



# Training Bulletin

## *Mayday Communications-An Introduction*

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*This training has been adapted from a training bulletin developed for East County Fire and Rescue in Camas, Washington to assist members in developing effective mayday communication skills.*

### Purpose

A mayday occurs when a firefighter or officer cannot safely exit the hazard zone. This is an extremely stressful event for the mayday firefighter, the members of their company, the incident commander and everyone else operating at the incident. Addressing the mayday and assisting or rescuing the mayday firefighter requires discipline and clear, concise communications.

### Learning Outcomes

Firefighters and fire officers:

- Recognize when they should call a mayday.
- Recognize the importance of radio discipline during routine incident operations.
- Understand the priority hierarchy of routine communications, priority traffic, mayday, and emergency traffic communications.
- Identify the elements of a mayday communication and how this message is transmitted.
- Understand how the IC will respond to mayday communications using the help order.
- Transmit clear and concise mayday communications using the Mayday CAN format.

### Conducting the Drill

A mayday is anytime that a firefighter or firefighters cannot safely exit an immediately dangerous to life and health (IDLH) hazard zone. Maydays are not created equally nor are the conditions in which they occur. Each mayday will come with its own unique set of critical factors.

### *Automatic Mayday Criteria*

Officers should call a mayday anytime that they or a member of their company may not be able to safely exit the hazard zone. If the officer is experiencing the mayday (e.g., malfunction or failure of their self-contained breathing apparatus (SCBA) or serious injury) a member of their company may need to make the mayday transmission.

The following situations are automatic criteria for calling “mayday”:

- Loss of crew integrity (without immediate contact with the missing member(s)).

- Member is disoriented or unsure of location.
- Member in low air alarm and unsure if able to exit before complete air consumption (low air alarm activation when able to exit before complete air consumption must be reported to the IC or division supervisor using priority traffic)
- SCBA failure resulting in smoke exposure or loss of air.
- Trapped (e.g., egress cut off by fire or collapse) or entangled (e.g., wires, collapsed ceiling grid).
- Injury or illness occurring in the hazard zone.

Firefighter emergencies occurring outside the hazard zone are not a mayday and should be reported to the IC using priority traffic.

### **Radio Discipline**

When multiple companies are operating at an incident the tactical channel can start to fill up with unnecessary radio traffic. This often results from companies communicating/contacting the IC with non-essential radio traffic. The following radio guidelines are to be strictly adhered to when there are units assigned in a hazard zone:

- Know exactly what you're going to say before clicking the microphone to talk.
- Only communicate information on the tactical channel that pertains to the completion of the tactical priorities and firefighter safety.
- Only break into the order model with priority traffic or a mayday.
- Always let the IC be the one to contact you (unless you have a status change or priority traffic)
- Always end every CAN report with a need assessment (or "no needs").
- Limit good news (all-clear, under control) unless it is requested by the IC or you have completed your tactical assignment (status change).

Communications related to routine work should be done face to face in the work area whenever possible. There are exceptions such as communications between working companies and the apparatus operator of the engine supplying attack lines (e.g., requests to charge or shut down lines). Completion of an assignment and need to be reassigned or to recycle or a significant change in working location (e.g., movement from Floor 1 to Floor 2) should be structured as a status change message ("Command, Engine 1 status change").

***If you cannot maintain radio discipline under normal operating conditions, imagine what will happen when a mayday occurs!***

### **Urgent or Emergency Communications**

There are several types of radio communication that have priority over "normal radio traffic" and in some cases over other types of urgent communication.

**Priority Traffic:** The format for priority traffic is to append the words “priority traffic” to clearing command. For example: “Command, Engine 1 with priority traffic”. The priority traffic message would then be communicated in the format of a CAN report.

**Mayday:** Unlike other messages, a member with a mayday does not need to clear command before transmitting the mayday. Maydays are transmitted as a broadcast stating **mayday, mayday, mayday** (three times) and then the message using the mayday CAN format (who, what, where, and needs).

**Emergency Traffic:** The IC declares emergency traffic by requesting emergency tones through dispatch. The dispatcher will activate emergency tones and then the IC will communicate the message (restate a mayday or specify a strategic shift). Dispatch should repeat the message. All companies will maintain radio silence other than mayday or priority traffic until emergency traffic is cleared.

