

## Vehicle Rollover Prevention

*Emergency vehicle rollovers are an all too frequent cause of vehicle damage, serious injury and fatalities. Very often, however, these incidents are of a highly preventable nature. All emergency vehicles are subject to rollovers, but tankers, pumper tankers and ambulances are particularly vulnerable because of their high center of gravity.*

The simplest method of prevention is for the emergency vehicle driver to simply slow down. Excessive speed greatly reduces the driver's ability to control the vehicle on curves or when making evasive steering moves. Driving at a reduced speed will increase the driver's ability to keep the vehicle under control during a wider range of circumstances. Excessive speed increases the likelihood that the weight will shift and cause the vehicle to be uncontrollable.

In addition to excessive speed and shifting weight, another leading cause of vehicle rollover is oversteering after dropping off the road surface onto the shoulder of the road. Oversteering will cause the vehicle to rollover by causing the weight to severely shift from one side to the other and/or by the vehicle tires gripping the road at an excessive angle once brought back off of the shoulder.

The potential for this type of incident increases as the difference in height between the road surface and the shoulder increases. The greater the difference in height, the greater the angle of steering must be applied to overcome the resistance of the road surface against the tires of the vehicle. Once the tires are at a great enough angle to overcome the resistance and return to the driving surface, they will either grip and shoot the vehicle in the opposite direction, or will buckle and roll. Either way, the results are the same — a wrecked vehicle.

The following safe driving points will increase the emergency vehicle driver's ability to maintain control of their vehicle should he/she run off of the road surface onto the shoulder.

### **Things To Do**

- Take your foot off of the accelerator and allow the vehicle to slow down gradually.
- Do not apply full braking! Use soft application of the brakes, natural deceleration and downshifting to bring the vehicle to a safe speed or complete stop.
- Under soft shoulder conditions, feather the accelerator to help maintain control of the vehicle while slowing.
- Once the vehicle has been stopped or been brought down to a safe speed, gently steer the vehicle back onto the road surface using a lower gear and/or feathered acceleration to assist in overcoming the surface drop off or soft shoulder.

### **Things Not To Do**

- Do not attempt to steer back onto the road surface at speed or under acceleration.
- Do not make any sudden or drastic steering movements.
- Do not apply full braking.
- Do not attempt to accelerate over the surface drop off.