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## **Lifting Vehicles**

Ever hear of a car falling off a lift? Or a jack failing? A car slipping off the jack? The consequences of that can be severe. If you're lucky, the falling car will simply result in a totaled car. But if it lands on a technician, or if that jack fails and the car falls onto the mechanic underneath, that person could be killed. The financial and emotional consequences of such an accident are enormous.

So how do you make sure that won't happen? Establish safe work practices. Train your employees. Inspect your lifting devices.

### **Safe work practices**

Check the work area before using lifts. Make sure there's no grease or oil, hoses, or other stuff in the way.

Don't overload lifts or jacks. Both should have their rated capacities marked on them. Those labels, especially for jacks and jack stands, can wear off. Replace them before that happens.

Know the vehicle's center of gravity. That's usually below the front seats for rear-wheel drive vehicles, and slightly in front of the front seats for front-wheel drive. You need to make sure the vehicle is positioned so it is supported evenly. The center of gravity changes if the car is carrying a heavy or unbalanced load, so a quick peek in the trunk, to make sure that's not so, could be worth doing.

Check the lifting points on the vehicle. The vehicle's manual will tell you where they are. Make sure the areas aren't damaged, too rusted to support the vehicle, or covered with grease or chunks of ice or dirt.

If you're guiding someone onto the lift, don't stand directly in front of it, in case the vehicle lurches forward. A needless precaution? In 1999, an experienced 42-year-old mechanic was killed when a customer accidentally hit the accelerator instead of the brake and pinned him against his workbench.

Once the vehicle is on the lift, check its position before you start to raise it. Raise it about a foot, then double check. Stay by the controls while the lift goes up and down. Stop it right away if things are going wrong – for instance, if the car shifts at all while it's going up.

Make sure the vehicle can't move once it's been raised. Runway or drive-on lifts are supposed to have roll-off protection, such as ramps that rise and act as stops when the lift is raised. If those aren't present, or if the vehicle could move during the work, chock the wheels.

Always expect lifts and jacks to fail. If you're working under the vehicle, have a backup. Vehicle lifts are required to have mechanical locking devices, to hold the lift up if hydraulics (or air, or electricity) fail. If you're using jacks, use jack stands, rated for the load and in good condition.

The manual force of using a cheater bar to loosen bolts can change the vehicle's center of gravity, as can removing a loaded spring or a bolt under tension. Removing a transmission or engine? You're removing several hundred pounds, significantly changing that center of gravity. Even if the vehicle is securely on the lift, use jack stands to keep it from shifting. Don't lower the vehicle onto the stands; raise the stands to the vehicle. Lowering the vehicle onto the jack stands disengages the lift's locking device, removing its protection.

**Train your users.** It isn't safe to assume that all of your technicians know how to use lifts and jacks correctly. As conscientious and experienced as they might be, if they didn't learn the right way at the start of their careers, they may not know the right way now. Use this article and the lift's manual. Or use this guide from Manitoba: <http://www.gov.mb.ca/labour/safety/pdf/autolift.pdf>. The training doesn't have to be long and involved: it can be as simple as a half hour discussion of safe use. Do you have a technician who seems particularly good about lift and jack use? Ask that person to organize and lead the discussion. Document the training, as that's the best way to prove to outsiders, such as OSHA, that it's been done.

**Inspect your lifts and jacks.** OSHA requires documented inspection of jacks every six months. For vehicle lifts, the agency defers to the manufacturer's recommendations. Manufacturers usually suggest annual very thorough inspections as well as daily inspections. Have your technicians do the latter, which aren't complicated: does the equipment work smoothly? Is there any obvious damage? Any signs of leaks? Is there enough oil? (When we did a walkthrough of one shop recently, we found nearly every lift was low on hydraulic fluid.)

You can definitely do the semi-annual jack inspections. Those aren't that different from the daily inspections, but they do need to be documented in writing. Does the jack still have its capacity marked on it? Does it operate smoothly? Are there any visible signs of damage? Any signs of leaking fluid?

The detailed lift inspection is more complicated. You could do it, if you know lifts well – for instance, if the manufacturer's representative trained you on how to do these inspections. But you're better protected and it's safer to have it done by someone who specializes in vehicle lifts. If you do the inspection and the lift later fails, you won't have a good argument that the lift was defective.

If any lift or jack fails the inspection, take it out of service immediately. Train your technicians to do the same, if the lifts they're using sound funny, don't operate smoothly, or show any evidence of damage. Don't let damaged equipment be used.

Use safe lifting practices. Train your technicians, so they know those. And inspect the lifting equipment. Lifts and jacks are essential pieces of equipment in your shop. They need to be safe pieces of equipment.

If you have questions about vehicle lifts and jacks, workplace safety rules, or other safety issues, contact CHESS at 651-481-9787; toll free at 877-481-9787, or [carkey@chess-safety.com](mailto:carkey@chess-safety.com).

### **Can you find the hazard?**

#### **Jack askew.jpg**

No load rating, block of wood substituting for top of lift, lifting pad askew