



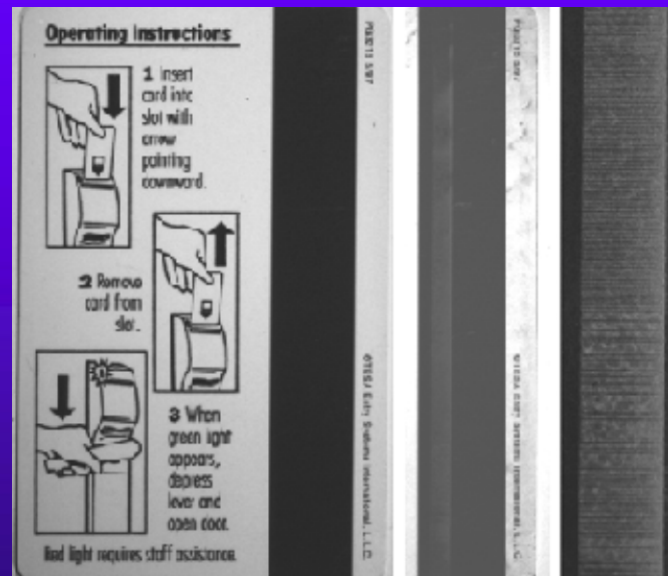
BYPASS OF LOCKS: INSECURITY ENGINEERING

Locks, Safes, and Security
LSS+ Multimedia Supplement

www.security.org

CASE #1: OMEN SAFE

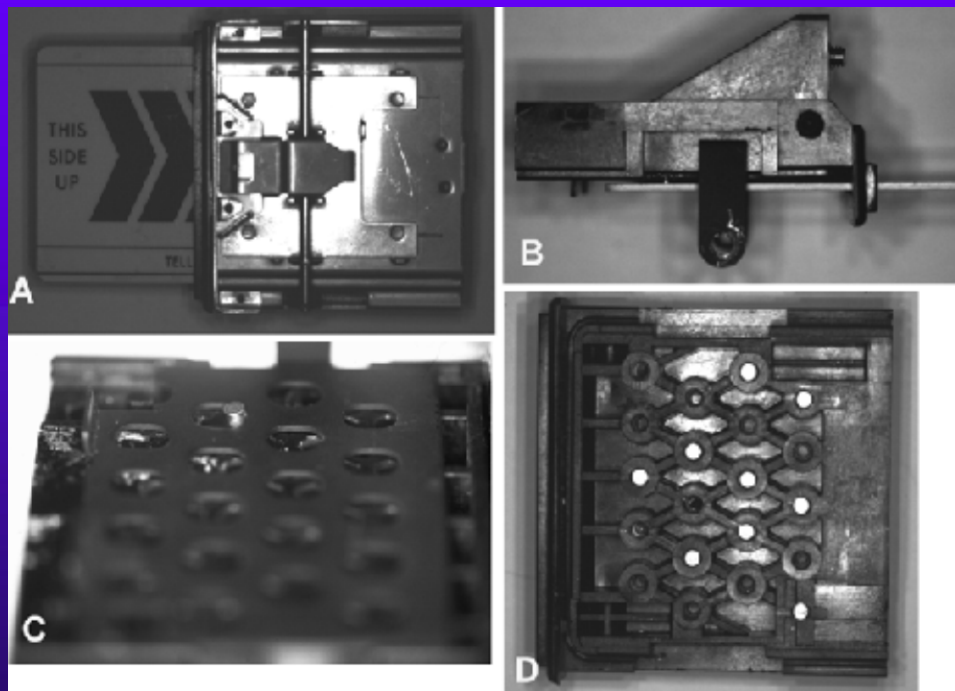
◆ Magnetic Card Lock on Safe





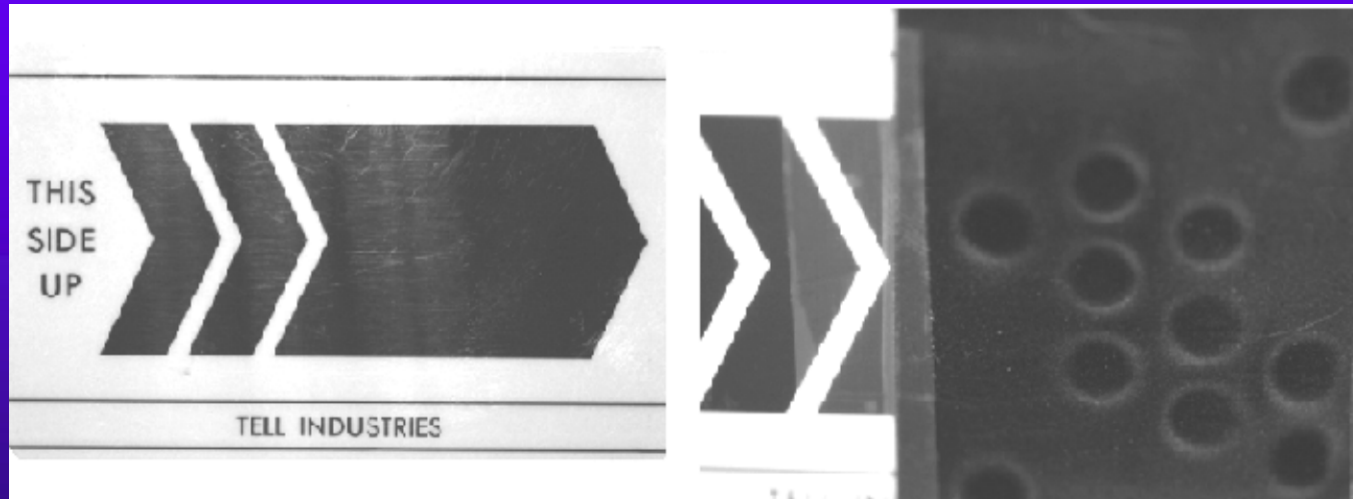
