

NOTICE OF SAFETY ADVISORY 99-1 - Safety practices related to the lifting or jacking of railroad equipment in order to remove trucks or repair other components on a piece of railroad equipment which require individuals to work beneath railroad equipment while it is raised.

On June 16, 1999, FRA published a Notice of Safety Advisory 99-1 in the Federal Register (Vol. 64, No. 115), addressing safety practices related to the lifting or jacking of railroad equipment. It reads as follows:

Two recent instances involving a car under repair falling off its jacks have resulted in a total of three fatalities. Although investigation of both incidents is still being conducted, preliminary findings have indicated that the stability of the ground supporting the jacking device contributed to the cars falling. These events have highlighted the dangers of working under and around cars which are supported off of their trucks.

On February 26, 1999, a Union Pacific Railroad employee was fatally injured while performing a wheel set replacement on a loaded grain hopper. The incident occurred on a siding serving a grain elevator at Greensburg, Kansas, where the car had been set out after tripping a hot box detector. Two individuals were dispatched in a car repair truck with tools, equipment, and a spare wheel set to repair the car. Hydraulic jacks supported on wood blocks were used to lift the car. Preliminary investigation indicates that safety supports were not used and that during reassembly the individuals involved were attempting to get good alignment of the parts by using small jacks and pry bars and that the car became unstable and fell, pinning one of the individuals under one of the ladder grab irons and fatally injuring him. Preliminary investigation also suggests that one of the wood support pads may not have been sufficient to support the weight of the car due to soil conditions under it.

On March 18, 1999, a double fatal accident occurred on Grand Trunk Western Railroad on a repair track at East Yard, Hamtramck, Michigan, when a car supported on electro-hydraulic car jacks and safety supports fell and fatally injured two of the three individuals working under it. Although wooden jacking pads were used under the jacks, preliminary findings indicates that the earth under the jack at the A-end, L-position, may have collapsed and that the safety supports may have been ineffective.

Recommended Action:

Railroads and car repair shops need to ensure that personnel responsible for jacking railroad cars are provided proper equipment, training, and adequate safety supervision, as well as stable ground on which to work. FRA recommends that the following safety precautions be taken in addition to use of mandated personal safety equipment and blue signal protection:

- ! Site selection and weather awareness: A car which is to be lifted should be on level track in an area where the ground under the jacks is solid. If the ground is not solid or if soil conditions are significantly different from one side of the track to the other jacking should not be attempted and the car should be moved before lifting. Frozen ground may be temporarily solid but care should be taken in case one side should be defrosted by the sun, which could cause the car to

tip to that side. If high winds or other dangerous weather conditions exist or are expected before the car can be set back on its truck, lifting should not be attempted.

- ! Equipment selection: Capacity of car jacks and safety supports should be clearly marked and personnel should be trained in selection of the proper equipment for the job.
- ! Equipment inspection: Prior to each use, car jacks and safety supports should be visually inspected for cracks, bends, hydraulic leaks, or other abnormal conditions that could indicate impending failure. Employees should be trained in how to properly inspect the equipment.
- ! Preparation for lifting: Before attempting to lift a car, the ground under the planned location of the jacks should be checked for stability and covered with blocking to spread the load of the jacks, as needed. Wooden blocking or jacking pads large enough to spread the load over the ground should be used. Wheels that are not to be lifted should be chocked to prevent rolling, and wood or other heavy duty cushioning material should be placed between the jack and the car to prevent slipping.
- ! Angularity: Jacks and safety supports should be set as close to vertical as possible. Deviation from vertical which is visible to the unaided eye should be corrected.
- ! Safety supports: While the car is being worked on or if it is to be left standing without a truck in place underneath it, safety supports which have been selected, inspected, and prepared as detailed above should be placed under the car, supporting weight.
- ! Periodic inspection: A periodic inspection program should supplement the visual inspection of the jacks and safety supports. Appropriate non-destructive testing should be a part of this periodic inspection.
- ! Safety supervision: Supervisory personnel at each facility should be tasked to ensure that the training and inspections recommended above are carried out in accordance with the intent of this safety advisory.

FRA may modify Safety Advisory 99-1, issue additional safety advisories, or take other appropriate necessary action to ensure the highest level of safety on the Nation's railroads.

Issued in Washington, D.C., by George Gavalla, Associate Administrator for Safety.