



In-Station Training

TM 24-38 Aircraft Crash into Townhouse Complex



Author

Chief Ed Hartin

Purpose

Aircraft incidents and fires in multi-unit residential complexes can both present significant challenges to incident commanders. These challenges increase exponentially when these types of incidents are combined. This 10-Minute Training examines an incident of this type from the perspective of IC #2.

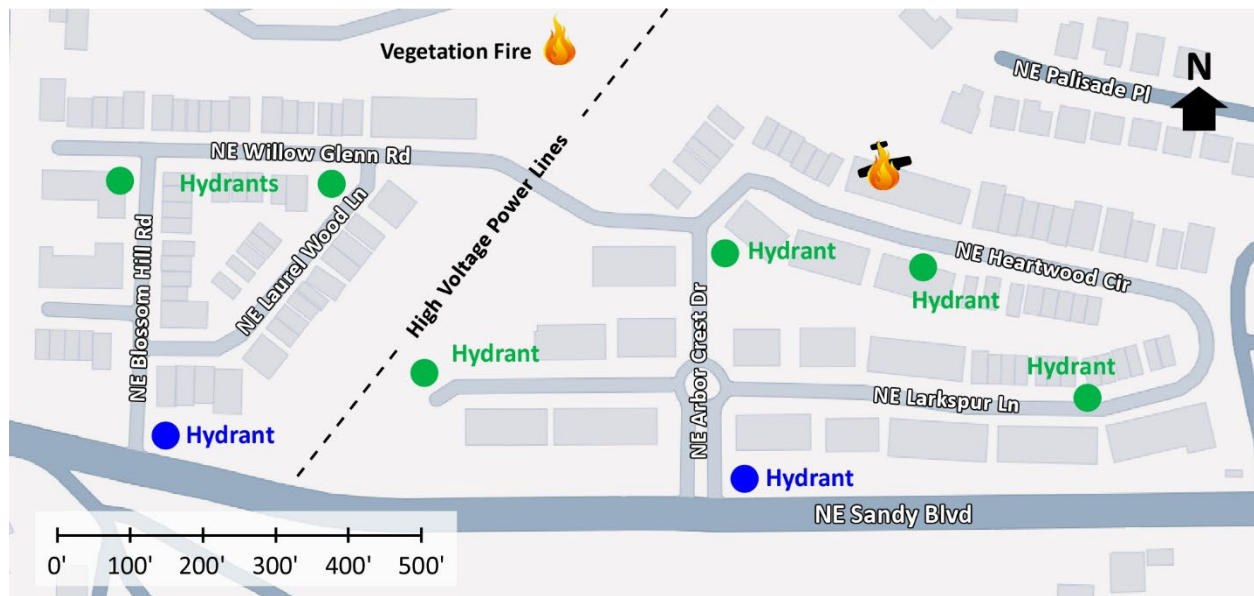
Learning Outcomes

Command officers perform effective ongoing size-up; select an appropriate strategy, and implement tactics based on the strategic decision-making model.

Conducting the Drill

This incident involved a general aviation aircraft crash into townhomes at 21843 NE Heartwood Circle on August 31, 2024, at 10:20 (LaBuda, 2024; Fox Live Now, 2024; OPB Staff & AP Staff, 2024; Gresham Fire, 2024; & Broadcastify 2024a, 2024b, 2024c). Review the map and photos (Figures 1-6) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area

