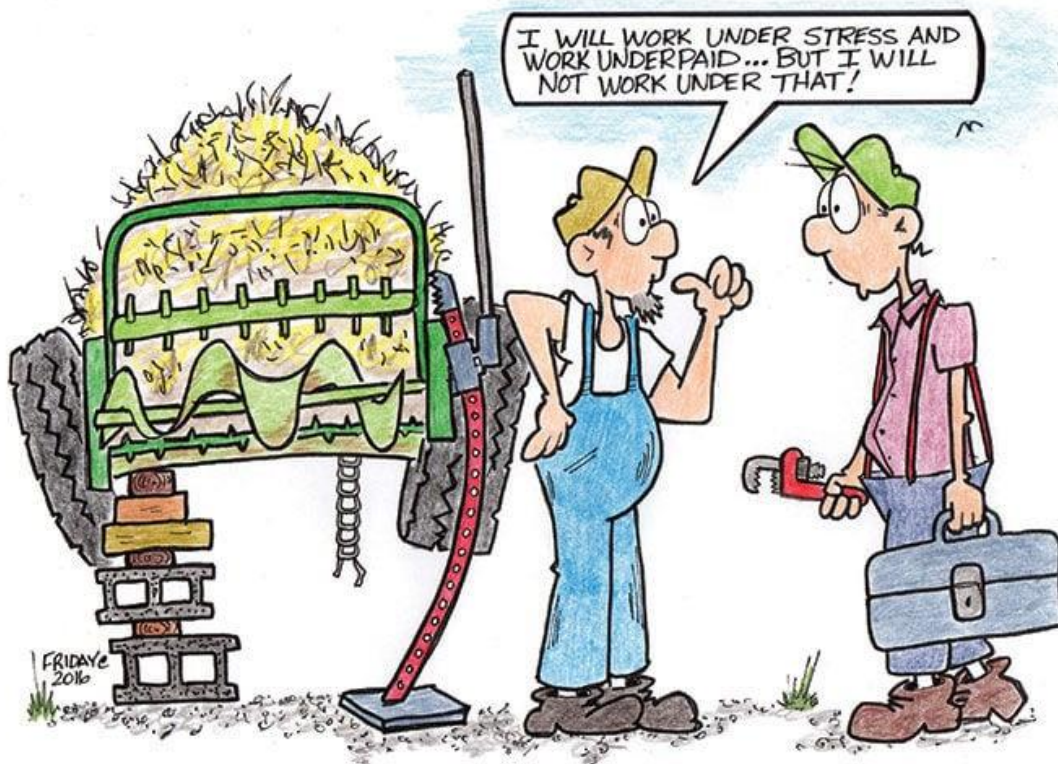


Iowa Farmer Today

Safety Watch: Winter repair work presents stability risks

By Stephanie Leonard

Jan 13, 2017



Cartoon by Rick Friday

January. Hopefully, your pace is more relaxed with harvest behind you, and you're finding time to catch up on paperwork and take care of equipment maintenance or repair projects in the shop.

Last month, the U.S. Bureau of Labor Statistics Census of Fatal Occupational Injuries (CFOI) released national and state summary data on 2015 occupational fatalities.

Among the findings, the number of fatal work injuries in the U.S. increased from 2014 and was the highest since 2008.

But in Iowa — where agricultural fatalities typically account for about 30 percent of work-related deaths — there was some encouraging news.

The number of work-related deaths decreased, both overall and in the agricultural industry sector. Sixteen agricultural fatalities occurred in 2015, compared to 28 in 2014. This was lowest number of agricultural fatalities in the state since 2006.

While agriculture remains the most dangerous industry in the state with respect to worker deaths, the fatality rate dropped to 14.7 in 2015, from to 33.4 in 2014. This was the lowest rate for which Iowa CFOI data is available (beginning in 2008). Data for 2016 will be released next December.

Illinois, Minnesota and Wisconsin also had lower agricultural fatality rates in 2015. Rates for Missouri and Nebraska remained about the same as for the previous years.

We observe fewer safety messages in the media and on the radio in the months between harvest and spring fieldwork, but typical winter activities — equipment repair and maintenance, cleaning out shops, moving materials and bales — present daily opportunities for injuries

attributed to the second leading cause of ag fatalities in Iowa and surrounding states: “contact with objects or equipment.”

Struck, pinned or caught

This broad category of injury events includes being struck by or against objects or equipment; being pinned or crushed under or between equipment and objects; being caught in or under material that collapses or engulfs; and being caught or entangled in equipment or machinery.

Those descriptions are vivid, but the hazards may be subtle or unrecognized around the shop: raised equipment; suspended loads; unsecured objects that can fall, shift or blow free; and equipment that hasn’t been secured with parking brakes or chocking are a few examples.

And the work tasks where hazards exist are often routine. Think changing a tire or servicing a vehicle on jacks. Repairing or adjusting equipment without securing it, then applying force that causes the load to shift. Using a loader or chain to suspend equipment so you can inspect it.

All the scenarios above involve potential for a disastrous outcome: sudden, unexpected movement of large unsupported objects that can shift, fall, strike, crush, pin or roll.

The safe way to work with elevated equipment and heavy components is to use blocking and cribbing to support and stabilize the load before you start to work on it. “Blocking” is securing the load, equipment, or part of equipment being worked on. “Cribbing” refers to stacking uniform blocks to make a solid elevated structure to support the load.

Safe repairs

Here are some tips for setting up equipment repair and maintenance jobs safely:

- The surface you work on should be level and free of grease and oil. Non-level surfaces allow a load's center of gravity to shift more rapidly to the lower side.
- Check owner manuals for recommended lifting points and practices, including blocking and cribbing procedures for specific equipment.
- Chock vehicles or implements before the lift: Put chocks behind the wheels on both sides (not just one), downhill from the lift. Disconnect the starter and set the parking brake.
- The equipment you'll work under should have at least four points of contact with the surface (e.g., four corners), including blocking. Fewer contacts mean imbalanced loads that can shift.
- Check the weight load capacity for jacks, jack stands and chains or other lifting devices that you plan to use. Inspect them for damage before you start.
- Never depend only on hydraulics — whether the hydraulic systems on farm equipment or hydraulic jacks — to support the equipment or load that you're working under. Jacks can leak down, slip out from under a load — especially with metal-to-metal contacts — or fail. Jacks with small surface area or jacks set up in the center of the load increase potential for load shifting and accidents.
- Use wood shims or plates between metal jacks or jack stands and metal components being lifted to prevent slippage.
- Blocking should follow the load up or down while jacking, to serve as an arresting device if the load falls. Use blocks that are straight and squared, not rounded or smoothed. Use wedges or shims as necessary to ensure the load is completely supported at its blocking points.
- If you're working on a loader, it should have at least two points of contact with the surface, including blocking. When working on

loader attachments, lower the attachment or insert blocking brackets on hydraulic cylinders to prevent attachment from moving.

- Remember, any movement caused by work being performed on the load could also cause it to slip off a support, especially if it is not properly blocked or cribbed.

To sum it up, never put yourself or part of your body under equipment, machinery, vehicles or objects that are held only by temporary single support systems including jacks, overhead hoist, chain fall or farm equipment hydraulic systems. If you notice a potential hazard, speak up and stop the work until you can set the job up safely.

Stephanie Leonard is an industrial hygienist and safety manager at the University of Iowa. Contact her at stephanie-leonard@uiowa.edu or 319-335-4432.

