Duplicating Restricted Keys

Billy & Bobby Graydon
Outline

1. Keyways
2. Other Stuff
How keys work

Shear Line

Key
Plug
Housing
Key Pin
Driver Pin
How Key Cutting works
How keyways work
The Old Approach to Keyway Research
Our Approach to Keyway Research

- Medeco 16S
- Yale Y1
- Abloy AL1
- Kwikset 1176/KW1
- Schlage 1145/SC1

compare Schlage 1145/SC1, Schlage 1145E/SC8
compare Sargent 1007RA, reverse Sargent 1007LA

compare Medeco 9S, barstock height: 32, thick: 298
set Milled BEST L to BEST L

compare Milled BEST L, BEST M

set Milled BEST L to mill side A of Milled BEST L with 62.5 dia ball cutter, depth: 35, position: 160

set Milled BEST L to mill side B of Milled BEST L with 62.5 dia ball cutter, depth: 32, position: 135

compare Milled BEST L, BEST M
for i in all keyways, large DB

if similarity between i and upside-down i < 10

write property name of i

draw i
compare Medeco 1515, BEST A
Master keys for O'Hare Airport security access were lost, costing city in ‘five figures’

A set of keys that provides almost total access to O'Hare Airport were lost and never recovered. But there were rare consequences for the employee involved, a Sun-Times investigation found.

By Robert Herguth | Jun 21, 2019, 5:00am CDT

A set of keys like these belonging to the Chicago Department of Aviation and allowing high-level security access to O'Hare Airport were lost. Photo illustration by Ashlee Rezin & Brian Ernst / Sun-Times

Lost, stolen campus master keys too expensive to replace

The master keys at UCA have recently been brought into the light due to an investigation involving a lost key.

The investigation began in June after a theft was reported in Assistant Director of Financial Aid for Scholarships Andrew Linn’s office in McCastlain Hall, Jeff Pitchford, vice president of university and government relations, said.

A thief reportedly broke in and stole four pills out of Linn's office. The key was used to get a grand

MOST READ

School cops speak out about kids out there that have it bad

Cubs trade pitcher Mike Montgomery to Royals for catcher Martín Garci

Dach, Nylander, others develop interest in Blackhawks' development

2 men killed in South Chicago police

R. Kelly divorce files show battle over money

Breaking News

Subscribe to our breaking news list
Lost Lock...
Lost Lock...
M3 Blank Manufacturing

- set output width to 606
- set m3 to barstock height: 303, thick: 90
- set m3 to mill side B of m3 with 25 dia ball cutter, depth: 42, position: 46
- set m3 to mill side B of m3 with 25 dia ball cutter, depth: 32, position: 110
- set m3 to mill side B of m3 with 25 dia ball cutter, depth: 32, position: 190
- set m3 to mill side B of m3 with 90 dia end mill, depth: 25, position: 306
- set m3 to mill side A of m3 with 145 dia end mill, depth: 25, position: 306
- set m3 to mill side A of m3 with 25 dia ball cutter, depth: 25, position: 120
- set m3 to mill side A of m3 with 25 dia ball cutter, depth: 25, position: 200
- set m3 to mill side A of m3 with 125 dia end mill, depth: 0, position: 0
- set m3 to reverse m3
- draw m3
m³ Variations
Master $m^3$ Keyway

- **Set** $m^3$ to **barstock height**: 298, **thick**: 90

- **Set** $m^3$ to **mill side B**: of $m^3$, with **25** dia **ball cutter**: $\downarrow$, **depth**: 42, **position**: 46

- **Set** $m^3$ to **mill side B**: of $m^3$, with **113** dia **end mill**: $\downarrow$, **depth**: 32, **position**: 150

- **Set** $m^3$ to **mill side B**: of $m^3$, with **90** dia **end mill**: $\downarrow$, **depth**: 25, **position**: 306

- **Set** $m^3$ to **mill side A**: of $m^3$, with **145** dia **end mill**: $\downarrow$, **depth**: 25, **position**: 306

- **Set** $m^3$ to **mill side A**: of $m^3$, with **113** dia **end mill**: $\downarrow$, **depth**: 25, **position**: 150

- **Set** $m^3$ to **mill side A**: of $m^3$, with **125** dia **end mill**: $\downarrow$, **depth**: 0, **position**: 0

- **Set** $m^3$ to **reverse**: $m^3$

- **Draw** $m^3$
for i in all keyways, large DB
write property name of i
write metal filed to turn i into m3
M3 Cut on M19, working
Photographing a Lock
Measuring the Key
KLOM-3100
The brand of High Quality
Photographing the Key
Milling Marks - Shallow Slope Gives Precision

\[ G = \sqrt{r^2 - D^2} \]
\[ D = \sqrt{r^2 - G^2} \]
Outline

1. Keyways
2. Other Stuff
   a. Sidewinder Keys
   b. Primus
   c. Assa
   d. Medeco Angled Cuts
   e. Dimple Locks, Mul-T-Lock
   f. Interactive Components, Mul-T-Lock
   g. Disc Detainer Locks, Abloy
   h. Patents
   i. Duplication Authorisation Cards
MUL-T-LOCK INTERACTIVE 264B KEYWAY PROFILE KEY BLANKS LOCKSMITH SUPPLY 10 pcs

Condition: New
Sale ends in: 06d 02h 26m
Quantity: 1

Was: US$59.90
You save: $3.00 (5% off)
Price: US $56.90

Buy another
Add to cart
Make Offer

A seller you've bought from
Limited quantity remaining
More than 70% sold

Shipping: FREE Economy International Shipping | See details
Item location: israel, israel
Ships to: Worldwide See exclusions

Have one to sell? Sell now
MT5 Patent = No ebay blanks
Generate code card for angles DBSMKQ and depths 243246 on keyway W3 Generate
Outline

1. Keyways
2. Other Stuff
3. Bonus! Remediation
Lost Lock $\neq$ Lost GMK
Sectional keyways - great as an extra security control. Bad as the only one.
Restricted keyways -
great as an extra
security control. Bad as
the only one.
“physical keys are dead hurr durr”
“physical keys are dead hurrr durr”
Understand your threat model.
Microscopy
Questions!

b.graydon@ggrsecurity.com
r.graydon@ggrsecurity.com