CASE #2: Showa Magnetic

Magnetic Domain Lock



Magnetic Domains

- ◆ Reading location and polarity of magnetic domains

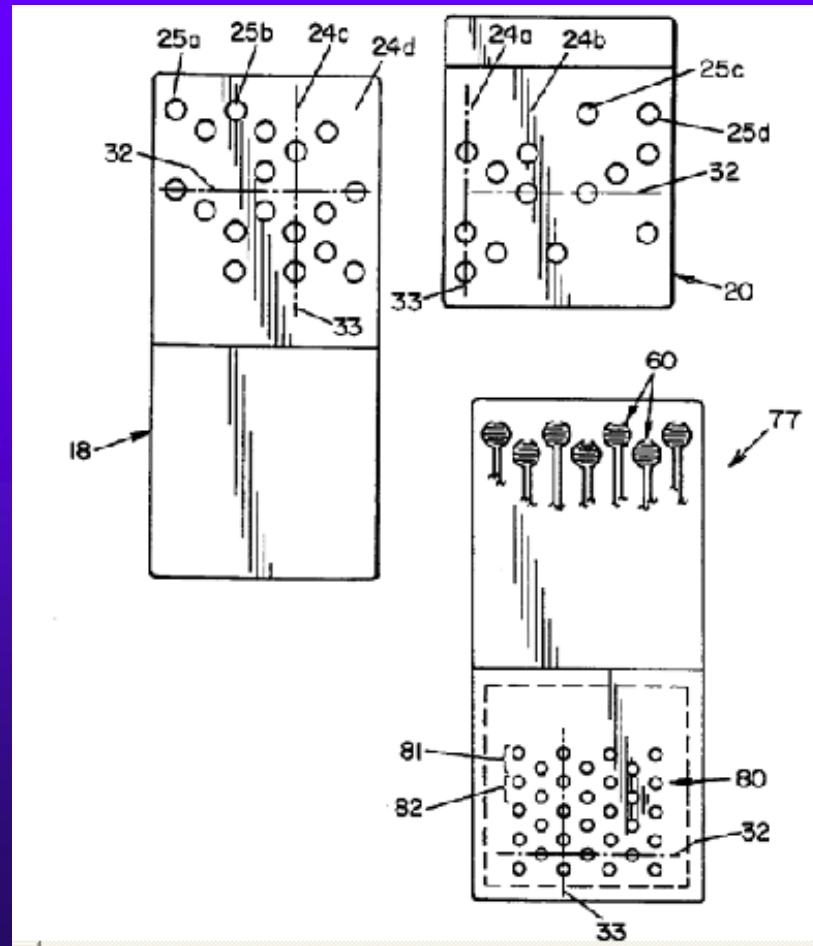




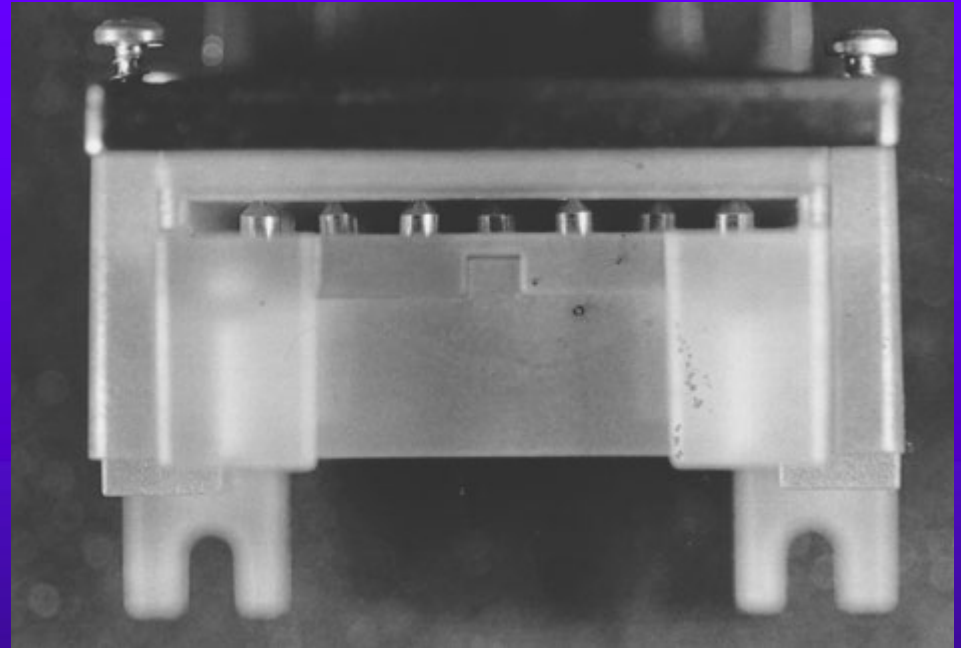
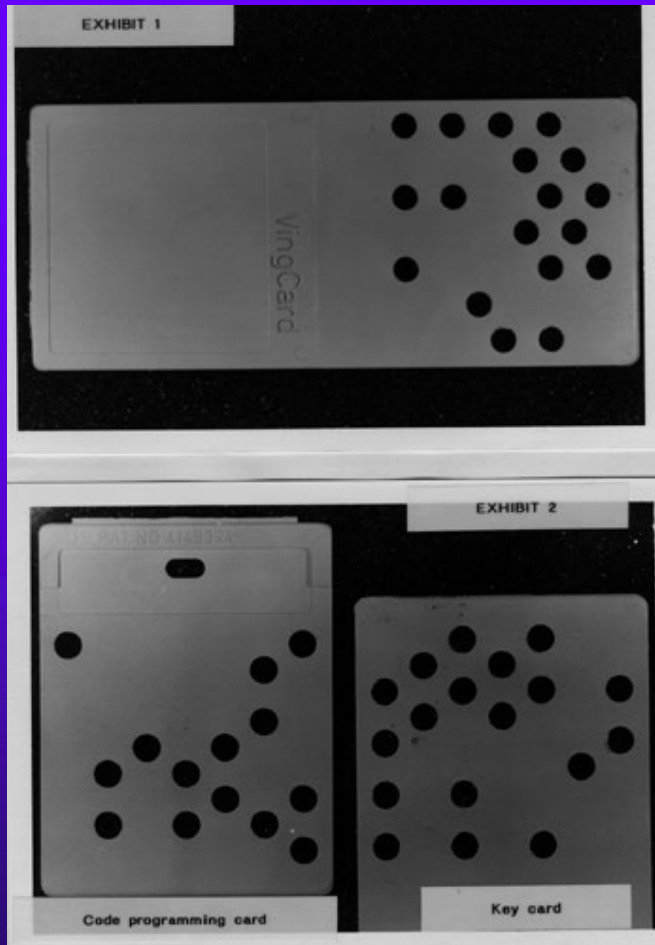
CASE #3: VINGCARD

