August 3, 1995

TO: Ted Petit, NIOSH, Division of Safety Research

FROM: Gary Bledsoe, Manager
Occupational Injury Prevention Program

SUBJECT: Soldier Killed in Vehicle Roll-over at Army Base (95-AK-005)

SUMMARY

A U.S. Army mechanic was killed on March 12, 1995, when the military truck he was driving skidded and rolled over. A passenger in the truck received minor injuries. The truck was a 5-ton cargo vehicle carrying ammunition and other explosives. The driver lost control on a curve in a steep downward grade. Braking resulted in the truck skidding, and a trailer that was being towed by the vehicle "catapulted" off the ground. This resulted in a roll-over that pinned the driver partially outside the truck's front windshield.

INTRODUCTION

It was not possible to physically visit the incident site due to U.S. military policies. However, the base Safety Manager was interviewed and provided the results of the Army's internal investigation.

The victim was an Army Specialist 4 with two years of military training and experience. His specialty was vehicle mechanic, but he was licensed to drive military trucks. However, he had little experience in driving such trucks in winter weather conditions in Alaska. Weather conditions prevailing in the military training area at the time of the incident were ice-covered roads.

INVESTIGATION

The 23-year-old, male driver was operating a cargo truck with one passenger. The cargo vehicle crested a hill and began traveling on a steep downward slope. As the driver entered a curve, he apparently realized he was going too fast and locked the brakes. This caused the truck to begin skidding. The attached trailer dug into the road and caused the truck to partially catapult into the air. The vehicle then rolled over, pinning the driver. He was thrown partially through the front windscreen. This was

possible because the truck has a divided windscreen that allows the upper half of the screen to be rolled outward. The victim was not wearing a seatbelt. Other significant findings by Army investigators included tires that were overinflated, and a vehicle load that exceeded the maximum load limit. Military policy requires the proper wearing of seat belts. Load weight is calculated based on the weight of each crate of ordnance multiplied by the total number of crates. This calculation is the co-responsibility of the driver and assistant driver. Other responsibilities of the drivers are observing the general mechanical condition of the vehicle and requesting maintenance as required, routine maintenance (e.g., tire inflation), and safe operation.

CAUSE OF DEATH

The mechanic died as a result of massive head injuries.

RECOMMENDATIONS

Recommendation #1:

All motor vehicle operators should wear seatbelts at all times.

Discussion: In this case, Army investigators believe that the crash was survivable due to minimal damage to the truck's cab. However, since the driver was not wearing a seat belt, he was partially thrown out of the vehicle, where he was fatally exposed to impact forces.

Recommendation #2:

All motor vehicle drivers must have training appropriate for the environment in which they will be operating.

Discussion: The victim had limited driving experience for the road conditions encountered in a typical Alaskan winter. His primary function was a vehicle mechanic. His speed was considered too high for the road conditions prevailing at the time of the incident, and he used inappropriate braking procedures during a vehicle skid. All new employees that drive motor vehicles should have a period of transition training with currently experienced drivers prior to operating motor vehicles, regardless of their experience in another environment.

Recommendation 3:

All motor vehicles should be carefully inspected by drivers prior to operation.

Discussion: The truck was found to have overinflated tires. This would make stability in icy road conditions even more difficult to maintain. Adherence to a pre-operation checklist, that included tire pressure checks, may have reduced skidding potential of the vehicle. The vehicle was also found to be overloaded. Again, adherence to a process, such as that described above, may reduce the occurrence of loading beyond safe load limits.