LOCKS, SAFES, AND SECURITY

LSS+ Version 5.0


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Discussion of transponder theft. Courtesy of Hans Mejlshede.
Bypass of push button locks. Courtesy of Don Shiles.
Discussion of Simplex push button lock, by Harry Sher
Use of tryout keys, courtesy of Harry Sher.

LSS202: Ross Anderson on smart card technology

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A forensic investigation involving the theft of a BMW automobile. Courtesy Hans Mejlshede.
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Analysis of a case involving forensics. Courtesy of Don Shiles.
Case example, burglary investigation. Courtesy of Don Shiles
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Mail slot bypass device. Courtesy of Hans Mejlshede.
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A clean work area for the forensic locksmith is a necessity. Courtesy of Hans Mejlshede.

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The forensic locksmith is often called upon to investigative covert entry. Courtesy of Hans Mejlshede.

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Investigations involving vehicle fires. Courtesy of Hans Mejlshede.

Analysis of marks produced by a slim jim bypass tool. Courtesy of Hans Mejlshede.

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Issues regarding crime scene sketches. Courtesy of Don Shiles.

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Discussion of endoscope and borescope. Courtesy of Hans Mejlshede.

The John Falle lever decoder system. Courtesy of Hans Mejlshede.

Bypass of laser track or sidewinder locks. Courtesy of Hans Mejlshede.

Master key records. Courtesy of Hans Mejlshede.

A discussion of reading the belly of a lever. Courtesy of Hans Mejlshede.


Forensic implications of picking or decoding the Abloy lock. Courtesy of Hans Mejlshede.

The A-1 GM 10 cut pick system, courtesy of Harry Sher.

Pick tools for the sidebar lock, courtesy of Harry Sher.

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Figure 32-37 Sigma battering ram
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Figure 32-40 Broco thermic lance
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Figure LSS+3201 Sigma Baby ram
Figure LSS+3202 Explosive Wall Breaching System
Figure LSS+3203 Sigma Firecracker ram
Figure LSS+3204 Sigma Mitts
Figure LSS+3205 Sigma Ripper
Figure LSS+3206 Power actuated tool

Figure LSS+3207 External - Right hand inward opening timber door with standard Yale type lock; Internal - Left hand inward opening steel gate in confined area armed with single deadlock. Courtesy Ian Bauchop.

Figure LSS+3208 External - Left hand outward opening solid timber door with two locks; Internal - Left hand inward opening steel grille. Confined space with one deadlock and two sliding bolts

Figure LSS+3209 Internal concertina mild steel window grilles behind 6 mm float glass casement window

Figure LSS+3210 Right hand inward opening solid timber door with multipoint locking system

Figure LSS+3211 External - Right hand outward opening steel gate, slightly recessed with single lock and cover plate, lock side on two rising butt hinges; Internal - Right hand inward opening timber door
Figure LSS+3212 External - Steel cage protecting front door with right hand outward opening single lock with now cover plate. External steel grilles protection windows; Internal - Inward opening solid timber door.

Figure LSS+3213 Right hand inward opening flush solid timber door with one visible lock.

Figure LSS+3214 Internal view of LSS+3213 detailing timber braces and additional deadlock and night chain.

Figure LSS+3215 Right hand inward opening solid timber door with four individual locks. Attack made with chain saw on hinge side.

Figure LSS+3216 External - Right hand opening steel gate with single lock, full cover plate and rising butt hinges; Internal - Right hand outward opening solid timber door, locks unseen.

Figure LSS+3217 External - Right hand outward opening steel gate, single lock, no cover plate and standard butt hinge; Internal - Right hand inward opening solid timber door, one lock visible.

Figure LSS+3218 External - Right hand outward opening timber and glass door with single lock; Internal - Right hand opening timber and glass paneled door with two locks.

Figure LSS+3219 Recessed Left hand inward opening solid timber door with multilocking system, set in steel frame plus additional top lock.

Figure LSS+3220 External - Flush with building right hand outward opening steel paneled gate with steel mesh and full cover plate; Internal - Standard timber door with glass panel.

Figure LSS+3221 Left hand outward opening recessed solid timber fire door with steel panel.

Figure LSS+3222 External - Heavy duty right hand outward opening steel gate proud of building line with single lock and cover plate; Internal - Right hand inward opening timber door, locks unseen.

Figure LSS+3223 External - Recessed right hand outward opening steel gate with three standard butt hinges and no cover strip; Internal - Right hand inward opening timber paneled door with two locks visible.