Pin Tumbler Lock used in Hotels

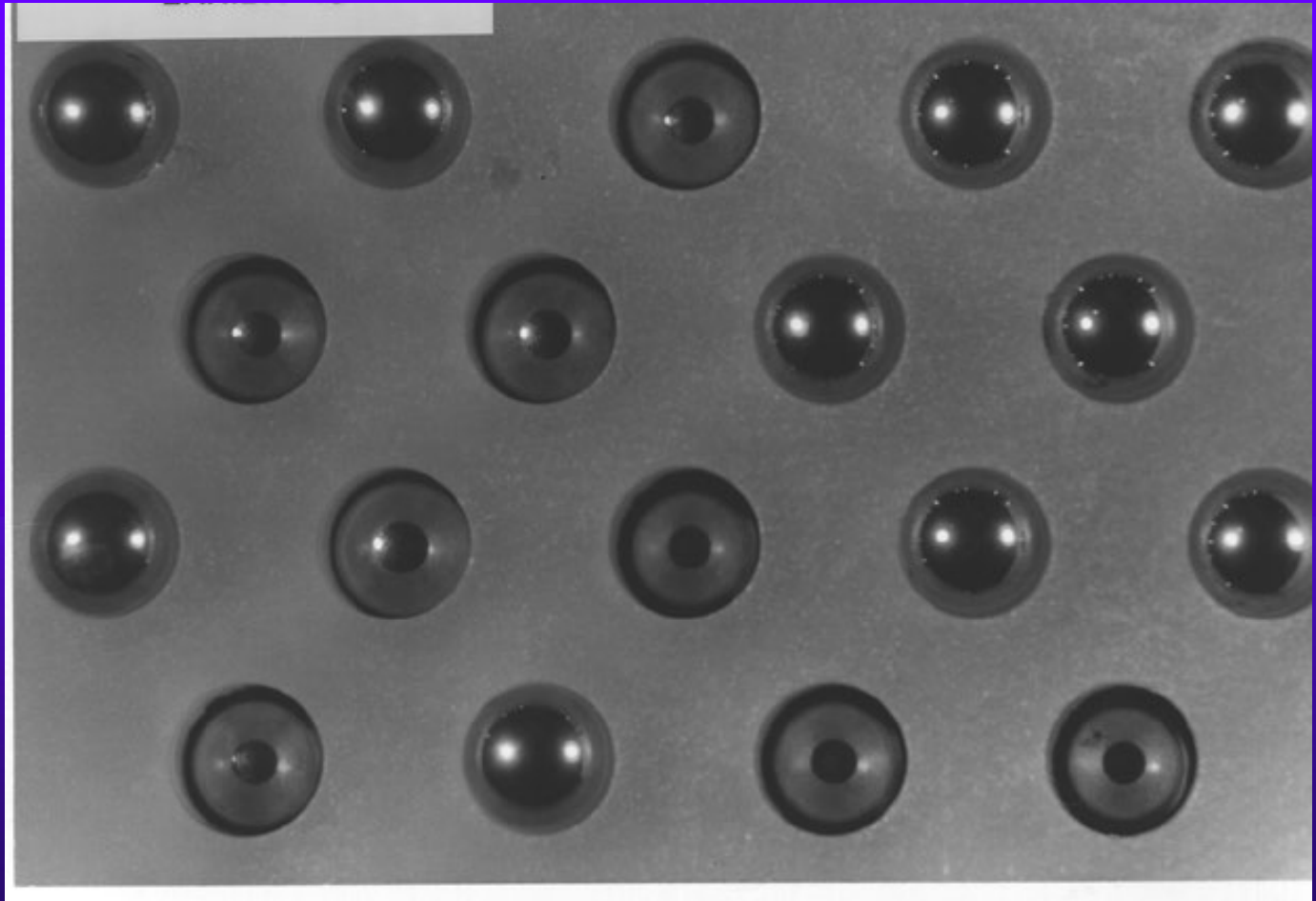
Conductive Ink Decoder for Vingcard Lock