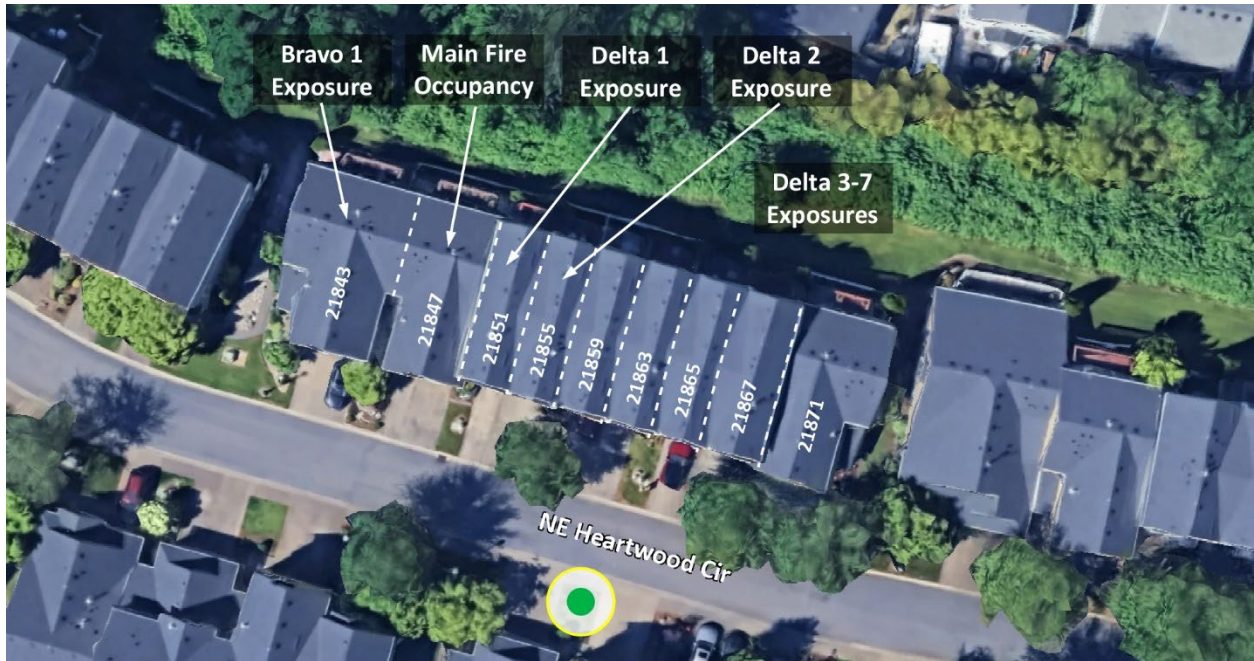


Note: Adapted from Google. (2024a). [Map, 21847 Heartwood Circle, Fairview, OR].

<https://bit.ly/3Z94GJ8>,

The closest hydrants are at the intersection of NE Arbor Crest Drive and NE Heartwood Circle and just beyond the incident location on NE Heartwood Circle. Additional hydrants are located throughout the complex as illustrated in Figure 1.

Figure 2. Aerial View



Note: Adapted from Google. (2024b). [Aerial view 21847 Heartwood Circle, Fairview, OR]. <https://bit.ly/4dLXbw3>.

Figure 3. Side Alpha 3D



Note: Adapted from Google. (2023a). [3d aerial view 21847 Heartwood Circle, Fairview, OR]. <https://bit.ly/3AYqj4E>.

Figure 4. Charlie/Delta Corner 3D



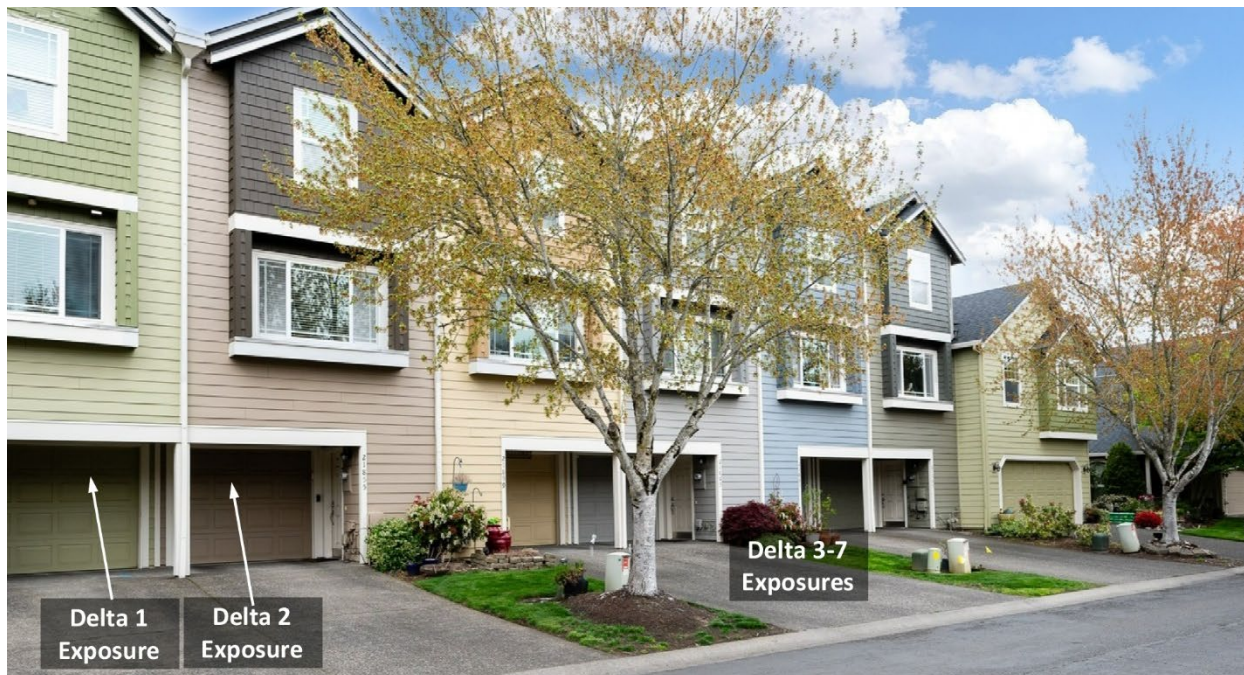
Note: Adapted from Google. (2023b). [3d aerial view 21847 Heartwood Circle, Fairview, OR].
<https://bit.ly/4cTOHn8>.

