SKILLSIGNAL™
Construction Safety & Compliance

TOOLBOX TALK

Lockout for Vehicles and Mobile Equipment: The Key in Your Pocket Is Step One of Six

TOPIC NO.	DURATION	AUDIENCE
LO-12	**10 to 15 min**	**All Crew**

OSHA REFERENCE 29 CFR 1926.600(a)(3) · 29 CFR 1926.601(b)(14) · 29 CFR 1910.147(d) · ANSI/ASSP Z244.1

PROJECT / JOBSITE	DATE	PRESENTED BY

01 THE HOOK

START HERE

A dump truck bed is up so the mechanic can get at the hoist cylinder. He pulled the key and put it in his pocket, so nobody can start the truck. Good. Then he loosens the hydraulic fitting at the base of the cylinder. The key had nothing to do with what was holding the bed up. Fourteen tons of steel came down on the only thing between the frame and the bed, which was him. Trucks, loaders, excavators, lifts, and skid steers are the equipment this crew works on most, and they carry every one of the seven forms of energy. The key handles one. This talk is the other six, and the rule under 1926.600 that most people have never read.

02 THE RULES THAT APPLY ON A JOBSITE

RULE 1

BLOCK OR CRIB ANYTHING RAISED

29 CFR 1926.600(a)(3)(i): "Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be **substantially blocked or cribbed** to prevent falling or shifting before employees are permitted to work under or between them.“ The same paragraph names the equipment: ”Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either **fully lowered or blocked** when being repaired or when not in use." Hydraulics leak. The bed stays up on a **rated prop or cribbing**, not on the cylinder.

RULE 2

CONTROLS NEUTRAL, ENGINE OFF, BRAKES SET, WHEELS CHOCKED

1926.600(a)(3)(i) continues: “All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.” **(a)(3)(ii)**: “Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.” **1926.601(b)(14)** adds that vehicles are checked at the start of each shift and defects corrected before use.

RULE 3

TREAT IT AS A MACHINE UNDER THE SIX STEPS

The standard that defines lockout, **1910.147(d)**, does not cover construction, but every serious construction program applies its six steps to mobile equipment: know the energy, shut it down, isolate, lock and tag, release stored energy, verify. ANSI Z244.1, the national lockout consensus standard, says the same. The dump truck has at least five energy sources. The key covers one.

03 THE ENERGY IN A TRUCK

ENERGY	WHERE	HOW YOU CONTROL IT
ELECTRICAL	**Starter, ignition, 12/24V, hybrids**	Key out and in your pocket is step one, not the whole step. A shorted ignition circuit or a remote start can crank it anyway. **Disconnect the battery** (negative cable off, or the battery disconnect switch locked) before working on belts, fans, or the electrical system. On hybrids and electric equipment, the high-voltage service disconnect, per the manufacturer, and nothing else.
HYDRAULIC	**Beds, buckets, booms, blades, masts, outriggers**	**Lower it to the ground.** If it has to stay up, block or crib it with something rated for the load (1926.600(a)(3)(i)), then **relieve the pressure** in the circuit by cycling the controls with the engine off before opening any fitting. Accumulators dump separately.
GRAVITY	**The vehicle itself, and anything raised**	**Chock the wheels** both directions, park brake set, transmission in park or gear. A truck on a slope rolls when the brake is bled or a line is opened. A raised cab, hood, or bed is a falling object until it is on a prop.
MECHANICAL	**Springs, brake chambers, fans**	Air brake spring chambers hold a spring at about 2,000 pounds and **must be caged** before any work on the chamber. Fan clutches engage on their own. Tailgate and door springs. Restrain or release before reaching in.
PNEUMATIC	**Air brakes, suspension, tires**	Air tanks at 120 psi feed the brakes and air-ride. **Drain the tanks** before opening any air line. A split-rim or multi-piece wheel is a pressure vessel; deflate fully before removing lug nuts (1910.177).
THERMAL	**Cooling system, exhaust, hydraulic oil**	A hot radiator is a pressurized vessel; the cap comes off and the coolant flashes. Exhaust and DPF run several hundred degrees. Hydraulic oil at operating temperature burns. **Let it cool** and bleed pressure before opening.
CHEMICAL	**Fuel, battery acid, DEF, refrigerant**	Fuel lines under pressure spray. Battery gas is explosive. Refrigerant freezes skin. Close the fuel shutoff, disconnect the battery, and read the SDS before opening any of it.

04 THE VEHICLE LOCKOUT SEQUENCE

☐ Park on level ground. Transmission in park or gear, parking brake set, **wheels chocked** front and back.

☐ Lower every raised component to the ground. If one must stay up, **crib or prop it** with a rated device. The hydraulic lock is not a block.

☐ Engine off. **Key out and in your pocket.** Doors locked if the cab can be reached by others. Tag the steering wheel or the ignition: “Do Not Start.”

☐ **Battery disconnected** (negative cable, or the disconnect switch, locked). On a two-person job, a lock from each person on the disconnect or on the cable lockout.

☐ Hydraulic pressure relieved: cycle the controls with the engine off. Accumulators dumped per the manual. Air tanks drained. Brake chambers caged if the work is on them.

☐ Let it cool. Check radiator and hydraulic temperature before opening anything.

☐ **Verify**: try the starter with the key, try the controls, confirm the gauge reads zero, confirm the raised part is on the block and not on the cylinder.

☐ Before anyone goes under: look at what is holding it up and ask what happens if that lets go. If the answer is “it comes down,” you are not done.

⚠️ **THE KEY PROTECTS YOU FROM THE ENGINE. NOTHING ELSE.**

A key in your pocket does not stop a bed from coming down, a brake spring from releasing, a truck from rolling, or a radiator from flashing. Mechanics are crushed under beds and buckets every year with the key in their pocket and the engine stone cold. Chock it, block it, bleed it, disconnect it, cool it. Then the key is the sixth lock, not the only one.

05 WHY IT MATTERS

[JOBSITE]

FOR THE CREW

Mobile equipment is where construction lockout actually happens, and 1926.600(a)(3) is the citation that follows a crushed mechanic. A written vehicle lockout procedure, rated props and cribbing on the truck, and battery disconnect locks in the kit are the whole program for most sites.

[INDIVIDUAL]

FOR YOU

Everything on a truck that can hurt you is held back by something that can fail: a seal, a line, a brake, a cap. The key stops the engine. You stop the rest, one energy source at a time, before you put your body in the path.

[HOME]

FOR LIFE OFF-SITE

Jack stands, not a jack. Chocks, not the park brake. Battery cable off before you touch the fan. Same seven energies in your own driveway. Nobody is coming to pull the car off you.

06 TODAY'S DRILL

TODAY'S DRILL **SEVEN ENERGIES ON ONE MACHINE**

Pick the piece of mobile equipment the crew works on most. Walk around it and name all seven energy sources and where each one lives on that machine. For each raised component, name the rated prop or cribbing you would use. Then look in the truck or the shop for that prop, the chocks, the cage tool, and the battery disconnect lock. Anything missing goes on the order today.

07 CREW DISCUSSION

Take 2 minutes. Pick one.

1. Has anyone here worked under a raised bed, bucket, or boom held up by nothing but hydraulics? What was the plan if it let go?
2. When you service a truck on this site, is the battery disconnected, or just the key pulled?
3. Where are the chocks, the props, and the brake cage tool right now?

08 ATTENDANCE & SIGN-OFF

All attendees confirm they participated in this Toolbox Talk and understand the content covered.

NAME (PRINT)	SIGNATURE

SUPERVISOR SIGNATURE

_____ Date: _____

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