on arrival. Just make your best guess.

For larger homes, you may want to set up Division A and Division C. Each of the respective supervisors can manage his side of the house, looking at smoke and building conditions and accounting for crews working/entering that side. Here, lateral communication between the Division A and C supervisors is critical to prevent opposing hoselines or conflicting or redundant effort.

Size matters, but it's not the only factor. Two-story homes or homes with challenging access may drive the need for an ICS that does not fit into the Interior supervisor template. I have found that Division 2 on a two-story home is really impractical. Division A or Division C should know if one of the crews in his division is upstairs or not. Having Division 2 on a house implies that the supervisor is on the second floor. Unlike a

commercial building or high-rise, there is likely not a point of refuge out of the immediately dangerous to life and health (IDLH) area for the Division 2 supervisor to really do his job and properly account for crews.

I have used one Interior Division supervisor on two-story homes with fire confined to the upstairs (photo 2). He lapped the home and stood at the entrance; he then directed crews and managed fire attack on the second floor and attic and search, salvage, and overhaul as needed in the whole house. The home was about 2,000 square feet, and he did a great job. Roof Division vertically vented; RIC Group softened as needed, threw ladders, and secured utilities; and Medical Group stood by at the incident command post.

Duplexes

Duplexes often have significant fire in one side, with lateral spread by way of the common attic. Even if a fire wall was installed during construction ($\frac{5}{8}$ -inch drywall), it most likely has been breached for storage, cable, satellite, phone, or remodeling or just by vandalism. Plan ahead, and expect the fire to extend through the common attic (photo 3).

Depending on the size and complexity of the duplex, you have several options. If the total structure is smaller than 3,000 square feet, then perhaps one Interior Division supervisor can manage the inside objectives of fire attack, preventing extension, search, salvage, and overhaul. The key is to evacuate the exposure unit and prevent lateral extension through the attic.

If you have a known rescue, the Fire Attack and Rescue Group template is very effective for the inside objectives. Obviously, ventilation is critical. If fire is in the attic, vertical ventilation is a priority for stopping lateral spread, and a Roof Division would be set up. Even if you do not have attic involvement, consider vertical ventilation early, especially with moderate to heavy fire involvement in the living space.

Fourplexes

Fourplexes come in many shapes and styles, including multilevel and upper/lower single units under one roof

(photo 4). With heavy fire and likely extension, one effective template is to set up Divisions A, B, C, and D to represent the occupancy entrances on each side of the building. Conversely, a simple room-and-contents fire in the rear unit may be easily managed with Division C with the objectives of fire attack and search, while the Exposure Group has the objectives of evacuating the adjacent units and checking for fire extension. This more efficient ICS is streamlined by giving the responsibilities of the A, B, and D units to one Exposure Group supervisor. Again, the ICS formula takes conditions and resource levels into account.

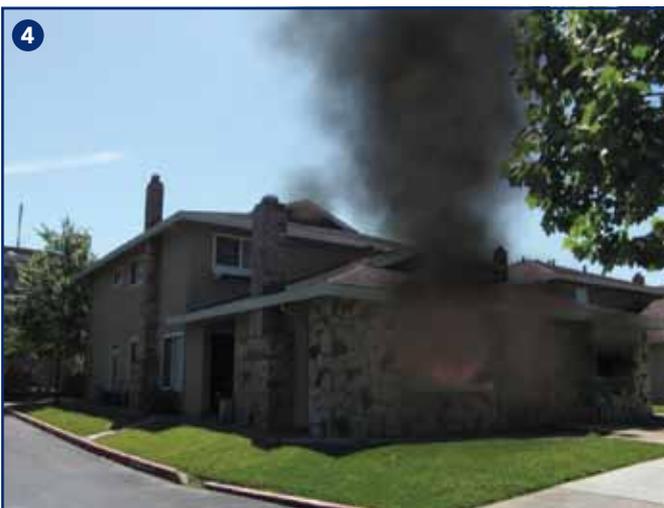
Town Houses

Town houses and condominiums often have multiple stories with interior stairwells (photo 5). The building is two stories (or more) and yet is comprised of multiple and separate units, each unit with its own interior stairs. A vertical division for each story may be difficult to organize, since access to the upper floors is made through each separate unit entrance. In short, one Division 2 supervisor would have a hard time managing the second floor. This approach is impractical.