Table 1. Urgent or Emergency Communications

Priority Traffic	Mayday	Emergency Traffic
Priority over routine communication	Priority over all communication	Used by the IC, priority over all communication but a Mayday
<ul style="list-style-type: none"> <li>• Unable to gain access to an assigned work area.</li> <li>• Unable to complete an assigned task/tactical objective/</li> <li>• Urgent need to be reinforced/backed-up to complete an assigned task/tactical objective/</li> <li>• Victims encountered/</li> <li>• Roof reports containing significant tactical information (e.g., weakened roof, unusual loads, unanticipated fire in the attic).</li> <li>• Fires in concealed spaces that are not easily controlled by the locating unit.</li> <li>• Sudden, significant incident events (flashover, back draft, collapse).</li> <li>• Anytime the IC directs you to contact him/her immediately after obtaining a specified piece of information.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Cannot safely exit the hazard zone for any reason!</b></li> <li>• Loss of crew integrity without immediate contact with the missing member(s).</li> <li>• Member is disoriented or unsure of location.</li> <li>• Member in low air alarm and unsure if able to exit before complete air consumption.</li> <li>• SCBA failure.</li> <li>• Trapped, entangled, or unable to free self within approximately 1 minute.</li> <li>• Finding a firefighter in distress.</li> <li>• Uses the Mayday CAN Format.               <ol style="list-style-type: none"> <li>1. Who</li> <li>2. What (inclusive of air status).</li> <li>3. Where</li> <li>4. Needs</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Changing strategy from offense to defense (withdraw).</li> <li>• Immediate change of strategy from offense to defense (abandon).</li> <li>• Reporting extreme safety hazards such as imminent structural collapse.</li> <li>• Communicating a mayday report to all companies.</li> </ul>

### *Mayday Communications*

**Maydays must be declared as soon as the person or crew(s) affected knows that they cannot safely exit an IDLH hazard zone.** This is especially true for a person or crew who are experiencing a mayday with a diminished air supply. The sooner the mayday is transmitted, the sooner the IC and operating crews can react to resolve the mayday.

Under stress, people perform the way that they are trained. Use of a conditions, actions, and needs (CAN) report as an integral part of calling a mayday uses a common communications skill and provides the IC with critical information needed to respond to the problem. One difference between normal communications procedures and calling a mayday is that it is transmitted as a broadcast without using the order model.

**Mayday, Mayday, Mayday** *Do not un-key the microphone, but continue with the Mayday CAN which includes the following information:*

1. **Who:** The identity of who is having the mayday. Unit, unit riding position, or entire name
2. **What:** Caused the condition(s) of the mayday
3. **Where:** Identify your current location/surroundings or your last known location
4. **Needs:** Provide the needs that will help resolve the Mayday. **Needs are critical to adjusting the incident action plan (IAP) and deploying resources to address the mayday.**

**Example:** *Mayday, mayday, mayday, Engine 1, ceiling collapse, firefighter trapped, lost our attack line, Floor 1, Bravo/Charlie Corner, need a company with an attack line and tools for fire control and extrication.*

Transmit the mayday message on the assigned talk group/frequency. If your agency has a “mayday talk group/frequency” that is monitored by the IC, switch to this talk group and repeat your mayday if you do not get a response from the IC on the assigned tactical talk group/frequency.

### *Help Order*

Mayday studies and national statistics (Abbott, 2022a & 2022b) show that approx. 80% of Maydays are resolved by:

- The firefighter having the Mayday performs self-rescue.
- The firefighter’s own crew members perform the rescue.
- Another company already working in the hazard zone performs the rescue.
- Or a combination of all three of the above.

Based on this information and the natural reactions of other firefighters working in and around the hazard zone to come to the immediate aid of firefighters who are in trouble, the IC and division supervisors will utilize the **help order** during a mayday operation.

The **help order** is the sequence in which an IC or a division supervisor will try to assist a firefighter who is experiencing a Mayday. This sequence is:

1. Communicating to a lost firefighter self-rescue techniques to assist with the rescue.
2. Using a mayday firefighter(s) own company to assist with the rescue.
3. Using a company already located inside of the hazard zone to assist with the rescue.
4. Using an on-deck company located outside of the hazard zone as a RIC.

