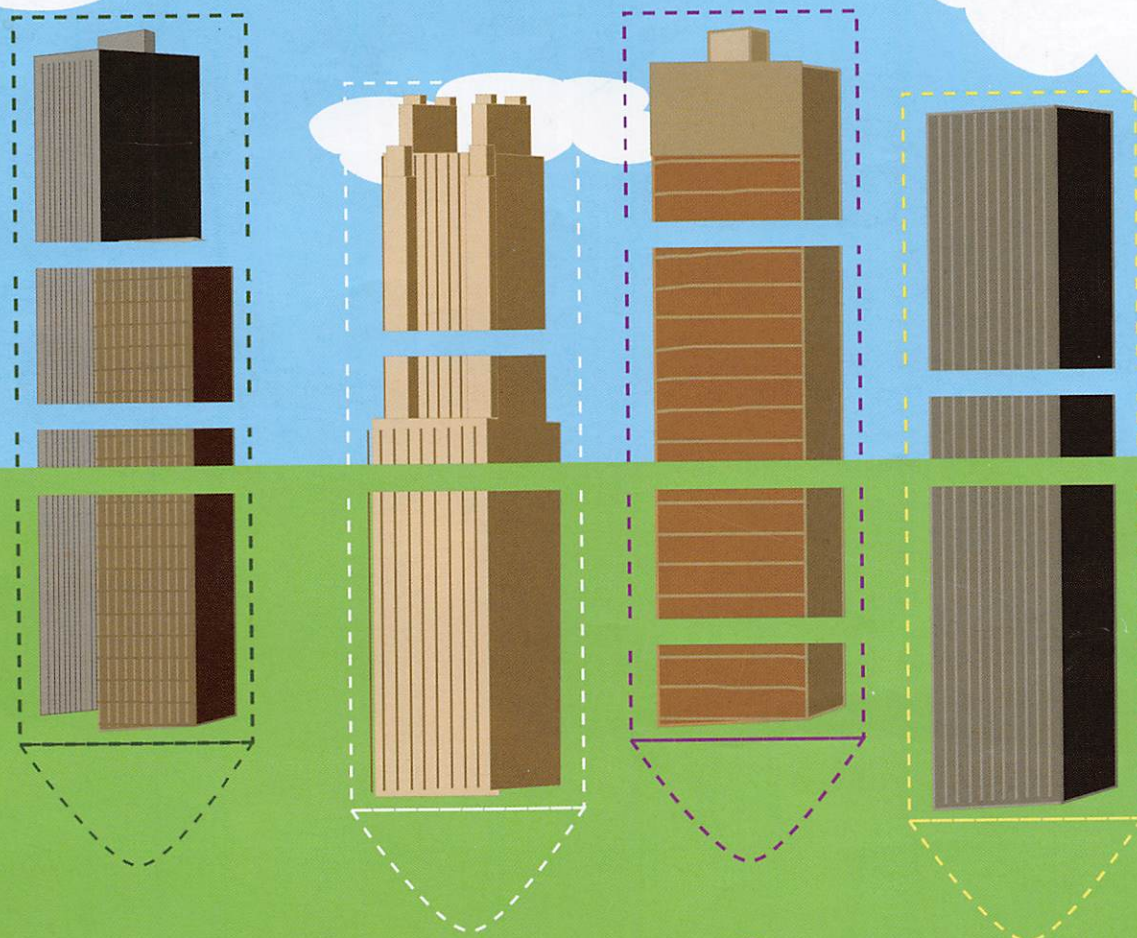


Keynotes

June 2004

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Master Keying the World

From the ABCs to Emerging Mathematical Theories, Masterkeying is STILL Locksmithing's Mt. Everest

ALOA 2004 FLOORPLAN INSIDE!!

Plus: Cycle Chronicles Goes Harley,
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Reference Manual, and more!

