

## Rescue Strut Systems for Auto Extrication & Building Collapse: Overview for the City of Valdez

Rescue strut systems are essential tools for stabilizing unstable vehicles, structures, or debris in emergency scenarios like auto extrications or building collapses. These systems provide a secure base to support heavy loads, prevent further collapse, and create safe conditions for rescuers and victims. Following NFPA (National Fire Protection Association) standards and FEMA's Urban Search and Rescue (USAR) protocols, fire departments ensure these systems meet the highest safety standards and are effective under various emergency conditions.

### Key Components and Usage:

1. **Auto Extrication:** During auto accidents, struts stabilize vehicles involved, especially those that are overturned or at risk of shifting. They help create a secure environment for rescuers to work safely and extricate trapped victims without the risk of further vehicle movement.
2. **Building Collapse:** In structural collapses, struts stabilize walls, floors, or debris piles. According to FEMA USAR standards, these are vital for accessing survivors in compromised buildings, especially in earthquake or avalanche-prone areas like Valdez.

### NFPA & FEMA Standards:

**NFPA 1670 & NFPA 1006:** These NFPA standards outline training and operational protocols for technical rescue, including vehicle extrication and structural collapse. They ensure personnel are qualified to handle high-risk situations.

**FEMA USAR Equipment Standards:** Ensure that strut systems are robust, durable, and adaptable to varied collapse scenarios, meeting standards for rapid deployment and safe load-bearing capacities.

### Application in the City of Valdez:

Given Valdez's history of earthquakes, avalanches, and other natural disasters, having rescue strut systems and trained personnel is essential. In a region prone to severe natural events, these tools are part of essential preparedness for mitigating disaster impacts and ensuring quick, safe rescues. Implementing NFPA and FEMA guidelines strengthens the Valdez Fire Department's readiness and resilience against possible future events, safeguarding both rescuers and residents.

A rescue strut system is a critical tool for fire department members, specifically in scenarios involving vehicle extrication, building collapse, or structural instability. Rescue struts are designed to stabilize vehicles, debris, or structures, preventing further collapse and ensuring safety for rescuers and trapped individuals. Fire departments utilizing these systems follow guidelines outlined in NFPA standards and FEMA Urban Search and Rescue (USAR) protocols, which provide best practices for safely shoring and stabilizing structures during emergencies.

In a city like Valdez—known for its history of earthquakes, avalanches, and other natural disasters—rapid deployment of rescue struts is essential. Valdez's remote location can significantly delay the arrival of FEMA USAR teams, potentially leaving the community without federal support for days. Therefore, the fire department must be prepared to perform immediate extrication and stabilization, particularly as structures in earthquake-prone areas may suffer from repeated stresses and weakening.

With Valdez's susceptibility to natural disasters and the potential delay in federal assistance, fire department personnel must be thoroughly trained to quickly set up and operate rescue strut systems. This capability empowers local responders to act decisively and save lives in the immediate aftermath of an incident, reducing reliance on delayed external resources.