Figure 5. Side Alpha-Main Fire Occupancy and Delta Exposures



Note: Adapted from Redfin. (2021). 21851 NE Heartwood Cir, Fairview, OR 97024.
<https://bit.ly/3AM75zn>.

Figure 6. Side Alpha-Delta Exposures



Note: Adapted from Google. (2023d). [Street view 21847 Heartwood Circle, Fairview, OR].

<https://bit.ly/3Xc2Owu>

No pre-incident street view of the Bravo 1 Exposure is available.

Dispatch broadcasts a first alarm for an aircraft crash and almost simultaneously broadcasts a first alarm for a structure fire at 21892 Bramble Way. Initially it is unclear if the two incidents dispatched are related (but are in the same vicinity). Medic 1 (advanced life support ambulance) who is out of quarters, reports seeing a large column of smoke and that they are responding. Temperature is 71° F with wind from the west northwest at 8 mph (Weather Underground, 2024). You are the company officer or AIC of the first arriving engine and have your company's typical staffing.

1. What critical factors would you consider when dispatched and during response and what conversations would you have with your crew while responding?

You hear a command officer and three other engines responding in addition to Medic 1 who is already enroute. As you are responding, Medic 1 provided the following initial radio report:

On scene of a large, two- and three-story townhouse complex with a working fire, middle of row, flames from the roof, give me a second alarm.

Dispatch requests an address and Medic 12 provides the following update report:

Residents report the address as 21867 Heartwood Circle, fire extending to the exposures, working on evacuation.

Dispatch transmits a second alarm for the structure fire at 21892 Bramble Way (not the address reported by Medic 1).

You are approaching from the west on NE Sandy Boulevard and will enter the complex via NE Arbor Crest Drive. The second engine will arrive from the east on NE Sandy Boulevard four minutes after you arrive. The third engine will arrive immediately after the second engine. The command officer will arrive shortly after the third engine. All other units dispatched on the first alarm will arrive after the command officer.

Examine Figures 7 illustrating conditions on NE Arbor Crest Drive on as you approach the incident location.

Figure 7. Conditions Observed from NE Arbor Crest Drive.



Note: Adapted from Fox Live Now. (2024). *Plumes of smoke engulf homes after plane crashes in Oregon neighborhood* [video]. <https://bit.ly/3X6IEVX>.

Mute the audio and watch the first 00:45 of the [incident video](#) (LaBuda, 2024) and examine Figure 8.

Figure 8. Conditions on the Alpha/Bravo Corner



Note: Adapted from LaBuda, D. (2024). *Townhomes engulfed in flames after small plane crash in Fairview* [video]. <https://bit.ly/3TdrcNg>.

2. State your initial radio report (IRR) exactly as you would transmit it to dispatch.

3. What communication would you have with Rescue 74 (who arrived and provided an initial radio report and update, but did not take command)?

4. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders would you give your crew? State the task orders exactly as you would give them.

There are many excited bystanders, but they cannot provide specific information regarding occupants.

5. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?

6. State your update report exactly as you would transmit it to dispatch.

7. Engine 2 arrives and reports that they are Level 1 on a hydrant at NE Sandy Boulevard at NE Arbor Crest Drive. State the tactical assignment you would give them exactly as you would transmit it.

8. Engine 3 arrives and reports that they are Level 1 on a hydrant at NE Sandy Boulevard at NE Blossom Hill Road. State the tactical assignment you would give them exactly as you would transmit it.

9. Based on the anticipated effectiveness of your tactical operations, state your conditions, actions, and needs (CAN) report that you would provide to the first arriving command officer as part of command transfer to IC #2.

Reflect on your strategic decision-making and responses to questions 1 through 9 before answering the next six questions.

10. What was the problem?

11. What was getting in the way of achieving your tactical priorities?

12. Was there anything in this incident that could have hurt or killed you (right now)?

13. Was it reasonable to believe that the Main Fire Occupancy was occupied?

14. Was there searchable space?

15. If you believed it was reasonable that the building was occupied and there was searchable space, what could you do about it?