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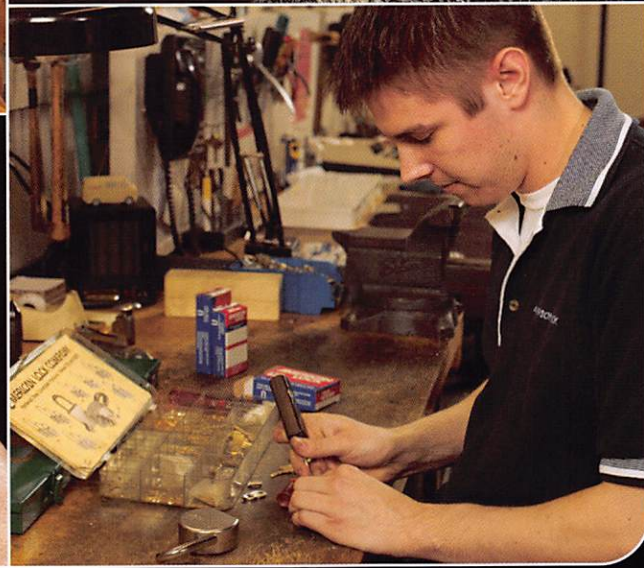
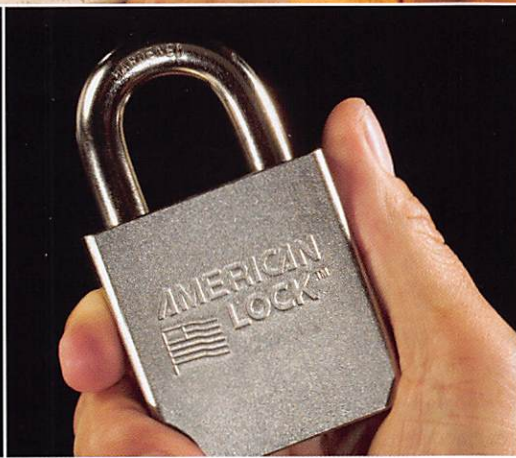
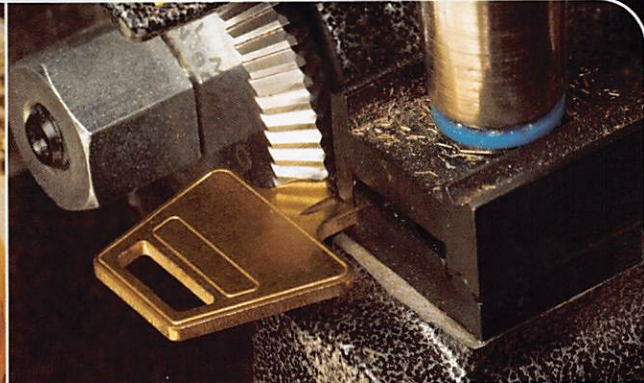
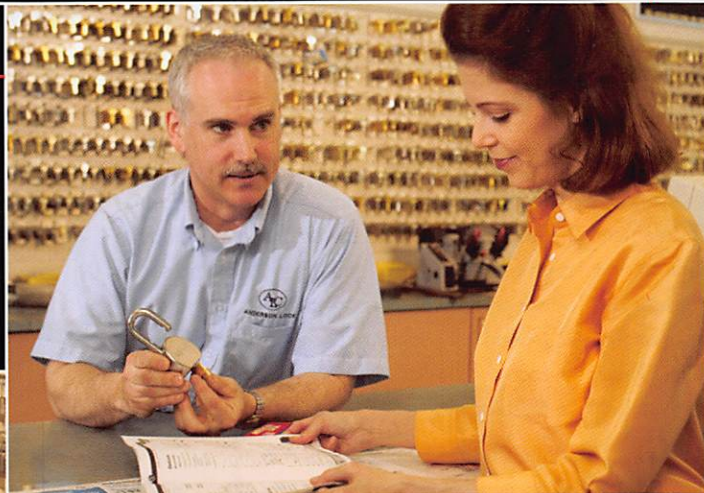


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presidential viewpoint



Are all of you aware that ALOA has a Mission Statement? It can be found on the Executive page in your Keynotes. I would like to bring to your attention a few sentences contained in that statement. The first is, "ALOA is dedicated to enhancing the professionalism, education and ethics among locksmiths, and those in related sectors of the physical security industry." The second is, "But it is only through active involvement and participation that ALOA can fully achieve its potential – and help members to achieve theirs." This is the focus of the ALOA Board, and we are developing ideas and programs to achieve these goals.

One such program that is being developed is the establishing of a Business Owners Group. This would be available across the membership, from the one-man operations to owners of shops with many employees. The purpose would be to provide business and management education to our members and, thus, help them become more astute businessmen. This could be done at convention or wherever ALOA education is being conducted. There would also be the opportunity for roundtable discussions at convention, whereby owners could break into groups of their peers and discuss issues that affect businesses of their size.