If the fire units open to the A side, for example, a Division A supervisor may be used to manage the objectives of fire attack, search, and exposure protection on all A side units regardless of on which floor the fire is located. Simultaneously, if the opposite side of the building has other adjacent units that open to the C side, another Division C supervisor could manage the objectives of evacuation, laddering, and checking for fire extension. The Division A and C supervisors would coordinate laterally with each other and with Roof Division to ensure the attic is clear if there was concern of spread into the cockloft.

Garden Apartments

Garden apartments have the entrance to each unit open to the outside (photo 6). There is no hallway, interior stairwell, or exit passage that must be navigated after the occupant exits his apartment. The victim has the benefit of opening a



(4) This McKuen fourplex (named after the builder) has a single-story ground-floor unit on the A side, two two-story units on the B and D sides, and a single-story upper unit on the C side. (5) This building has one-story suites on the first floor and individual two-story condominiums on the second and third floors. The entrances to the condos are on the second floor.

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(6) A typical garden apartment complex. (7) This “garden courtyard” is in the center of a center hall apartment building.

front door to immediately escape to the outside atmosphere. Garden apartments are often considered different from garden/courtyard apartment complexes. They are the same. The courtyard style is typically a layout in which a center courtyard is a landscape feature with gardens, lawns, or pathways (photo 7). This may be present in either garden or center hall buildings. For tactics, the center courtyard may be a place where you would advance attack lines, possibly off a water thief or gated wye. Such apartment or “metro” packs are useful. Or the courtyard may be a place for laddering of multiple windows, especially if they are the only access to the inner-hallway units of a center hall apartment building.

From a command standpoint, you do not have to be concerned with victims in interior common halls and stairs in a garden apartment building. Garden apartments are less lethal to victims than center hall apartments. The presence of a courtyard in the center layout is really secondary to the fact that victims could be overcome during escape. The tactical level division/group supervisors will have to manage the layout more than you will and will coordinate with their companies for the appropriate line choice, length, and method of stretch (Fire Attack Group supervisor); or search method, ladder priorities, and victim profiling (Rescue Group supervisor).

Garden apartments typically are two to three stories, although some assisted-living facilities are higher. Using a division supervisor for each floor is a good starting point, especially if unit entrances all face one side. Another and perhaps more effective ICS would call for Division A and C supervisors, even if the entrances are only on the A side. For example, you have a fire in the first-floor unit lapping into the second-floor unit above. Heavy smoke and fire from below hamper access to second-floor units. While Division A attacks the main fire and checks vertical extension, Division C may throw ladders to balconies and windows to effect rescue using VES or assisted descent of multiple victims.

Again, if you have one or more known victims reported before arrival, then starting with Fire Attack and Rescue Groups is very effective to calm the chaos that will most definitely be on scene. As stated previously, strong command and control are

critical. Companies will either work for the Fire Attack Group (regardless of where the fire is) or for the Rescue Group (regardless of where the victims are). Obviously, you must set up other tactical priorities like ventilation and medical.

Using the above apartment fire on the first floor, this time with known victims reported prior to arrival, Fire Attack Group would attack the fire on the A side, and Rescue Group would search for the known victim first, in whatever location the victim was reported (apartment 3, for example). This may be accomplished from the A or C side, based on the fire and victim locations. The choice of tactics depends on the situation.

With known victims, the Rescue Group supervisor would need to get recon as to where the victims are likely located, how many victims there are, their ages and names, and any other relevant information. Don't expect bystanders to give you valuable information without your asking the right questions. Ask for names, since other unknown victims may be inside.

