IFD

Intelligence
you can trust

Linecrew Training

The Internal Fault Detector (IFD™)

- ❑ Overview

- ❑ Training video

- ❑ How it works

- ❑ New line crew practices

Overview :: 2 functions

1. Internal arcing fault detection …flag comes out when internal fault has occurred

2. Pressure relief valve

   …pull the ring to operate manually

Training video

❑ ~ 5 minutes

❑ The video is a separate file but can also be linked to this presentation as an .avi or .mpeg file, if you wish

How it works

❑ Undetected faults – potential hazard

 – Hazard increases as fault progresses
 – Highest risk when re-energizing

❑ Designed to detect first fault occurrence at low fault current levels

 – As low as 500 amps
 – Rapid pressure rise from fault…as low as 0.5 psi / 5-7 ms
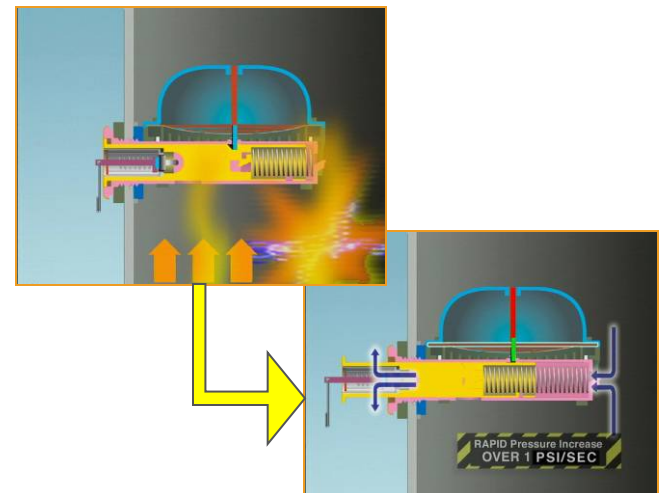
What does an internal fault look like?
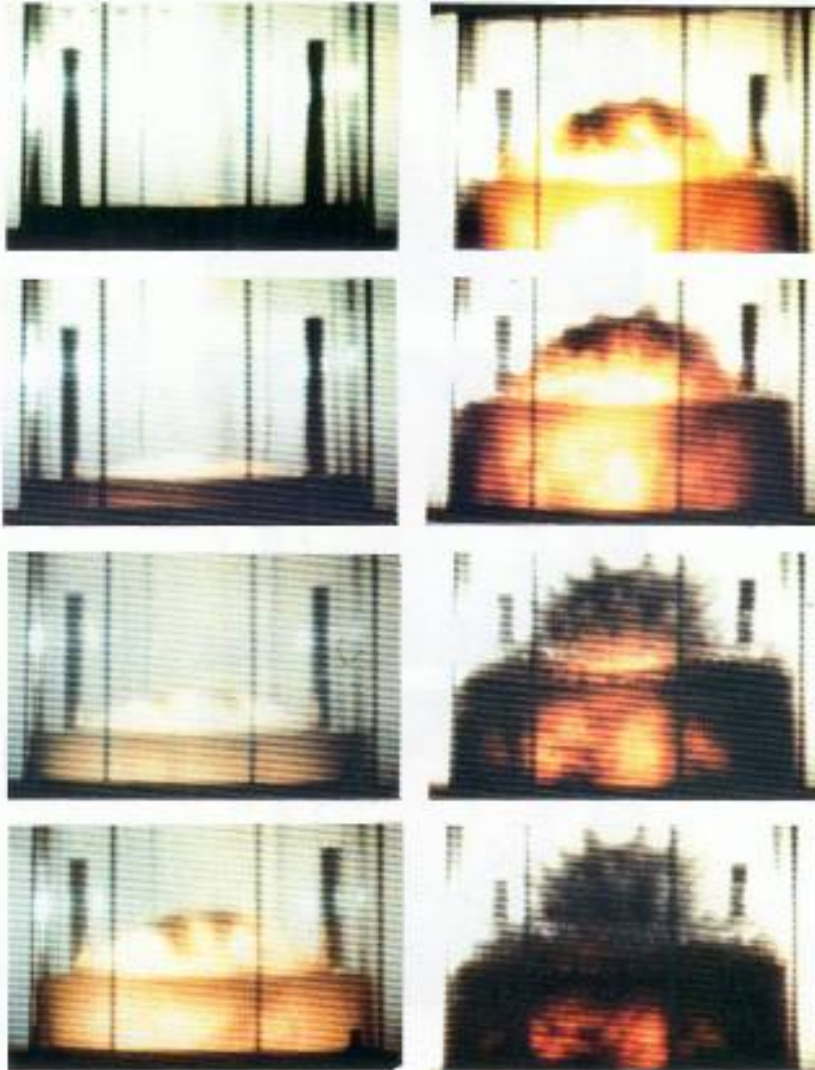
☐ A rapid, transient pressure rise occurs in every internal arcing fault

