

Lesson Sharing

Fall from a Ladder

Narrative

On June 9, 2017, Engine 1 and Engine 2 were assigned to the Boundary Fire on the Williams Ranger District to perform structure protection on private lands near the area of Bull Basin, at the foot of Kendrick Mountain. Both engine crews worked on digging hand lines, mapping the property, setting up sprinklers systems, positioning pumps, positioning hose-lays around the structure, and performing other preventative measures to protect the structures from fire damage.

Engine 1 had been assigned to the fire in support of structure protection for several previous shifts. On June 9th they experienced mechanical issues with their vehicle, causing them to miss the Division daily operational briefing. When they arrived, the Engine 1 crewmembers checked in with the Division Group Supervisor to inform them of their vehicle mechanical issues and changes in the module leadership (the Engine Lead was the module leader for that day). They received their operational briefing from the Division Group Supervisor before heading out to Bull Basin to work on structure protection measures.

The Events of the Incident

At approximately 1628 hours, the Engine 1 and 2 crewmembers noticed the structure gutter system was full of pine needle debris and needed to be cleaned out in order to provide additional protection to the structure. Crewmember 1 started working on cleaning out the gutter system at the far end of the building. Crewmember 2 noticed this activity: "I felt helpless just watching the other individual cleaning out the gutters by himself and felt I needed to assist in doing something. I decided to start working from the opposite end of the gutter system and meet him in the middle." Crewmember 2 decided to reposition the 28-foot extension ladder Crewmember 1 had used to access the 8-foot-high roof. This ladder was discovered on site during previous shift activities.

Crewmember 2 positioned the ladder at about a 45 degree from the wooden deck to the top of the roof, with the feet and extension sitting on the deck. He jumped on the bottom rung a couple of times to ensure it would stay in place before proceeding up the ladder. As Crewmember 2 climbed the ladder and approached the roof's edge (at about the 7-foot-high rung), the ladder began to slide away from the structure rapidly. When the ladder slipped, Crewmember 2's left foot became caught in the rung of the ladder. The impact to the deck, combined with his body weight landing on the ladder, caused his lower left leg to break. He immediately yelled out "My Ankle" to alert other firefighters working in the area of the urgent need for help.



Medical Treatment and Evacuation

Engine 1 and 2 crewmembers working in the area heard Crewmember 2 yelling for help and ran over to provide assistance and assess his injuries. At 1630, the Engine 2 Captain assumed command (IC) of the incident-within-an-incident (IWI) and requested the line medics on the Division respond to the incident. Upon arrival the Emergency Medical Technicians immediately started assessing the individual's medical condition and relaying information to the on-scene IC. The Operations Section heard the on-scene IC announce the medical emergency on the radio and immediately cleared incident radio traffic for the medical emergency. The on-scene IC initiated the 9-Line Medical Incident Report (MIR) with Dispatch, who relayed the information to 911. The 911 contact was then transferred directly to the Division Group Supervisor (DIVS) to provide additional information.

At 1636 hours, the DIVS order a ground ambulance through 911. At 1640 the EMT updated the on-scene IC to report an open tibia/fibula fracture with moderate bleeding, and stated the injured individual may require air transportation based on the EMT's medical assessment. The IC upgraded the medical severity to "URGENT RED" instead of the MIR standard "Yellow" for a similar injuries. The on-scene IC decided air transportation would be a better evacuation option to limit the risk of further injury due to the extremely bumpy roads, and based on the injured individual's condition, distance, and time the ambulance had to travel to reach the nearest medical facility. The DIVS called 911 to upgrade the patient status and relay safety concerns of the air ambulance and its crew operating in strong winds and smoky condition around the heli-spot location.

The Engine 2 Engineer prepared the heli-spot to accept the incoming Medivac air ambulance. At 1703 hours the air ambulance arrived in the vicinity of heli-spot and was in communication with the Engine 2 Engineer as to ground conditions. At 1716 hours the air ambulance landed at the heli-spot and patient care was transferred to flight medics at 1730 hours. By 1734 hours the air ambulance departed the incident enroute to the hospital with the injured Crewmember 2. He remembered the flight crew telling him it would only be about a 12 minute flight to the medical center. Immediately after, the on-scene IC reported back to Dispatch that the air ambulance took off and the incident was cleared. Operations canceled the ground ambulance response. Shortly after, all personnel associated with the medical response gathered up to do a debrief/AAR.

Summary

Overall the incident went very well from beginning to end. The engine crews knew exactly what to do based on their training and experience. The EMTs maintained dialogue with the injured crewmember on his condition and treatment until he was transferred to the air ambulance medics. The Engine Captain assumed the role of IC and established good communications channels with Dispatch on the situation. The IC was able to recognize the need to upgrade the Medical Incident Report from "Yellow" to "Red" based on the individual's condition, travel time, and road conditions to the hospital. The IC decision to order an air ambulance instead of a standard ambulance reduced the risk of additional injuries to the patient.

The Operations Section quickly cleared all incident radio traffic for the emergency and sent out group texts to the Type 3 IMT Command and General Staff informing them of the incident. The DIVS worked with 911 to upgrade to the air ambulance based on IC recommendations. The DIVS also addressed safety concerns with the Medivac air ambulance and weather conditions in the heli-spot area. The Engine 2 Engineer quickly prepared the heli-spot area for the air ambulance. The transfer of the injured crewmember went very smooth with the Medivac flight crew. Operations coordinated with the Forest Service Hospital Liaison to meet the injured crewmember and his family at the hospital and provide support as needed. Personnel involved in the incident were debriefed and offered a Critical Stress Debriefing to talk about the incident.

Successes

What went well?

- ✓ The extensive training on using the Medical Incident Response lead to a successful incident-within-an-incident. The Incident Commander's experience led to good decisions with transport of the injured firefighter.
- ✓ "Honestly it couldn't have run much smoother to tell you the truth."
- ✓ "A lot of things lined up right."
- ✓ "Everyone pitched in – everyone probably had one small job."

- ✓ The IC was prepared to give incoming resources (Safety Officer and Medics) a status briefing on the individual's condition.
- ✓ Having a designated Emergency Medical Technician assigned on the crew to provide initial medical care was very helpful.
- ✓ The injured crewmember was treated, transported, and delivered by the flight medics to the hospital within 1 hour and 6 mins (1628 hours to 1734 hours) from time of injury.
- ✓ The Forest quickly established hospital and family liaisons for the injured crewmember, which helped make contact with his family and manage the associated processes.

Challenges

What could be improved?

- ✓ Be aware of the equipment you are using – is it the right tool for the job?
- ✓ Consider more in-depth ladder training on pre-use inspections and setup procedures for extension ladders. If anyone is on ladder, have someone hold the feet.
- ✓ Investigate using water as an alternative method to clean out building gutter systems.
- ✓ Consider additional Contingency and Emergency Plan options for medical evacuations (besides standard ground or air ambulance, such as medically-equipped UTVs).
- ✓ Be aware of possible Communication Plan challenges: the communication plan identified the use of V-Med 28 (155.340) for communications with air medical resources; the ship arrived on V-Fire 21 (154.280).
- ✓ Review medical and trauma kits to verify contents and equipment. Are the trauma scissors strong enough to cut through the heavy thick leather of hiking shoes or boots? This was an issue on this incident.
- ✓ Provide clarification around responsibilities during structure protection activities.
- ✓ Expand the use of Fire Department State Cooperators for pre-suppression and Structure Protection assignments.