The IC should acknowledge the mayday CAN report and respond back with the following to the mayday firefighter(s):

1. Verbally state to the mayday firefighter(s); “calm down and control your breathing”.
2. If disoriented and equipped with a thermal imager (TI) have them use the TI to aid in reorientation.
3. Maintain radio contact long enough to get enough information to implement an adequate rescue plan.
4. Have them activate their PASS unit (shut the PASS unit off when talking on the radio).
5. Mayday firefighter(s) may be difficult to hear and communicate with once they have activated their PASS unit.

When communicating with a mayday firefighter’s own crew or with another crew who can assist with the rescue, the IC or division supervisor must consider 3 things when using the help order:

1. The air limitations of the interior working crews.
2. The possibility of interior crews lacking the tools required to make the rescue.
3. The fire control efforts required to maintain interior tenability. **Other operating interior crews that are actively addressing fire control when a mayday occurs should continue with their fire control efforts. Put the fire out!**

When deploying on-deck companies as a RIC, they must properly equip themselves, have a rescue plan, and be ordered into the hazard zone by the IC or division supervisor before making entry. Outside on-deck companies that are deployed to perform rescue activities should always bring the rescue air supply (RIC bag) along with any other equipment needed to solve the mayday.

### ***Mayday Communications Practice***

As with other skills, developing mastery requires deliberate practice. The crawl, walk, run approach to skills practice is effective in developing proficiency and allows learners to progress to the point where they are appropriately challenged to improve performance. Remember that if you do not make mistakes when training, it is likely that you are not adequately challenged!

Depending on the knowledge and skill of the participants, this session of deliberate practice may not progress through the entire crawl, walk, run sequence. Do not jump ahead to the next step if the participants have not demonstrated proficiency at the previous level.

*A command officer, the instructor or a member of the participating companies may serve as the IC. However, it is important that all members exercise their skill in transmitting a mayday and members who may serve as an IC exercise their skill in using the help order and transmitting emergency traffic messages.*

**Crawl:** Write the mayday message you would transmit for each of the scenarios provided in Appendix A. Write the message, review it using the mayday message rubric (Appendix B) and revise as needed to ensure clear and concise communication using the mayday conditions, actions, and needs (CAN) format. Provide each participant with a copy of Appendices A and B

**Walk:** Don your structural firefighting clothing and self-contained breathing apparatus (SCBA). Carry your radio as you normally would during firefighting operations. Go on self-contained air and get down on the floor as if you were operating on an attack line in a hot, smoky environment. One member will remain off air and will serve as the IC. The instructor will read a description of a situation that may (or may not) require a mayday (Appendix D) and will then call on a specific participant to transmit the appropriate communication (e.g., mayday, priority traffic). The member serving as the IC will respond to the radio traffic as needed. Evaluate performance using the mayday message and help order rubrics (Appendices B and C).

**Run:** Don your structural firefighting clothing and self-contained breathing apparatus (SCBA). Carry your radio as you normally would during firefighting operations. Go on self-contained air and engage in physical activity at a moderate workload (see Appendix D for the moderate workload circuit). Continue until the first member of your company reaches 50% of their air supply (typically the point at which you would advise command of the need to recycle). Stay on self-contained air and immediately repeat the “crawl” or “walk” scenarios. One member should remain off air and will serve as the IC. Evaluate performance using the mayday message rubric (Appendices B and C) and discuss any challenges to effective performance or observed differences in proficiency.

**Run Faster:** Repeat the “run” scenarios with 1) a higher level of physical activity, 2) in a visually obscured environment, and/or 3) add other distractions such as noise (e.g., screaming, PASS activation, power tools operating, sound of the fire, etc.) that may interfere with communications. Run faster practice may also include unannounced mayday practice during single or multiple company evolutions with higher levels of fidelity. Important! **Mayday practice must not be incorporated with live fire training.**

## References

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## Appendix A - "Crawl" Scenarios

**Scenario 1:** You are operating at residential fire in a small one-story house. Your company has been assigned to fire control and primary search. You stretched an attack line through Side Alpha and began fire control in a bedroom on the Bravo/Charlie Corner. After knocking down the fire, you begin pulling the ceiling to check for extension and a large section of sheetrock falls on your nozzle firefighter, knocking him to the floor. You check on him and he is complaining of severe neck pain and states that he does not think that he can get out of the building by himself.

**Scenario 2:** You are operating at a fire in a small, one-story commercial building. Your company was assigned to assist another company in stretching a large attack line through Side Bravo to control a fire in the Charlie/Delta corner of the building. You are approximately 75' inside the building and the other member of your company stops pulling hose and is holding his chest. When you ask, they tell you they are experiencing a crushing pain in their chest.