Watch the first 03:44 of the [incident video with audio](#) (LaBuda, 2024) before answering the next several questions.

16. The first arriving companies stretched 1 ¾" attack lines through Side Alpha of the main fire occupancy for fire control and to support primary search. What factors may have influenced the effectiveness (or ineffectiveness) of fire control in the main fire occupancy?

17. You are operating on Floor 2 of the main fire occupancy and have encountered structural damage and significant fire involvement, water application from your attack line is ineffective. State the communication that you would have with IC #2 based on these conditions.

To gain a different perspective on this incident, listen to the [Air Traffic Control Audio](#) (Rine-Labs, 2024) and examine Figure 9 illustrating the aircraft involved in this incident.

Figure 9. Cessna 421 N421GP



Note: Adapted from Rine-Labs. (2024). PLANE CRASH. Fairview Oregon Cessna 421 KTTD N421GP Accident 08-31-2024 ATC Audio. <https://bit.ly/3z4pk2u>.

Additional Learning: Structural firefighters generally have limited training related to aircraft incident response. Complete [First Responder Safety at a Small Aircraft or Helicopter Accident](#) and review the related reference information (FAA, 2024) to improve your knowledge of this type of incident.

References

- Broadcastify. (2024a). Portland Area Fire and Rescue 08/31/2024 10:15 AM <--> 10:45 AM PDT. Retrieved September 6, 2024, from <https://bit.ly/47hVLHp>.
- Broadcastify. (2024b). Portland Area Fire and Rescue 08/31/2024 10:45 AM <--> 11:15 AM PDT [audio]. Retrieved September 6, 2024, from <https://bit.ly/3MA0JWn>.
- Broadcastify. (2024c). Portland Area Fire and Rescue 08/31/2024 11:15 AM <--> 11:45 AM PDT [audio]. Retrieved September 6, 2024, from <https://bit.ly/3B2hHKm>.
- Federal Aviation Administration (FAA). *First responder safety at a small aircraft or helicopter accident* [on-line training]. Retrieved September 7, 2024, from <https://bit.ly/4edsFLz>.
- Fox Live Now. (2024). *Plumes of smoke engulf homes after plane crashes in Oregon neighborhood* [video]. Retrieved September 6, 2024, from <https://bit.ly/3X6lEVX>.
- Google. (2023a). [3d aerial view 21847 Heartwood Circle, Fairview, OR]. Retrieved September 6, 2024, from <https://bit.ly/3AYqj4E>.
- Google. (2023b). [3d aerial view 21847 Heartwood Circle, Fairview, OR]. Retrieved September 6, 2024, from <https://bit.ly/4cT0Hn8>.
- Google. (2023d). [Street view 21847 Heartwood Circle, Fairview, OR]. Retrieved September 6, 2024, from <https://bit.ly/3Xc2Owu>.
- Google. (2024a). [Map, 21847 Heartwood Circle, Fairview, OR]. Retrieved September 6, 2024, from <https://bit.ly/3Z94GJ8>,
- Google. (2024b). [Aerial view 21847 Heartwood Circle, Fairview, OR]. Retrieved September 6, 2024, from <https://bit.ly/4dLXbw3>.
- Gresham Fire Department. (2024). [Facebook post]. Retrieved September 6, 2024, from <https://bit.ly/3zalpRK>.
- LaBuda, D. (2024). Raw video: Townhomes engulfed in flames after small plane crash in Fairview [video]. Retrieved September 4, 2024, from <https://bit.ly/3TdrcNg>.
- OPB Staff & AP Staff. (2024). 3 people dead after small plane crash in residential area near Troutdale airport. Retrieved September 6, 2024, from <https://bit.ly/4cV4Xmm>.
- Redfin. (2021). 21851 NE Heartwood Cir, Fairview, OR 97024. Retrieved September 6, 2024, from <https://bit.ly/3AM75zn>,

Rine-Labs. (2024). PLANE CRASH. Fairview Oregon Cessna 421 KTTD N421GP Accident 08-31-2024 ATC Audio. Retrieved September 7, 2024, from <https://bit.ly/3z4pk2u>.

VASA Aviation. (2024). FATAL CRASH Into Residential Houses at Troutdale - Portland, OR [video]. Retrieved September 6, 2024, from <https://bit.ly/4dUd57l>.

Weather Underground (2024). *Gresham, OR weather history* [historical weather August 31, 2024]. Retrieved September 1, 2024, from <https://bit.ly/3yQW5Ah>.