The next priority for the Rescue Group would be to continue searching the next most exposed units. This would include the need for secondary searches by different companies. A new set of eyes is critical. Rescue Group would need to request fresh companies from command to ensure he is getting a second look from *fresh* eyes. I was at a house fire recently where primary search companies missed a victim, who was found by the replacement secondary search companies.

Center Hall Apartments

As mentioned above, center hall apartments present a much more deadly battleground. Occupants of a structure fire typically flee through the front door of their residence. That's fine if the front door leads to the outside. If the door leads to an internal hallway filled with smoke and then to an interior stairway filled with smoke and heat, the victims will quickly become disoriented and potentially overcome. Citizens like to leave burning buildings. The thought of sheltering in place is likely foreign to them. If the alarm bells go off, they want out!

Our department recently had a fire in a center hall elderly assisted-living facility (photo 8). The fire was discovered on the first floor, deep into the complex. Although the apartment door



(8) Center hall apartments present much higher life hazards because of the internal halls and stairs.

was closed to the fire unit, heavy black smoke filled the hall. The captain opened the fire door to the hall that had closed on activation of the alarm. With a TIC, he looked through the thick smoke and saw “the walking dead”: Multiple elderly occupants in adjacent units heard the fire alarm and exited their apartments into the smoke-charged hall. He immediately directed them back into their apartments for later rescue (shelter in place) and undoubtedly saved many lives with that tactical decision. Since the adjacent occupants now had time and were safe, his priority was to put out the fire. While doing so, other companies evacuated the occupants by window.

Since you can almost expect victims in center hall units, going with the Fire Attack and Rescue Group template is potentially a good starting point. That having been said, if the building is very large, then one Rescue Group supervisor may potentially be overwhelmed, so a divisional supervisor in charge of each floor is likely more practical. The Division/Group supervisor may even have external truck companies removing victims by ground ladders from upper floors while other companies search inside.

Again, a top tactical priority is to put the fire out as soon as possible. This will do more good for more known *and unknown* victims than any other single tactic. Smoke, not fire, kills, so aggressive ventilation and search are next. Remember to consider the victims you do not see. They may have become unconscious in upper floors from the smoke, may be in bed because of illness or other incapacities, or may not know about the fire. Don’t get overly emotional about the victims in windows, especially if those victims are obviously farther from the fire and are conscious. They have time.

You must prioritize, and this falls on the shoulders of the Division Group supervisor. He will coordinate the task-level companies so there is one plan and no redundant or conflicting effort. He will set the priority of victims as he gains updates from the Fire Attack Group/Division supervisors regarding location and extent of fire.

The same building with a small bedroom fire on the top floor may be better organized with a simple Division 3. If the fire has not extended into the hall, then a more streamlined

divisional approach would probably work fine. Train with your crews; consider both options and under which conditions you would go with one or the other.

Although garden apartment fires on the first floor of a multistory building may not require vertical ventilation on the roof, fires in center hall apartments may warrant vertical ventilation regardless of the floor. Stacking of smoke in stairs and halls could require more aggressive roof operations. In addition, checking extension on the roof is critical because of greater vertical chutes, utility chases, and so on.

PPV may be required *after knockdown*. Premature use of PPV could intensify fire conditions. Hallways may need PPV to clear smoke during overhaul. In this case, the PPV companies would work for the division supervisor of the floor (if established), or they would work for the Fire Attack Group. If you know you need ventilation early and are not sure if the companies may be going to the roof, a Ventilation Group is okay, but usually keeping them under the Fire Attack Group supervisor or division supervisor of the floor assists with coordination of vent and attack. You do not want rogue window breaking or fan-starting vigilantes freelancing. They may think they are helping, but they could make things worse.

I recently responded to an apartment fire at which we set up a Roof Division with the objectives of vertical ventilation and preventing lateral extension. Four apartment units were involved, and PPV was also needed *after* knockdown. The truck responsible for PPV was assigned to the Fire Attack Group supervisor, since he had the priority and asked for the resource. Placing the PPV crew into the incident without that boss could have created undesired results. Obviously, the Fire Attack supervisor already had his priorities in mind. By assigning the truck to him, I also kept my span of control the same, and we had better accountability.