**Scenario 3:** You are operating at a fire in a small, one-story house with a lookout basement. There is a working fire in the basement and the first arriving company stretched a line to Side Bravo for fire control, applying water through a basement window. Your company has been tasked with fire control and primary search on Floor 1. You stretched an attack line through Side Alpha. You are approximately 30' inside the building in the Bravo/Charlie corner and your nozzle firefighter falls partway through the floor. You attempt to pull him free, but her leg is trapped by the flooring and underlayment.

**Scenario 4:** You are operating at a fire in a small, two-story apartment building with a fire on Floor 1 with likely extension to Floor 2 and the attic. Your company has been assigned fire control and primary search on the floor above the fire (other companies are operating on the fire floor). You are stretching down the common hallway towards Side Delta when smoke drops to floor level and temperature increases, when you attempt to withdraw to the stairwell, you lose pressure in your attack line and take refuge in an apartment to your left.



## Appendix B - Mayday Communication Rubric

Dimension	Developing (1)	Competent (3)	Exemplary (5)
<b>Radio Operation:</b> The mayday is transmitted on the assigned talk group. If no contact, the mayday is repeated on the mayday talk group.	Unable to access the portable radio to transmit the mayday. Failed to push the transmit button. Mayday transmitted on other than the assigned talk group.	Accessed the portable radio to transmit the mayday message. Pushed the transmit button prior to talking and waited for the repeater to key up. Mayday transmitted on the assigned talk group.	Accessed the portable radio to transmit the mayday message. Pushed the transmit button prior to talking and waited for the repeater to key up. Did not release the transmit button until the mayday message was fully transmitted. Mayday transmitted on the assigned talk group. Positioned the radio microphone for maximum clarity of communication.
<b>Mayday Message:</b> A mayday is communicated using the mayday CAN format: who, what, where, needs.	No Mayday transmitted. The mayday was incomplete and did not include several of the required elements. The mayday was verbose and/or unclear.	Included all required elements of the mayday CAN including needs.	Included all required elements in the correct sequence. The mayday was concise with maximum information density and clarity of needs.
<b>Self-Control and Presence:</b> Communications are calm, clear, and controlled.	Screaming. Lack of control. Personal alert safety system (PASS) activated prior to the mayday transmission.	Remained calm.	Remained calm. Maintained poise and responded appropriately to direction provided by the IC. Activated the PASS after the mayday transmission. Shut off the PASS when transmitting on the radio.
<b>PASS Activation</b> Activation of the personal alert safety system without hesitation.	Unable to activate the PASS or activated the PASS prior to transmitting the Mayday	Activated the PASS without hesitation after transmitting the mayday message.	Activated the PASS without hesitation after transmitting the mayday message. Shut off the PASS during ongoing communication, reactivated after communication was completed.



## Appendix C – IC's Help Order &amp; Emergency Traffic Rubric

Dimension	Developing (1)	Competent (3)	Exemplary (5)
<b>Acknowledging the Mayday:</b> The IC acknowledges the mayday message in a timely manner.	The mayday firefighter transmits the mayday message more than once before being acknowledged by the IC.	The IC recognizes the mayday message and acknowledges it.	The IC recognizes the mayday message and acknowledges it immediately.
<b>Help Order:</b> The IC provides guidance to the mayday firefighter and tasks assigned resources to provide assistance.	Does not provide action-oriented guidance to the mayday firefighter. Does not assign nearby companies to assist the mayday firefighter or assigns working companies while failing to maintain tactical operations to establish fire control. Does not task the on-deck company to assist the mayday firefighter.	Provides action-oriented guidance to the mayday firefighter. Assigns companies to assist the mayday firefighter while maintaining tactical operations Tasks the on-deck company to assist the mayday firefighter.	Provides clear and concise action-oriented guidance to the mayday firefighter. Assigns companies to assist the mayday firefighter while maintaining tactical operations Provides a clear and concise task, location, and objective order to the on-deck company to assist the mayday firefighter and maintains one or more on-deck companies.
<b>Emergency Traffic:</b> Transmits an emergency traffic radio message to dispatch.	Does not transmit an emergency traffic radio message.	Transmits an emergency traffic radio message including summary of the mayday and updated resource determination.	Transmits a clear and concise emergency traffic radio message including summary of the mayday and updated resource determination. Clears emergency traffic once the mayday has been resolved.
<b>Resource Determination:</b> Updates the resource determination based on the nature of the mayday and anticipated resource requirements.	Does not update the resource determination or the resource determination does not match incident needs.	Updates the resource determination appropriately (generally at least one additional alarm and additional EMS transport resource)	Updates the resource determination appropriately based on the needs of the incident and nature of the mayday.