Vingcard keys and lock



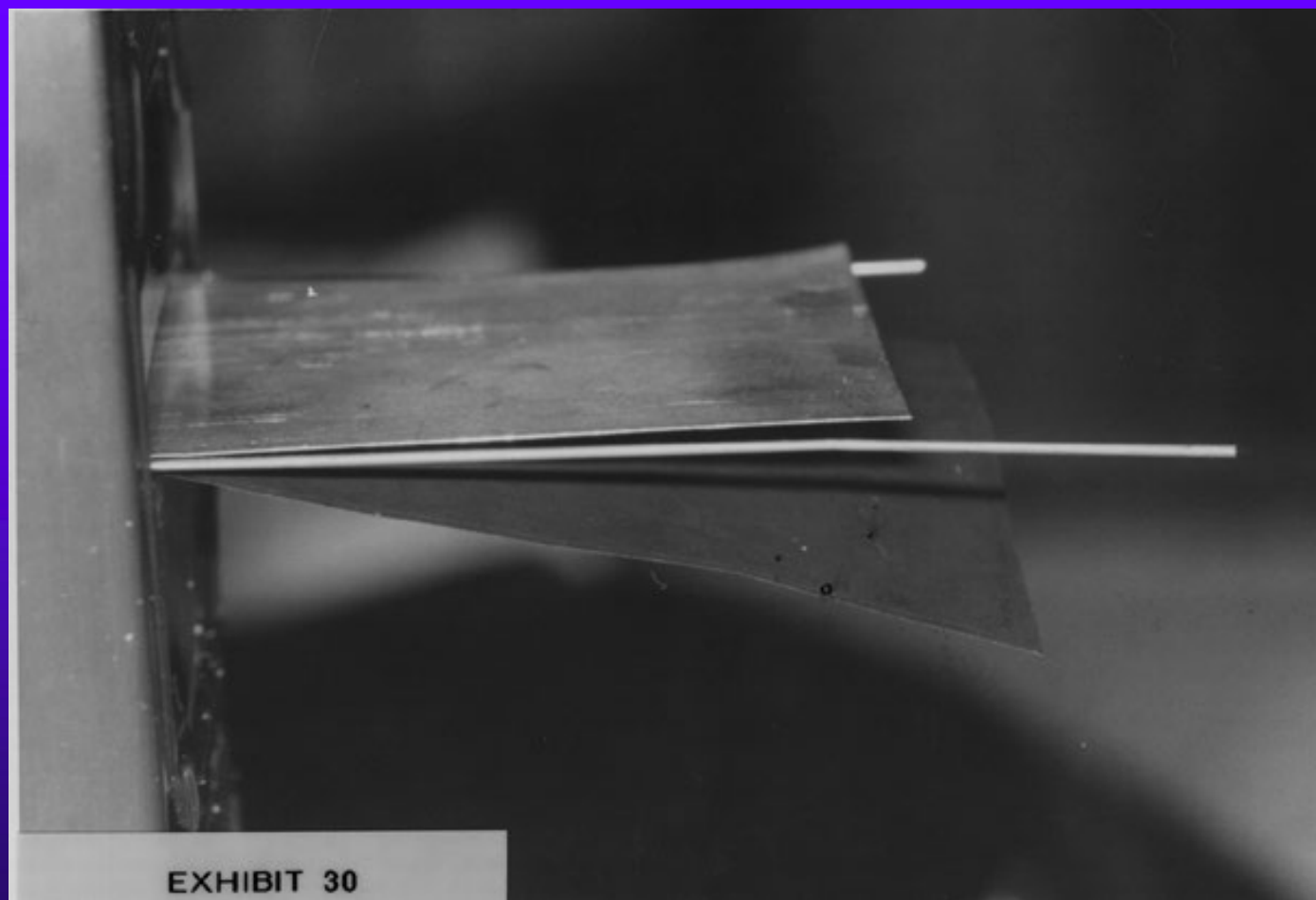
Vingcard pin tumblers



Mechanical decoding with wire



Insert carbon paper and wire



Picture of Key in carbon paper



CASE #4: ELSAFE