☐ *Variable peak* pressure

☐ Consistent *rate of rise*
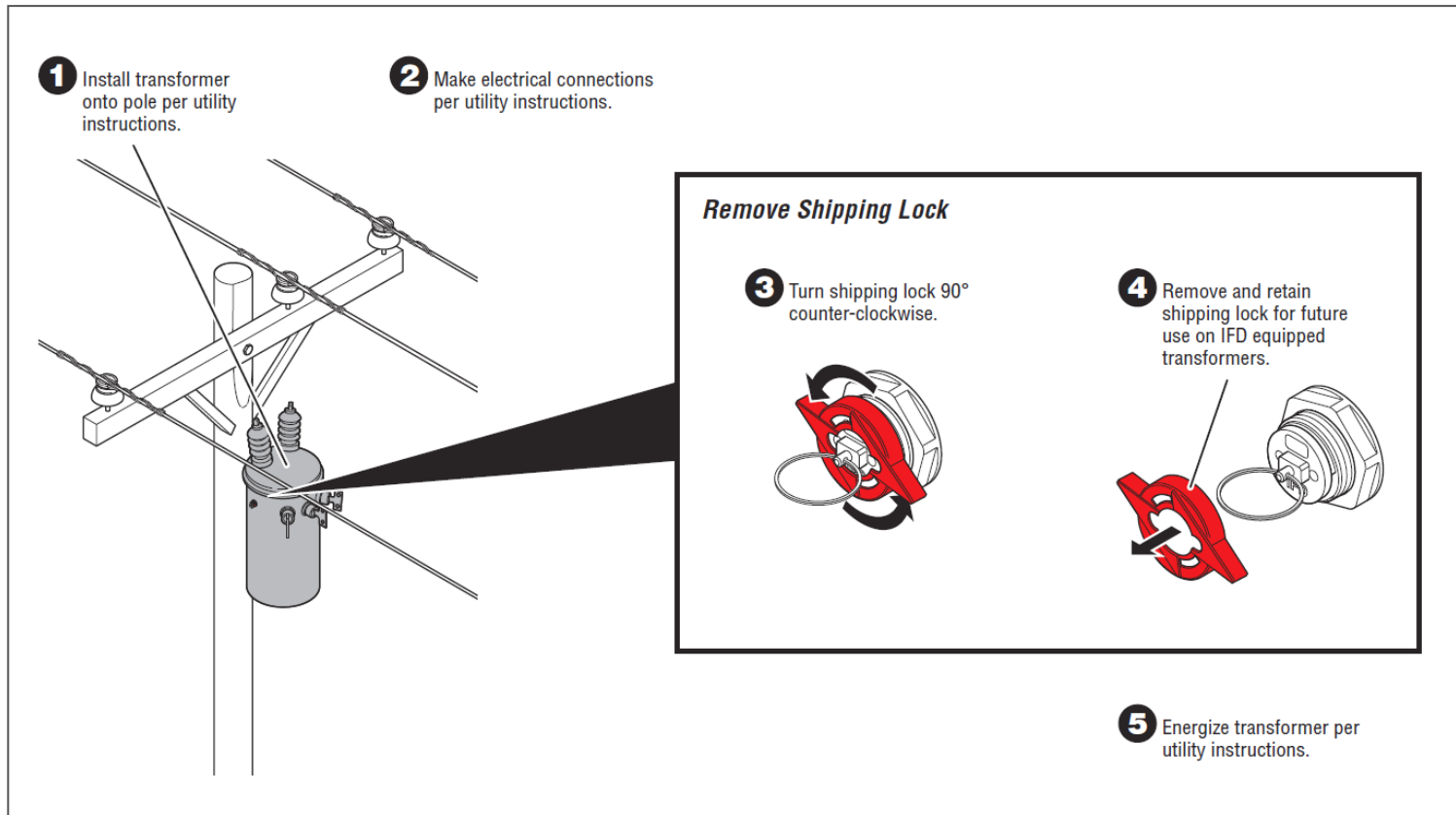
New line crew practices

❏ If fuse cutout is open and the IFD has not activated

– _Likely OK to re-energize_, still conduct all your normal safety check procedures

❏ If the IFD has activated

– _Replace the transformer_, it has failed internally and is dangerous to re-energize

