

STANDARD OPERATING GUIDELINE

SOG4242/2006/7 SNATCH RESCUES

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Issue 1

Warning: It should be made clear that the techniques and methods used to improve critical tasking capability presented throughout the SOG4242/2006 document require extensive practical training by qualified Fire2000 instructors and any attempt to follow this style of firefighting without such training may be ineffective and potentially dangerous



There are few situations that can place the firefighter in as much danger as through the door snatch rescues. Its the early hours when we respond to a working residential fire and a bystander is there to inform us 'there's somebody still in there'!

This SOG isn't about 'through the window' snatch rescues that so often result from a prompt exterior laddering operation. Its about situations where first arriving firefighters are forced to enter through the front door into a developing and worsening fire situation to search for 'confirmed occupants', whilst working without water. It is the very worst imaginable scenario that may push firefighters to the limits of 'risk versus gain' fire-ground decisions.

There are few firefighters, if any, that will shirk their responsibility of entering ahead of the primary fire attack hose-line, where such deployment is delayed, to attempt a snatch rescue. However, it is a situation that sometimes leads to tragedy as the unchecked fire develops rapidly and suddenly with unbelievable ferocity and intensity.

The strategy of attempting an interior primary search ahead of the primary attack hose-line is a strategy reserved for 'confirmed' life risk only. A further consideration is that sometimes an immediate attack on the fire is the BEST tactical action that may be taken to save lives!

- SOG4242/1 Incident Action Guide (IAG)
- SOG4242/2 Critical Tasking & Decision Making
- SOG4242/3 Fast Attack (Quick Hit) Tactics
- SOG4242/4 Primary Attack Line Tactical Applications
- SOG4242/5 Tactical Ventilation Methods & PPV
- SOG4242/6 Exterior Fire Attacks
- SOG4242/7 'Take the Fire First' - Snatch Rescues without Water
- SOG4242/8 OSHA; NFPA & Other Local Standards & Their Interpretations
- SOG4242/9 Zone Control Concepts
- SOG4242/10 Flashover & other Extreme Fire Phenomena

STANDARD OPERATING GUIDELINE

STANDARD OPERATING GUIDELINES (SOG) FOR LIMITED STAFFED STRUCTURAL FIRE RESPONSE

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Interior Primary Search

‘Snatch Rescues’ ahead of the Primary Attack Line

The *tactical objectives* for first-arriving firefighters have historically placed life-safety as the number one priority in the strategic plan at structure fires. In definition, *life-safety* has also been taken to mean the safety of firefighters but this concept has rarely placed firefighters lives ahead of those trapped inside burning buildings. It is common for firefighters to place themselves at great risk in an effort to remove occupants to safety as the priority and this act of selflessness has frequently cost them their lives.

Where an initial response of ten or more firefighters arrives together then there is every likelihood that *fire attack* and *res-*



cue may be implemented jointly. However, with a single low-staffed engine arriving on-scene a choice often has to be made - *fire attack* or *rescue*; which is the priority? It is possibly the

most critical tactical challenge to limited staffed crews, where emotions may serve to cloud the situation and prevent a safe approach and optimum outcome.

Isolate; Confine; or Extinguish the Fire!

It is essential that wherever viable, a 360-degree size up of the fire building should be made on arrival. It is imperative that the rear of the building be checked immediately on arrival for occupants who may be at or near an exit/window. If

there are viable lives visible at windows or balconies from the exterior and they are within reach of a ladder then this almost certainly is the priority. A rapidly escalating fire that threatens multiple occupants may be the only exception to this rule.

However, under limited crewing situations the priority is this - isolate the fire or; site a hose-line that will protect the greatest risk; or extinguish the fire... in that order! These are primary actions and should take priority over all others.

Learning Outcomes:

1	Isolate; Confine; or Extinguish the Fire
2	Lessons from Blaina & Keokuk
3	Door Control Assignment
4	Lowering & Raising the Smoke Layer
5	Controlling Heat Release Rate
6	Reducing Radiant Heat Flux
7	Reducing Flashover Potential

Special points of interest:

- Three vital primary actions are to Isolate; Confine; or Extinguish the Fire where possible
- A ‘door control’ assignment is essential during interior ‘snatch rescues’ ahead of the primary attack hose-line
- Controlling the environment inside a structure by controlling the amount of air feeding in—by controlling the openings where possible.

The Priority between Primary Fire Attack & Search is Changing

In 1991 London fire officer Paul Grimwood first published his beliefs that fire attack should normally precede interior primary search in structural firefighting where the two strategies could not be accomplished together. In 1994 John Mittendorf, a retired Los Angeles fire chief, claimed that the priority between fire attack and search and rescue was changing and that controlling the atmosphere and conditions within a fire-involved structure was increasingly being viewed as more important than carrying out search and rescue. He stated his beliefs that fire attack rather than search & rescue was the first-crew job and that this view was spreading across the USA. He further stated that a more efficient use of limited manpower could be achieved by redirect-