In Room Hotel Safe



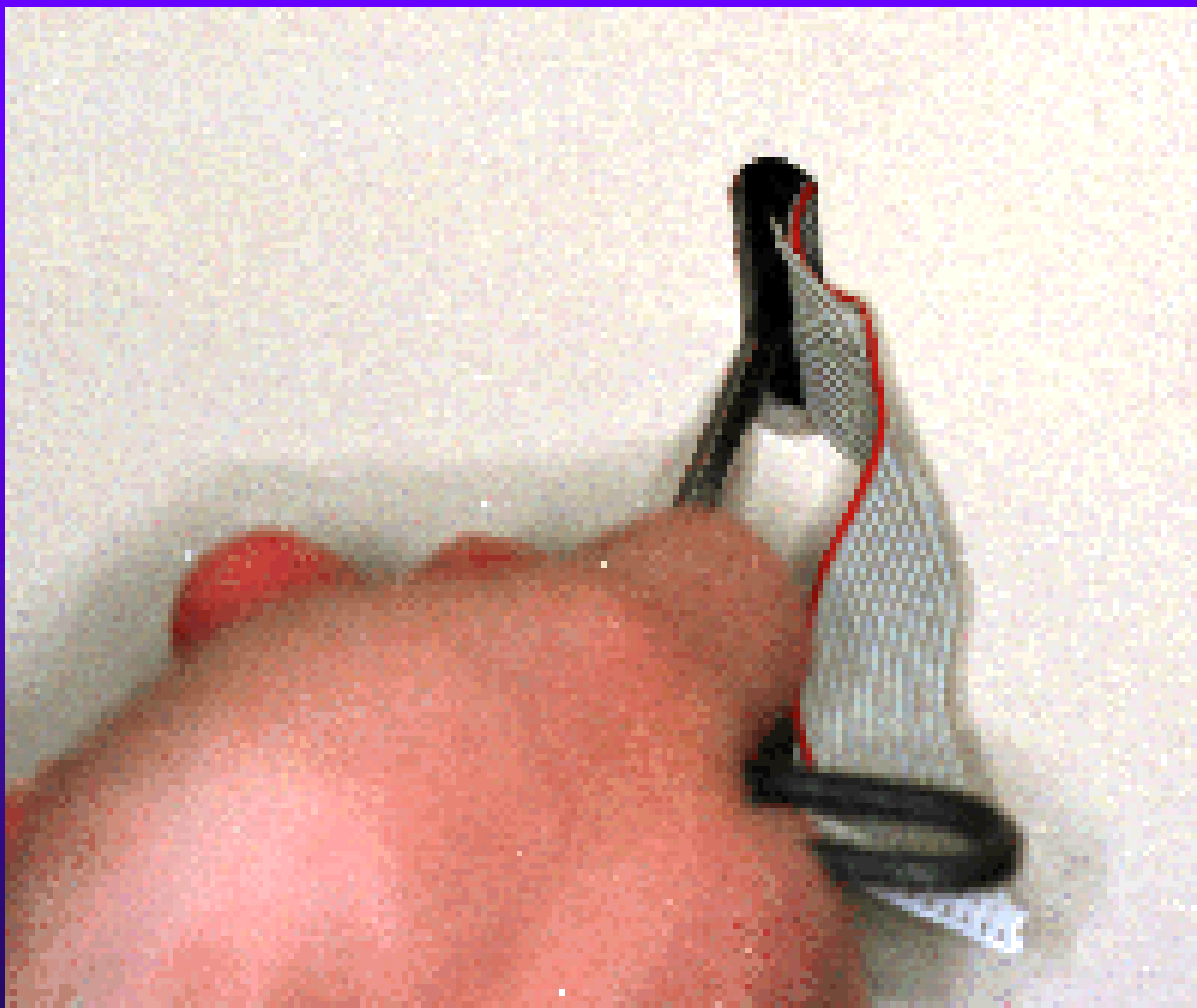


ELSAFE

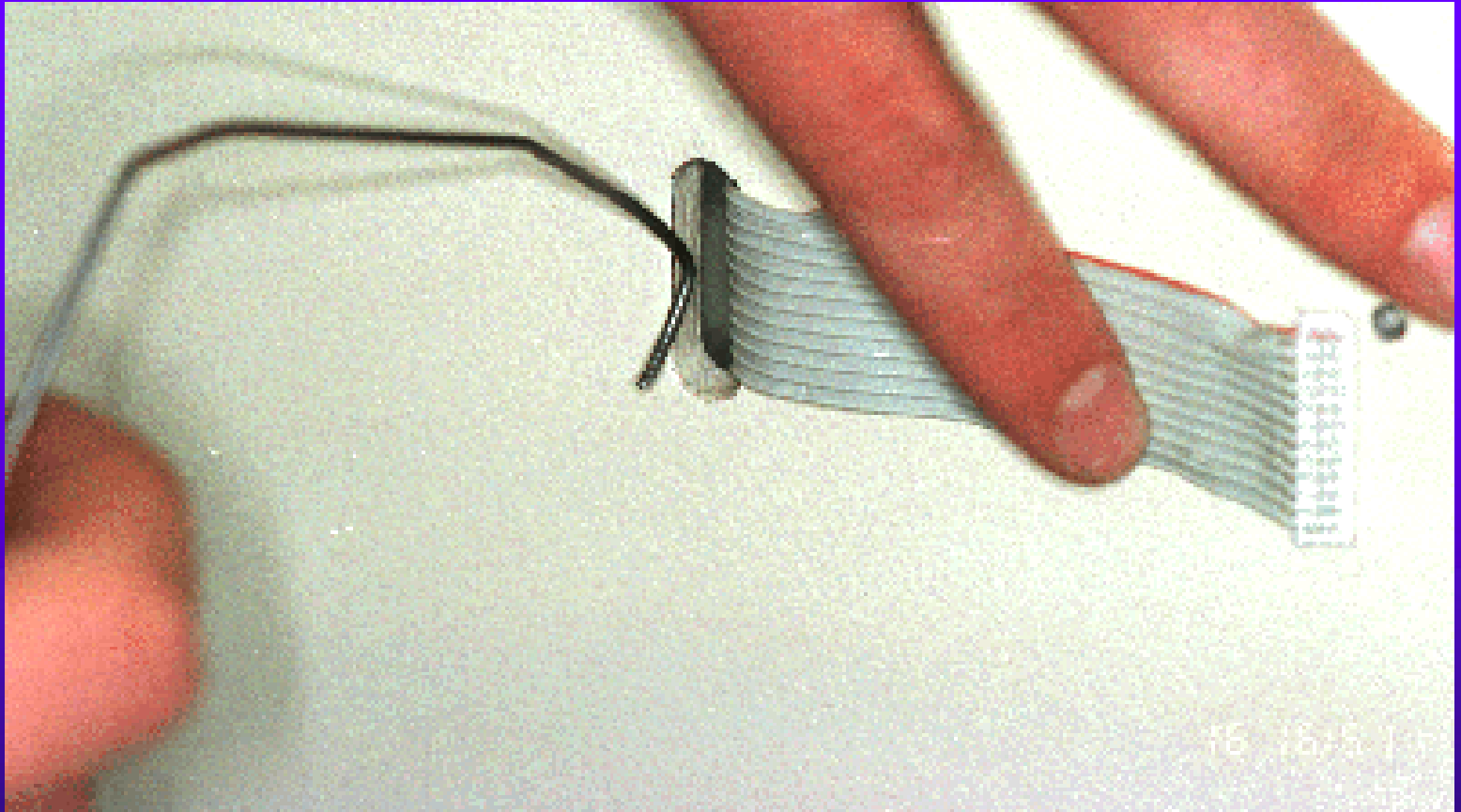
- ◆ Mechanical bypass using paper clip
- ◆ Electronic bypass using RF to accelerate the timing lockout