NO-FAULT
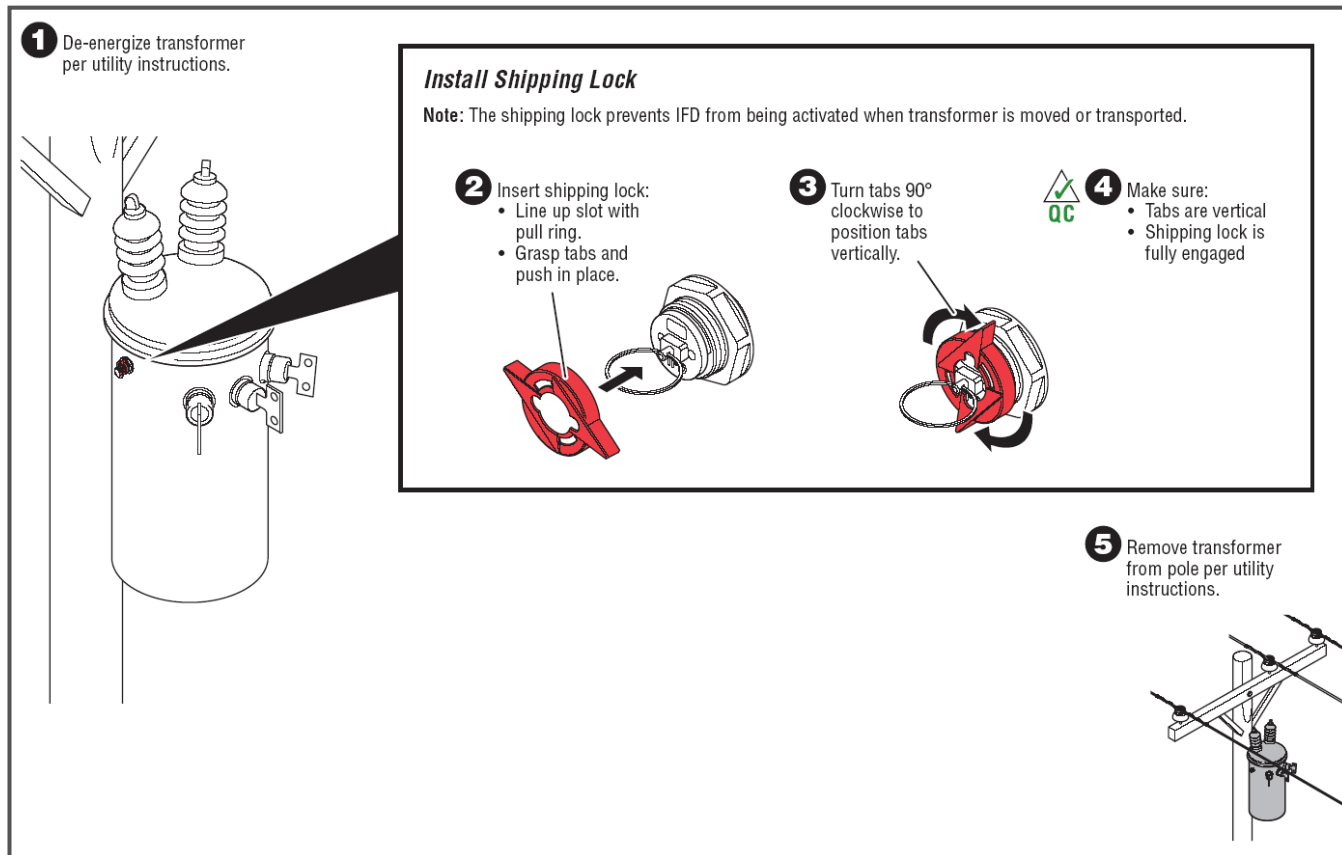
FAULT

Shipping lock :: Installation

❑ Before energizing a transformer remove the orange shipping lock.

❶ Install transformer onto pole per utility instructions.

❷ Make electrical connections per utility instructions.

Remove Shipping Lock

❸ Turn shipping lock 90° counter-clockwise.

❹ Remove and retain shipping lock for future use on IFD equipped transformers.

❺ Energize transformer per utility instructions.

Shipping lock :: Re-transporting

❑ Before removing a good transformer from service, install the orange shipping lock to prevent IFD activation

One-Size-Fits All

Linemen Perspective *

"Have you ever closed on a faulted transformer?"

☐ 84% (74) had closed into a fault – some, several times

"If so, what happened?"

☐ 42% (37) experienced hearing loss (fuse operations)

☐ 26% (19) experienced a cover blowing off during the operation

☐ (1) injured with oil burns

* 88 Linemen Surveyed at Linemen's Rodeo, Kansas City - 2009

"Great idea"

Easy to use

Faster decision making

'information'…for the entire life of the transformer