Again, a proactive setup of a Medical Group is very important. Always have at least one ambulance on scene for unexpected patients. If you have a heavily occupied center hall apartment, having two ambulances on scene could be warranted. Regardless, always have at least one in your pocket in case you have a firefighter down.

MORE ON RESCUES

The officer in charge of the search and rescue operations, whether a division supervisor on a floor or a Rescue Group supervisor for the whole incident, must understand the importance of prioritizing the search.

Each age group hides in predictable ways, and this can be of value to you when deciding where to search, so asking the name, age, and likely location (e.g., where is the child’s bedroom?) of victims is useful. Children usually hide under the bed or in the closet. Teens will go to their room, since they often spend a lot of time there on the phone or computer, or the bathroom. Adults will likely be on/near the normal exit path, since they tend to go toward the normal exit (front door, hall, and so on).

The fire and victim locations, coupled with the layout of the building and your resources, will determine the type of search. VES is a great tactic if you are cut off by the fire and must go to

Mastering Fireground Command: 10 Commandments of Command

COURSE EXAMINATION INFORMATION

To receive credit and your certificate of completion for participation in this educational activity, you must complete the program post examination and receive a score of 70% or better. You have the following options for completion.

Option One: Online Completion

Use this page to review the questions and mark your answers. Return to www.FireEngineeringUniversity.com and sign in. If you have not previously purchased the program, select it from the "Online Courses" listing and complete the online purchase process. Once purchased, the program will be added to your **User History** page where a **Take Exam** link will be provided. Click on the "Take Exam" link, complete all the program questions, and submit your answers. An immediate grade report will be provided; on receiving a passing grade, your "Certificate of Completion" will be provided immediately for viewing and/or printing. Certificates may be viewed and/or printed anytime in the future by returning to the site and signing in.

Option Two: Traditional Completion

You may fax or mail your answers with payment to *PennWell* (see Traditional Completion Information on following page). All information requested must be provided to process the program for certification and credit. Be sure to complete ALL "Payment," "Personal Certification Information," "Answers," and "Evaluation" forms. Your exam will be graded within 72 hours of receipt. On successful completion of the posttest (70% or higher), a "Certificate of Completion" will be mailed to the address provided.

COURSE EXAMINATION

- 1) The number one causal factor of LODDs is:
 - a. Inadequate staffing of the first alarm assignment
 - b. Failing to conduct a 360° survey of the fire building upon arrival
 - c. Improper use of personal protective equipment (PPE)
 - d. Inadequate risk assessment and failing to perform and on-going size-up
- 2) All buildings behave differently under fire conditions:
 - a. True
 - b. False
- 3) Instead of establishing an Interior Division supervisor, consider splitting the interior functions into a:
 - a. Fire Attack Group and a Rescue Group
 - b. Fire Attack Group and a Rehab Group
 - c. Rescue Group and a Ventilation Group
 - d. Rescue Group and a Command Group
- 4) If you cannot afford to set up a larger Incident Command System (ICS) because you do not have the personnel, consider calling single companies by their:
 - a. Geographic area of responsibility
 - b. Function or divisional responsibility
 - c. Unit number
 - d. Unit type (engine or truck company)
- 5) A good test of your ICS system is:
 - a. If someone from outside your area could listen to your fire and tell you that he knows what's going on.
 - b. Whether or not on-duty injuries decrease
 - c. All mutual-aid companies report to the command post on arrival
 - d. Whether all command officers understand incident communications
- 6) Sound strategy and tactics form the strong and critical foundation of command
 - a. True
 - b. False
- 7) Faster flashover rates and more explosive atmospheres caused by modern building construction techniques, increased building insulation ratings and plastic interior ventilation components require the IC to:
 - a. Provide proper water flow and ventilation tactics
 - b. Conduct faster searches
 - c. Consider a defensive fire strategy
 - d. Call for additional resources immediately
- 8) In lightweight constructions, the enemy may use the battlefield to kill your troops. Which of the following is NOT a consideration with this type of construction:
 - a. Fire will weaken the roof in gusset trusses
 - b. Fire will weaken the floor in integrated truss joists
 - c. Fire will collapse a flat roof with open web bar trusses
 - d. Structural members will support offensive operations for twenty minutes or more
- 9) A chief officer does not have to know how much hose is on a standard engine in his department
 - a. True
 - b. False
- 10) Which of the following are questions to ask yourself to check your level of tactical expertise?
 - a. Do I know what vent-enter-search is and when do use it?
 - b. Do I know what a pressure-reducing valve is and its implications for a high-rise fire?
 - c. Can my truck companies raise a 35-foot ladder with two personnel?
 - d. All of the above are correct
- 11) The size-up is the same as an arrival report
 - a. True
 - b. False
- 12) When does size-up begin?
 - a. When you arrive at the fire
 - b. When you are dispatched
 - c. The day before your shift
 - d. When you receive information from the dispatcher regarding the fire's location