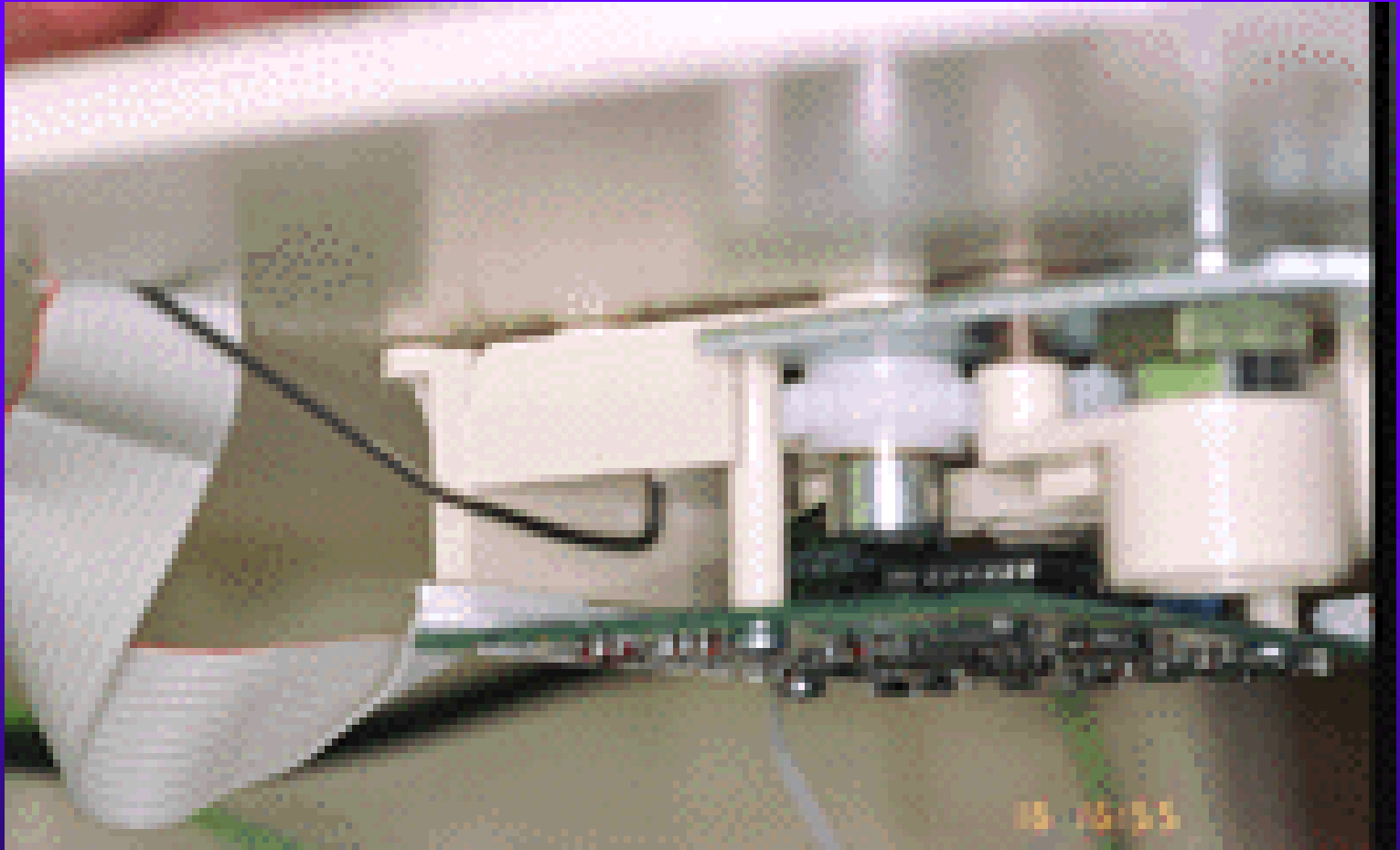
ELSAFE BYPASS



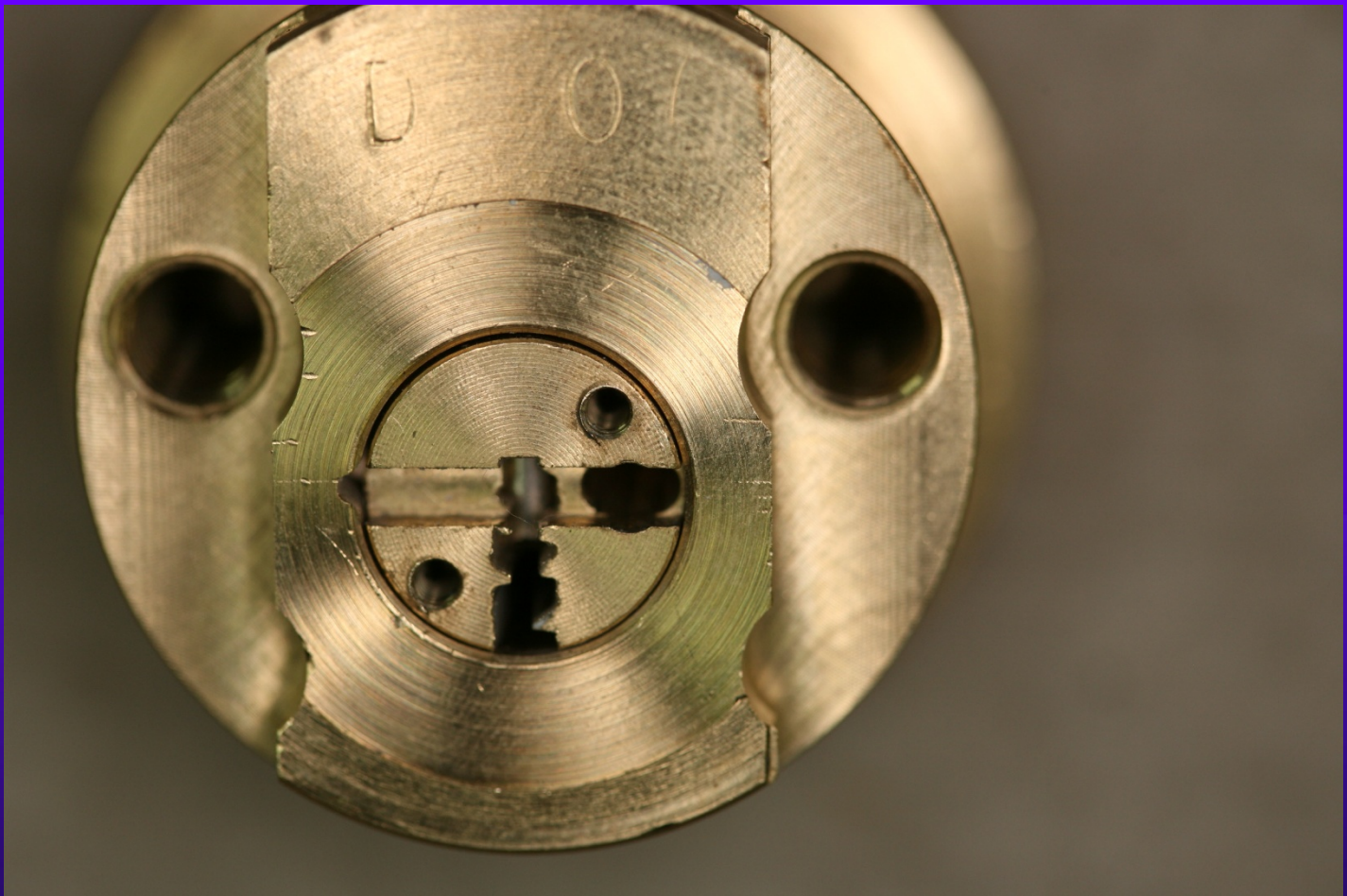
ACCESS TO GEAR DRIVE



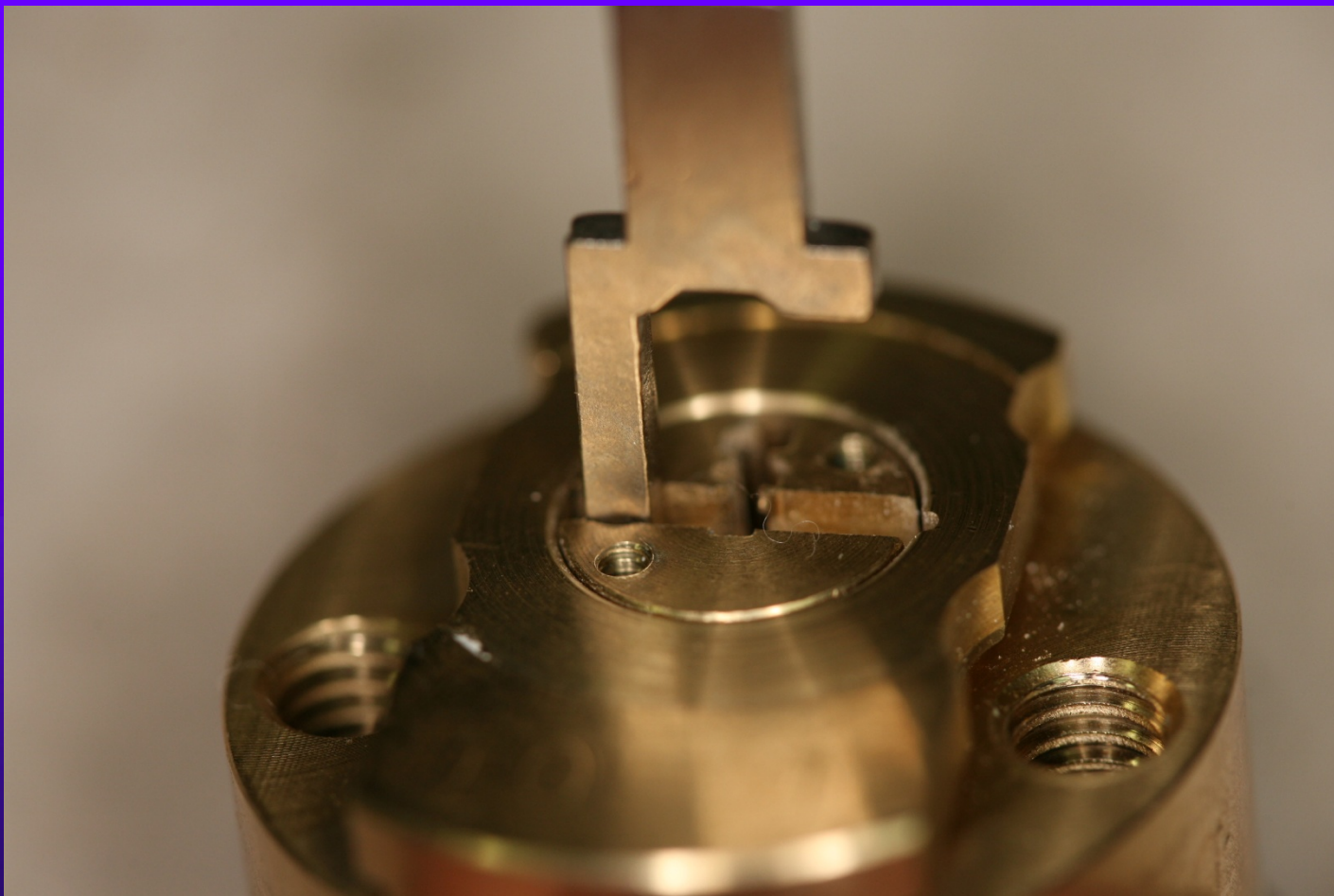
GEAR CONTROLS BOLT



CASE #5: MEDECO DEADBOLT ATTACK



MAXUM DEADBOLT



DEADBOLT ATTACK



WHAT UNLOCKS THE LOCK?



CASE #6: REVERSE PICKING



PULL AND PICK THE PLUG



CASE #7: MEDECO MORTISE CYLINDER





MORTISE, RIM, IC: A Special Form of Attack

- ◆ HYBRID ATTACK
- ◆ Will damage the lock
- ◆ Entry in ten seconds
- ◆ Millions of Locks affected





MORTISE ATTACK:

Sources of Key Data

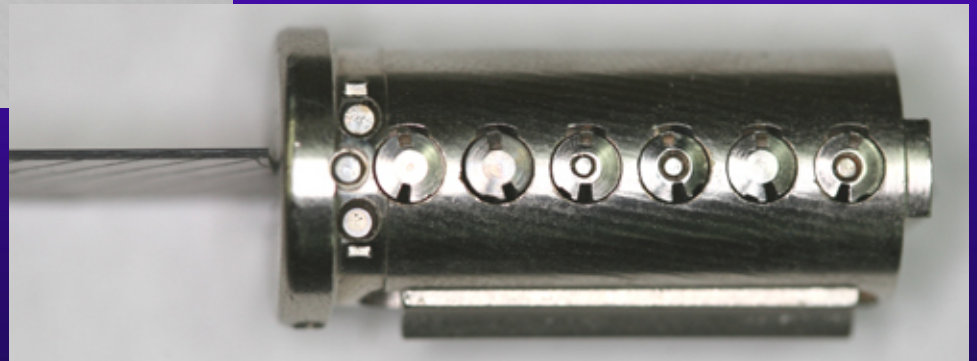
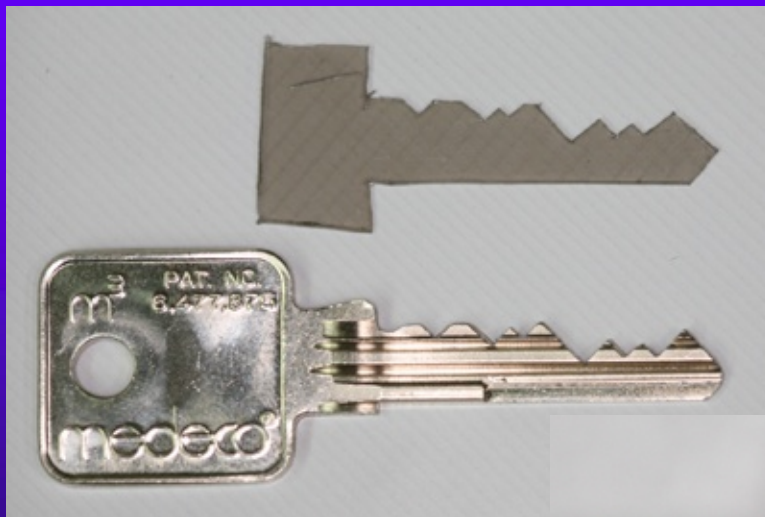
- ◆ Copy machine
- ◆ Scanner
- ◆ Cell phone camera
- ◆ Plastic sheets: Shrinky Dink
- ◆ X-acto knife

SET THE SHEAR LINE: OPEN THE LOCK

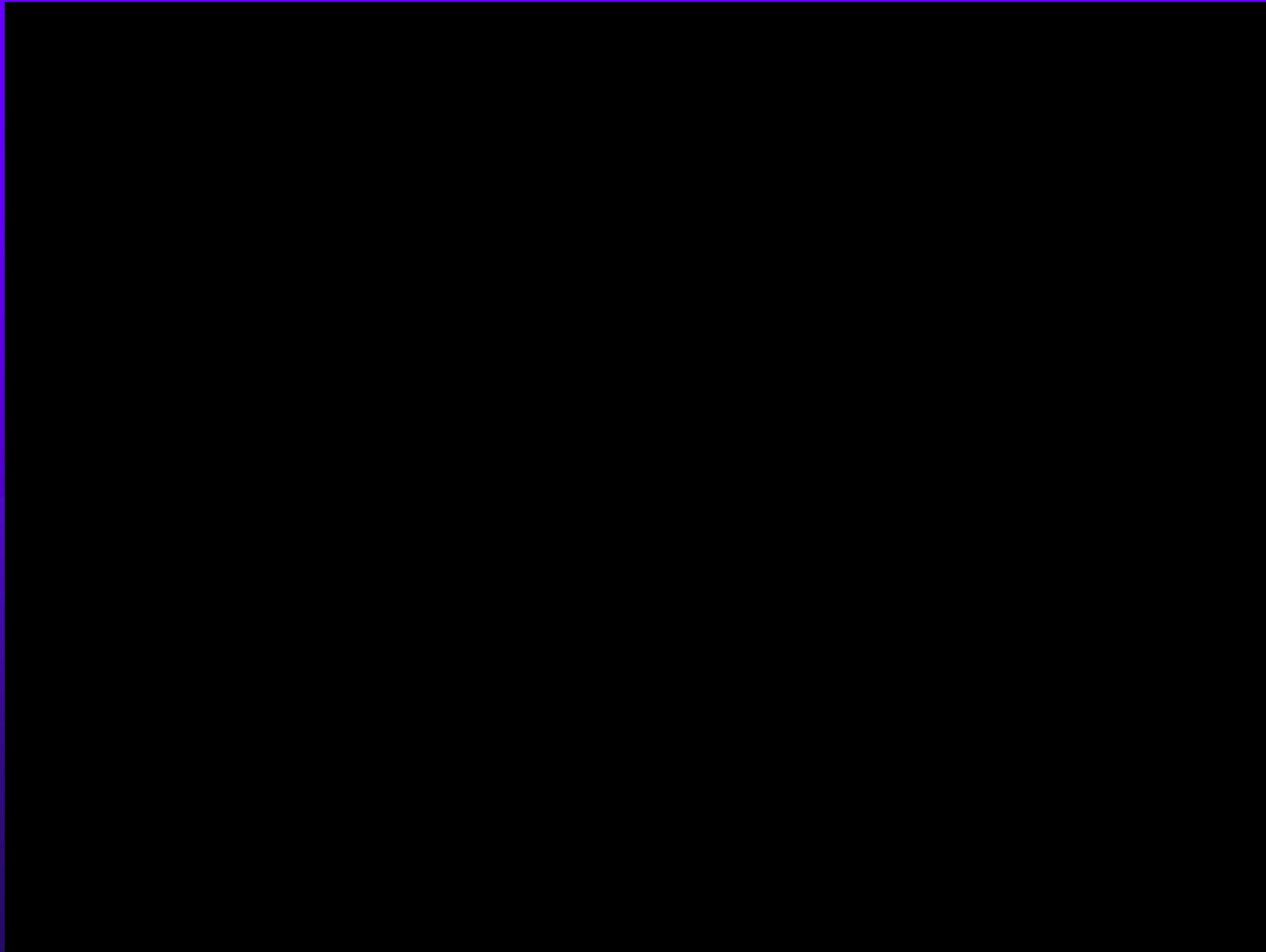


SET THE SHEAR LINE

- ◆ PLASTIC KEY SETS SHEAR LINE
- ◆ SIDEBAR IS IRRELEVANT



MEDECO MORTISE ATTACK WITH PLASTIC KEY





LOCKS, SAFES, AND SECURITY

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