Beyond the Cab
job hazard series
MIDWESTERN INSURANCE ALLIANCE
The only safety management newsletter dedicated exclusively to addressing injury prevention and workers' compensation cost control for trucking companies.

Hazards of Load Securement (Trailer-Mounted Winches)

Volume 2007, Issue 1

For many flatbed drivers, using trailer-mounted winches to secure freight is an everyday occurrence. And it is done without incident by thousands of drivers every day. But that does not mean that it is without hazards. Plenty of professional drivers with years of experience under their belts are seriously injured when the winch bar slips out of the winch; when the winch recoils; or when a cheater bar slips.

The purpose of this issue of Beyond the Cab™ is make drivers more aware of the hazards associated with securing freight using trailer-mounted winches; and to provide some guidelines to prevent injuries.

Every driver that pulls a flatbed trailer is surely aware that trailer-mounted winches are designed with several sets of opposing holes so that the winch bar can be placed through both holes before the winch is tightened or loosened. However, in the repetitive task of removing and re-inserting the winch bar, a driver may become somewhat complacent about ensuring that the winch bar is placed through both holes. This creates several hazards. The first (and perhaps most obvious) hazard is that the winch bar is more likely to slip completely out of the winch if it not seated in the opposing hole. Second, when a winch bar with an angled tip is not placed through both holes, it can curl to the side, causing the driver to twist his wrist when force is applied to the winch bar. Third, when a winch bar is not placed through both holes undue stress is placed on the winch. This can result in the elongation of the winch holes (increasing the potential for the winch bar to slip out); and can result in the overall weakening of the winch (increasing the potential for the winch to fail under pressure). It is while the driver is applying the most pressure to the winch, and when the winch bar is in the most extreme position (up or down) that these incidents are the most likely to occur. For that reason, any of these scenarios have the potential to cause a driver to loose his/her balance and be thrust violently into the unforgiving steel of a trailer's side-rail.

The potential for serious injury also exists when the winch recoils. This occurs when pawl fails to drop fully into the ratchet teeth (figure 1). A driver who tensions a trailer-mounted winch and relaxes his grip on the winch bar before making sure that the pawl has engaged in the ratchet teeth, may very likely (and very quickly) find the ratchet bar engaging *his own teeth*. Because dirt, mud, snow, ice, and road salt can prevent the pawl from freely dropping between the ratchet teeth, drivers should visually inspect the trailer-mounted ratchet before each use. Additionally, to promote the free movement of the pawl it should be routinely lubricated.

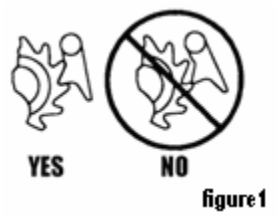

figure 1

Drivers should never use a steel pipe or other object as a substitute for a winch bar, and should never use a "cheater bar" to increase the leverage of a winch bar. Using a steel pipe or other object as a winch bar or as an extender increases the risk of slippage exponentially. In addition to being designed and tested to withstand the force applied when tensioning winches, many winch bars have characteristics that minimize the potential for driver injuries. An angled tip is one such characteristic. Another is a raised lip on the tip that is inserted through the winch hole. Both are characteristics that are intended to minimize the potential for the winch bar to slip out of the winch holes. Many winch bars also have a slip-resistant quality to the handle (typically knurled metal) to prevent the winch bar from slipping out of the drivers hands while applying force.

Correct positioning, proper body mechanics and a firm grip on the winch bar can also help prevent injuries related to the use of trailer-mounted winches. When tensioning or releasing tension on a winch, the driver should be positioned to one side of the winch bar, and (for reasons described above) should have an unobstructed view of the winch ratchet/pawl mechanism. Additionally, drivers should not let their desire to get the load straps as taunt as possible override their responsibility to prevent personal injury. Although a driver using the full weight of his body to tension a winch may get one or two more clicks on ratchet, both feet should remain firmly planted on the ground when tensioning a winch. The seasoned flatbed drivers reading this are well aware that this is particularly important in rain, snow and ice conditions.

In response to the hazards associated with securing freight with trailer-mounted winches, in recent years alternatives to traditional winches and winch bars have entered the market. Currently there are a number of manufacturers of ratchet-type devises that transform the traditional winch and winch bar configuration into one that more closely resembles the operation of a ratchet-type socket-set. Some of these products are featured on the following websites. (www.quickwinch.com, www.ancra.com and www.kinedyne.com) Taking a somewhat different approach to the same situation, one safety-minded entrepreneur www.squareholewinch.com has even developed a winch with square holes and a winch bar with a squared tip that is marketed to minimize slippage.

Webbing (straps) used with trailer-mounted winches present additional risks. A separate issue of Beyond the Cab™ Job Hazard Series will address many of those hazards and provide suggestions for preventing injuries.

If you have further suggestions for controlling hazards relating to the use of trailer-mounted winches, we welcome your comments at losscontrol@midwesterninsurance.com. We also welcome comments on other non-driving hazards within the trucking industry and will post driver comments in future issues.

Midwestern Insurance Alliance, the exclusive workers' compensation provider endorsed by the Kentucky Motor Transport Association (KMTA) and the Indiana Motor Truck Association (IMTA).