Figure LSS+3224 A sigma forced entry team shows the technique for breaching a door.
Figure LSS+3225 MSC Lock Force tool is similar to that produced by SIGMA.
Figure LSS+3226 There are various dies for the MSC LOCK FORCE tool to fit different profiles.
Figure LSS+3227 The use of the MSC LOCK FORCE tool is straightforward.
Figure LSS+3228 The BROCO thermic lance is a small self contained package.
Figure LSS+3229 The BROCO control nozzle and chemical self starter for the thermic lance.
Figure LSS+3230 The KIBB security lock and strike system makes bypass difficult.
Figure LSS+3231 An attack on a file cabinet safe with a variety of tools.
Figure LSS+3232 A hole saw can be used to ream out the entire plug.
A new shear line is created by drilling the plug.

The mounting for the cylinder is cast and can be fractured, allowing removal of the lock.

Knob locks should not be used as the sole protection on exterior doors.

Rim locks must be mounted properly to increase their resistance to attack.

Cylinders can be pried loose if not mounted properly.

The cylinder was pounded through the mounting.

A pipe wrench can be utilized to twist loose a key-in-knob or cylinder lock.

The ease by which a cylinder can be removed by shearing the setscrew. Cylinders can be forcibly removed by applying torque and destroying internal setscrews. The setscrews can also be removed during business hours to allow the cylinder to be unscrewed at a later time. Courtesy of Don Shiles.

A wrench attack on cylinders can be very effective. Courtesy of Don Shiles.

A diagram showing the principle of jamb spreading. Examples of burglary tools found at the scene of a safe job.

Cylinders can be forcibly removed by applying torque and destroying internal setscrews. The setscrews can also be removed during business hours to allow the cylinder to be unscrewed at a later time. Courtesy of Don Shiles.

A special drill bit for removing plugs, called a rotary pick.

A lock can be drilled by raising all drivers above shear line.

A lock can be drilled to create a new shear line.

A lock can be drilled and then shimmed with a fine wire.

A special drill bit for removing plugs, called a rotary pick.

The Stealth Lock Systems tool to open Medeco cam locks.

Sigma analysis of the Kibb interlocking strike plate, with Ian Bauchop.

Demonstration of different forced entry techniques on doors utilizing the Kibb interlocking strike plate design.

A wrench attack on cylinders can be very effective. Courtesy of Don Shiles.

Forensic evidence of forced entry. Courtesy of Hans Mejlshede.

Opening a padlock by bouncing the locking dog. Courtesy of Don Shiles.

A discussion of covert entry by Harry Sher

A discussion of GSA containers and covert entry, by Harry Sher

A discussion of surreptitious entry and government containers, by Harry Sher

The use of the nose puller, courtesy of Harry Sher.

LSS201: MSC Lock Force tool, courtesy of MSC


LSS202: Broco Thermic lance description and use, by Tom Joos.

LSS203: Demonstration of the use of a loid, by MSC

Chapter 33 The Origin, Development, and Design of Safes, Vaults, and Strong rooms

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Chapter 34 Combination Locks

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Figure 34-11 Relocker trigger
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Figure 34-13 Boltwork components
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Figure 34-21 S&G 6400 series group 1 manipulation proof lock
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Figure LSS+3505 Fire and record safes
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Figure LSS+3507 Cash safes

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Figure LSS+3515, (ISP 38-3563 left, and 39-3563 right). The result of pounding of components.
Figure LSS+3516, Bolts were sheared from shock waves through the use of the welded bar to the front of the door.
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LSS201: A primer on the burglary of safes, Courtesy of Bill Sherlock.
LSS201: Forensics and locks, Courtesy of Bill Sherlock.
LSS202: Steve Mattoon on the use of explosives to gain entry.
Use of the change-key hole for reading wheels, by Harry Sher
LSS204: Owe Bengtsson on opening safes
LSS204: Owe Bengtsson introduction to opening safes
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2963-42 The use of robot dialers

Use of ultra violet to determine which keys have been depressed on a keypad. Courtesy of Don Shiles.

LSS201: Mark Bates on Manipulation

LSS201: Mark Bates on the Soft Drill

A discussion of Mas-Hamilton and the Soft Drill, by Harry Sher

Background on Mas-Hamilton and the development of the Soft Drill, by Harry Sher

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Hinges and forensic evidence. Courtesy Don Shiles.

Case example: removal of sliding glass door. Courtesy of Don Shiles.

LSS202: Ross Anderson on biometrics

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