Dimension	Developing (1)	Competent (3)	Exemplary (5)
<b>Command Presence:</b> The IC maintained control of themselves as well as the resources being managed.	Presented a significant lack of confidence in communicating. Did not maintain control of incident operations or lost focus.	Communicated in a calm and confident manner.	Communicated a calm and confident manner (i.e., highly poised). Maintained effective ongoing control of incident operations and responded to changing incident conditions effectively and in a proactive manner
<b>Contingency Planning:</b> The IC must anticipate that things will not go as planned and must be able to adapt to changes in conditions.	Did not consider potential contingencies.	Considered and reacted appropriately to changes in conditions.	Anticipated and proactively addressed potential changes in conditions requiring immediate action.

## Appendix D - “Walk” Scenarios

**Scenario 5:** You are operating at a fire in a small two-story house with a window well basement. Along with a firefighter from your company have stretched an attack line through the door on Side Alpha and through the living room towards the kitchen. The kitchen is in the Charlie/Delta corner of the house. As you reach the kitchen you observe flames from a doorway to your right. You feel the floor start to give way and you fall into the basement along with your crewmember. You cannot find your attack line. It is extremely hot. You move away from the heat, taking refuge towards what you think is Side Alpha.

**Scenario 6:** You are operating at a fire in a medium, one-story commercial building. You have stretched through Side Alpha and are working your way towards the fire which is in a storage area on Side Charlie. You are approximately 100’ deep into the building have just reached the fire area. You are applying water with limited effect. As you reposition your attack line, a large shelving unit collapses, trapping the other member of your crew. You have the nozzle and are continuing to apply water, but conditions are worsening. The trapped firefighter tells you that he thinks his leg is broken.

**Scenario 7:** You are operating at a fire in a small garden apartment complex. Your initial assignment was to rescue several occupants from windows on the second floor. After completing this assignment, your company has been assigned to primary search and to check for extension above the main fire occupancy. You have stretched an attack line to the unit above the main fire occupancy and have started primary search. Smoke is down to the floor with limited visibility. The other member of your crew enters a bedroom to perform search while you remain on the attack line in the hallway. After hearing your partner moving around the room, the sound of movement ceases. You call out, checking to see if they are OK and receive no response. Entering the room and using your thermal imager you observe the firefighter lying on the floor not moving. They are unresponsive. You cannot hear them breathing.

**Scenario 8:** You are operating fire in a small, one-story house. Working with a member of your crew you have stretched an attack line through Side Alpha for fire control and primary search. Your partner is on the nozzle as you stretch down a hallway towards the fire located in several rooms on Side As the fire is knocked down, you think that you hear someone coughing nearby. You tell your partner that you are going to check the bedroom to your left (you think on Side Alpha). You search that room, not finding a victim. You move into the bathroom, quickly searching without locating the victim. You exit into a bedroom and move back to the hallway, but do not find your attack line. You call out for firefighter on the nozzle but receive no response.

## Appendix E - Moderate Workload Circuit

This circuit is designed for up to four participants and for the purpose of the mayday communications drill is performed wearing structural firefighting clothing and self-contained breathing apparatus. Participants go on air at the start of the circuit and continue from station to station until the first member of the crew reaches 50% of their air supply (individuals must monitor their own air consumption). Each participant starts at a different station. Exercise is done at each station for 60 seconds with 20 seconds between stations. Watch the [video](#) (Sorensen, 2023) to see how these exercises are performed.

- Station 1: Sled Push/Pull/
- Station 2: Farmers Walk with 30 lbs. to 60 lbs.
- Station 3: Sandbag Shoulder Toss
- Station 4: Inverted Row 20 reps and then Plank

Individuals must make an effort to perform controlled deliberate movements rather than work as fast as they can. Intensity can be modified in many ways (increased weight, tempo, PPE selection) but for this workout individuals should work at weights and tempos in which they may be breathing heavily but can still speak in full sentences.

For additional information on tactical breathing, watch [SCBA Breathing Techniques](#) (LFRA, 2019).