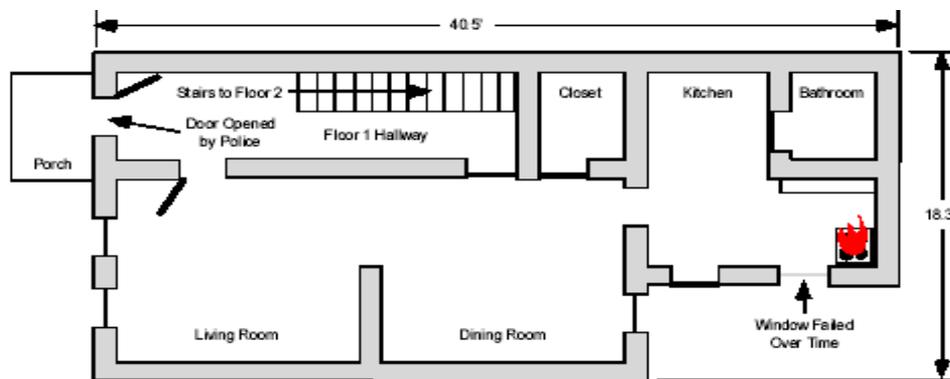
ing efforts towards controlling and relieving interior conditions.

This proposal became a tragic lesson when in 1996, two UK firefighters were killed by a backdraft that occurred a few minutes after they, and four other firefighters, arrived on-scene as the initial response to a house fire in Blaina, Wales. The firefighters faced the predicament of several children being trapped upstairs and opted to take the interior search prior to taking the fire, failing also to initiate any form of confinement or isolation strategy. The fire escalated within minutes before producing a massive fireball and subsequent 'flashover' inside the house that killed the firefighters and children. A similar predicament faced Iowa firefighters in Keokuk some years later and in almost identical cir-



cumstances, firefighters committed to an interior search for children trapped on the second floor without placing a primary attack hose-line in place. Again, no isolation of the fire occurred and a massive flashover took place that killed three firefighters along with the children they had been sent to rescue.

A failure to Isolate the Fire at the Living Room Door in Keokuk



'Door Control' Assignment for Interior 'Snatch Rescues'

It is ill advised that firefighters should attempt a 'snatch-rescue' of known and confirmed trapped occupants without a primary attack being made on the fire first. However, the moral decisions and pressure firefighters face under situations of trapped children (for example) can place the limited staffed crew at a distinct disadvantage. Firefighters are often entering an extremely hostile and danger-

ous environment where a compartment fire is bordering on 'flashover-like' conditions. What are the primary actions needed to make this approach as safe as possible? A Standard Operating Guideline (SOG) for such a situation must recognize that this is, **at minimum, a three-person approach.** That is a crew of two for interior search and one other for door control. The biggest mistake made by

firefighters in such situations is to leave the entry doorway wide open for several minutes without any thought to ventilation control.



Controlling Heat Release rate Using ‘Door Control’

As two firefighters enter to search the exterior door should be controlled by the exterior firefighter and adjusted to reduce the inflow of air feeding the fire. This may mean closing the door partially or almost fully, particularly where a gravity current is in existence. All interior doors should be closed as they are passed by in an effort to isolate the fire. It is absolutely vital that firefighters enforce an element of control wherever they are able to over a developing compartment fire. The importance of controlling the amount of air feeding the fire cannot be emphasized enough. This is a role for the door assignment firefighter (preferably an experienced officer). As firefighters enter the structure, building or compartment, the

door they have entered by should be closed, if not fully then at least to 1-2 inches from closed. Firefighters operating internally should close all doors as they locate and pass them, leading off of hallways etc, and attempt to confine the fire to the compartment of origin wherever possible (once located) by closing the room door.

A live fire training burn in a flashover simulator demonstrated the following temperature changes as the entry door was closed during fire development, then opened, then closed again, without any firefighting action taking place –

Close access door – temperature drops

1500°F – 1100°F ceiling temperature within 20 seconds

1470°F – 750°F five feet from floor within 20 seconds

1100°F – 570°F three feet from floor within 20 seconds

Open access door – temperature rises

750°F – 1470°F five feet from floor within 20 seconds

Close access door again – temperature drops

1470°F – 840°F five feet from floor within 20 seconds

Important Note; Closing the room door will serve to increase the build up of smoke particulates and reduce visibility as the smoke layer lowers dramatically. Opening the door will raise the smoke layer.

Reducing Radiant Heat & Interior Heat Flux

Radiant Heat Flux repeatedly drops below critical (flashover) levels (20 kw/m²) each time the door is closed but exceeds this level each time the door is fully opened, directly influencing the likelihood of flashover.

David Birk described the computer modeling of a real fire in a hotel bedroom and investigated the varying ef-

fects that different access door openings have on fire growth and development. With the fire initially restricted to a burning chair he reported *time to flashover* as being greatly affected by such openings –

Door open 36 inches	flashover achieved in 2.38 minutes
Door open 12 inches	flashover achieved in 2.82 minutes
Door open 6 inches	flashover achieved in 4.28 minutes
Door open 3 inches	flashover achieved in 6.97 minutes
Door remained closed	flashover NOT achieved

Interior ‘Snatch Rescues’ are a ‘Last Resort’ Strategy

The above figures are only presented as a guide of what might be achieved and there is no guarantee that door control methods will prevent any subsequent rapid fire progress

These instructions are given in an effort to address uncon-

trolled entries that are so often the cause of firefighter fatalities. Interior ‘Snatch-Rescues’ are a last resort and the fire should be attacked first wherever possible.

Controlling the openings to the fire compartment are key to

success. However, in some situations the openings may occur naturally. Windows may break through the heat and alter the ventilation profile sufficiently to enable the fire to progress unchecked towards flashover. Therefore ‘door control’ offers no guarantee of safety.