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PROGRAM COMPLETION INFORMATION

If you wish to purchase and complete this activity traditionally (mail or fax) rather than Online, you must provide the information requested below. Please be sure to select your answers carefully and complete the evaluation information. To receive credit, you must receive a score of 70% or better.

Complete online at: www.FireEngineeringUniversity.com

PERSONAL CERTIFICATION INFORMATION:

Last Name (PLEASE PRINT CLEARLY OR TYPE)

First Name

Profession/Credentials License Number

Street Address

Suite or Apartment Number

City/State Zip Code

Daytime Telephone Number with Area Code

Fax Number with Area Code

E-mail Address

TRADITIONAL COMPLETION INFORMATION:

Mail or fax completed answer sheet to
Fire Engineering University, Attn: Carroll Hull,
1421 S. Sheridan Road, Tulsa OK 74112
Fax: (918) 831-9804

PAYMENT & CREDIT INFORMATION

Examination Fee: \$25.00 Credit Hours: 4

Should you have additional questions, please contact Pete Prochilo (973) 251-5053 (Mon-Fri 9:00 am-5:00 pm EST).

I have enclosed a check or money order.

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Please provide the following (please print clearly):

Exact Name on Credit Card

Credit Card # Expiration Date

Signature

ANSWER FORM

Please check the correct box for each question below.

- | | |
|---|---|
| 1. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 11. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 2. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 12. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 3. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 13. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 4. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 14. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 5. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 15. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 6. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 16. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 7. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 17. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 8. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 18. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 9. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 19. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |
| 10. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | 20. <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D |

COURSE EVALUATION

Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 1.

- | | | | | | |
|--|---|-----|---|----|---|
| 1. To what extent were the course objectives accomplished overall? | 5 | 4 | 3 | 2 | 1 |
| 2. Please rate your personal mastery of the course objectives. | 5 | 4 | 3 | 2 | 1 |
| 3. How would you rate the objectives and educational methods? | 5 | 4 | 3 | 2 | 1 |
| 4. How do you rate the author's grasp of the topic? | 5 | 4 | 3 | 2 | 1 |
| 5. Please rate the instructor's effectiveness. | 5 | 4 | 3 | 2 | 1 |
| 6. Was the overall administration of the course effective? | 5 | 4 | 3 | 2 | 1 |
| 7. Do you feel that the references were adequate? | | Yes | | No | |
| 8. Would you participate in a similar program on a different topic? | | Yes | | No | |
| 9. If any of the continuing education questions were unclear or ambiguous, please list them. | | | | | |

10. Was there any subject matter you found confusing? Please describe.

11. What additional continuing education topics would you like to see?

PLEASE PHOTOCOPY ANSWER SHEET FOR ADDITIONAL PARTICIPANTS.

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All questions should have only one answer. Grading of this examination is done manually. Participants will receive confirmation of passing by receipt of a verification form.

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