SKILLSIGNAL™
Construction Safety & Compliance

TOOLBOX TALK

Energy Isolating Devices: The Stop Button Is Not One of Them

TOPIC NO.	DURATION	AUDIENCE
LO-03	10 to 15 min	All Crew

OSHA REFERENCE 29 CFR 1910.147(b) · 29 CFR 1910.147(d)(3) · 29 CFR 1926.417(b)

PROJECT / JOBSITE	DATE	PRESENTED BY

01 THE HOOK

START HERE

You press the big red stop button on the conveyor. The belt stops. You tie a rag around the button so nobody presses start. Then you climb up to clear the jam. Here is what you actually did: you sent a signal to a control circuit that told a contactor to open. The 480 volts is still sitting at the contactor, one stuck relay or one wiring fault away from the motor. The stop button is a request. A disconnect is a wall. OSHA wrote a definition to make sure nobody confuses the two, and the definition says in plain words that a push button is not an energy isolating device. Today is the difference between stopping a machine and isolating it.

02 THE DEFINITION, WORD FOR WORD

29 CFR 1910.147(b) defines an energy isolating device as **“a mechanical device that physically prevents the transmission or release of energy.”** Then it lists what counts, and what does not.

✓ IS AN ENERGY ISOLATING DEVICE	✗ IS NOT
ELECTRICAL **A manually operated circuit breaker. A disconnect switch. A manually operated switch that opens all ungrounded conductors at once, with no pole operable on its own**	ELECTRICAL **A push button. A selector switch. An e-stop. A key switch on the operator panel. A contactor or relay. Any control-circuit device**
FLUID AND GAS A line valve that closes the supply. A blank or blind flange. A bleed valve used with a closed supply	FLUID AND GAS A regulator turned down. A solenoid valve. A pilot-operated valve. “The pump is off”
MECHANICAL A block, pin, chock, or cradle that physically holds the part	MECHANICAL A brake. A hydraulic lock. A hoist in “hold.” The word “off” on a display
THE TEST If it fails, energy cannot get through, because the path is physically broken	THE TEST If it fails, energy gets through, because the path was only interrupted by a signal

The reason control devices do not count is in the definition: **they do not physically prevent** energy transmission. They tell something else to. A shorted push button, a welded contactor, a stuck solenoid, or a maintenance tech bypassing an interlock with a jumper puts the machine right back in motion while your hand is in it.

03 FINDING THEM ON YOUR EQUIPMENT

STEP 1

START WITH THE WRITTEN PROCEDURE

1910.147(c)(4)(ii) requires each machine procedure to state **the specific steps for isolating** the equipment and **the specific devices** to use. The procedure should name the panel, the breaker number, the valve tag. If it says “turn off power” with no location, it is not a procedure. It is a wish.

STEP 2

FOLLOW EVERY SOURCE TO ITS ISOLATION POINT

For each of the seven energy forms on the machine (LO-02), trace the supply back until you hit a device that physically breaks it. Electrical: the disconnect or breaker feeding the machine, not the one on the panel face. Air: the supply valve upstream of the machine, plus the bleed. Hydraulic: the pump disconnect and a way to dump the accumulator. Gravity: a block rated for the load.

STEP 3

CONFIRM IT IS LOCKABLE

1910.147(b): a device is “capable of being locked out” if it has a hasp or built-in locking mechanism, or if a lock can be attached without dismantling anything. Since 1990, new or rebuilt equipment must have lockable isolation devices (**(c)(2)(iii)**). A breaker with no lockout hasp gets a clip-on breaker lock. A valve gets a valve cover lock. If you cannot lock it, tag it only with the extra steps in (c)(3), and the written program has to say why.

STEP 4

OPERATE IT, THEN LOCK IT

1910.147(d)(3): isolation devices must be **physically located and operated** to isolate the machine from every energy source. Open the disconnect. Close the valve. Set the block. Then the lock goes on the device in the isolated position (**(d)(4)**). A lock on a closed disconnect is a lock on nothing.

⚠ **A LOCK ON THE CONTROL PANEL IS A LOCK ON A SUGGESTION**

Padlocking the e-stop, the selector switch, or the HMI screen is the most common lockout mistake on a site. It looks right. It satisfies nobody’s procedure, and it does not physically prevent the machine from starting. The lock goes on the disconnect that feeds the machine, the valve that feeds the cylinder, or the block that holds the load. Nowhere else.

04 THE CONSTRUCTION VERSION

29 CFR 1926.417(b) says deenergized circuits and equipment "shall be rendered inert and shall be tagged **at all points where such equipment or circuits can be energized**." That phrase, all points, is the same idea. If a motor can be fed from two panels, both get isolated. If a hydraulic circuit has an accumulator, the accumulator gets dumped. If a conveyor has a backup drive, the backup gets locked. One isolation point per energy path, every path.

05 WHY IT MATTERS

[JOBSITE]

FOR THE CREW

When an inspector pulls a lockout procedure and asks where the isolation device is, “the stop button” ends the conversation. Equipment with lockable disconnects, breaker locks in the gang box, and procedures that name the device by location is what a compliant program looks like from the outside.

[INDIVIDUAL]

FOR YOU

The machine that starts while your hand is in it does not care that you pressed stop. It cares whether the conductor was open and the pressure was zero. Locking the right device is the only thing that makes “off” mean off.

[HOME]

FOR LIFE OFF-SITE

At home the isolation device is the breaker in the panel, the gas valve behind the stove, and the plug in your hand. The switch on the wall is just the push button.

06 TODAY’S DRILL

TODAY’S DRILL **FIND THE REAL DISCONNECT**

Pick one powered machine in your work area. Find the device the crew normally uses to “shut it off.” Then trace the power supply back to the actual energy isolating device: the disconnect, the breaker, the supply valve. Check whether it is lockable. Check whether the written procedure names it. If the only thing the crew has ever locked is the control panel, that is the finding to bring to the foreman.

07 CREW DISCUSSION

Take 2 minutes. Pick one.

1. Which machine on this site do people “lock out” at the control panel? Where is its real disconnect?
2. Is there a disconnect or valve on this site that cannot take a lock? What do you do with it now?
3. Has anyone seen a machine start or move after the stop button was pressed? What had failed?

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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