We are continuing to develop the idea of ALOA Certified Security Center that was introduced last year at convention by Hans Mejlshede, CML. This will allow businesses to demonstrate that they meet high standards of professionalism and use that to market and promote themselves against their competition.

One bold idea that has been discussed at our last two meetings is that of requiring new members to become certified within a specified amount of time, and that existing members meet continuing education requirements. A policy such as this would keep us consistent with our model law for legislation, and legislation for locksmiths that currently exists in several states. If licensing requires certification and continuing education, shouldn't we require that of ourselves? If our members are certified, that will help us sell ALOA to legislators, manufacturers, service providers, etc. We would be an association of certified security professionals. To accomplish this, we realize that we have to keep improving our education and the means (technologies) to deliver it to the membership.

I am also pleased to announce that we are closer to being able to offer a "corporate" type membership, which will make it desirable for locksmith employers to have all of their technicians become ALOA members.

Some of these ideas that may come to fruition will require Bylaws changes. As always, it is in the hands of our members to decide what they want and, I am hoping that will mean being the best that we can be. This means becoming actively involved!

Thank all of you who expressed concern regarding a safe moving injury that I incurred. My foot is healing well, and I was fortunate that it was not serious enough to affect my work.

Sincerely,

A handwritten signature in black ink that reads "William L. Young". The signature is written in a cursive, flowing style.

William L. Young, CML, CPS



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MASTER KEYING 2004

12 COVER: The Magic of Spherical Masterkeying, Part 2

[Editor's Note: Part 1 of this article appeared in November 2003's Keynotes.] Shortly after finishing the six-pin system, I decided that I was pretty much obligated to go ahead and finish what I had started. The daunting task of generating the 128 possible key combinations was, however, more than I wanted to face alone!

By Eric Costley, CRL

18 COVER: The ABC's, GMK's, MK's and CK's of Masterkeying (A Beginners Guide)

Of all the tasks we are asked to perform in this profession, probably the one that is the most feared, abused and misunderstood is that of creating a master key system for a customer. It is feared by some because it purely and simply boils down to mathematics. We'll give beginners a better understanding of the workings of a master key system and remove some of the fear.

By Jim Hancock, CRL

24 AUTOS: 2001 ACURA 3.5RL: FITTING AND CLONING A HONDA TRANSPONDER

There are still too many locksmiths out in the field who are letting the automotive dollars slip away because technology and education seem to be too demanding. They aren't, and this series will aim to help show how simple (and lucrative) next-generation automotive locksmithing can be. Our subject is a 2001 Acura 3.5RL – chosen for the supposed difficulty in dealing with the Honda system, as referenced by many experts. Let's take a look.

By Jeff Trepanier, RL

28 AUTO: Cycle Chronicles: 100 years of Harley-Davidson, Part 1

In 2003, Harley-Davidson celebrated its 100th anniversary. Officially, its legacy begins slowly and humbly at a small Milwaukee Wisconsin shop in 1903 where three young men, Walter Davidson, Arthur Davidson and William S. Harley produced their first motorcycle. Is that what really happened? How did it all really begin?

By Ray D'Adamo, CML

32 GREG'S CORNER : Book Review: The Safe Technician's Reference Manual (By Mike Oehlert, CPL, CMST)

Our focus is on automotive applications, because the wafer design has always been popular with cars. At this point, virtually all vehicles use wafer locks. The problem we are concerned with is tumblers that either stick or otherwise become nonfunctional. Within the automotive environment, these problems are common. Here's how to solve them.

Reviewed by Greg Perry, CML, CPS

34 Meet ALOA's Home State Hosts: The Maryland Locksmith Association

The Maryland Locksmith Association (MLA) is proud to host the 2004 ALOA Convention and Trade Show in their home state. Many MLA members live or work just a short distance from the Baltimore Convention Center—the site of this year's show. MLA will have a booth on the ALOA Convention floor. They hope to meet and welcome all attending the 2004 ALOA Convention.

By Claire Choen, CML

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Additional contact information for the ALOA Board and most Keynotes authors is available through "Locksmith Search" on the ALOA Web site— www.aloa.org or by contacting the ALOA office at 3003 Live Oak Street; Dallas, TX 75204; (800)532-2562; FAX (214)827-1810; e-mail aloea@aloea.org.

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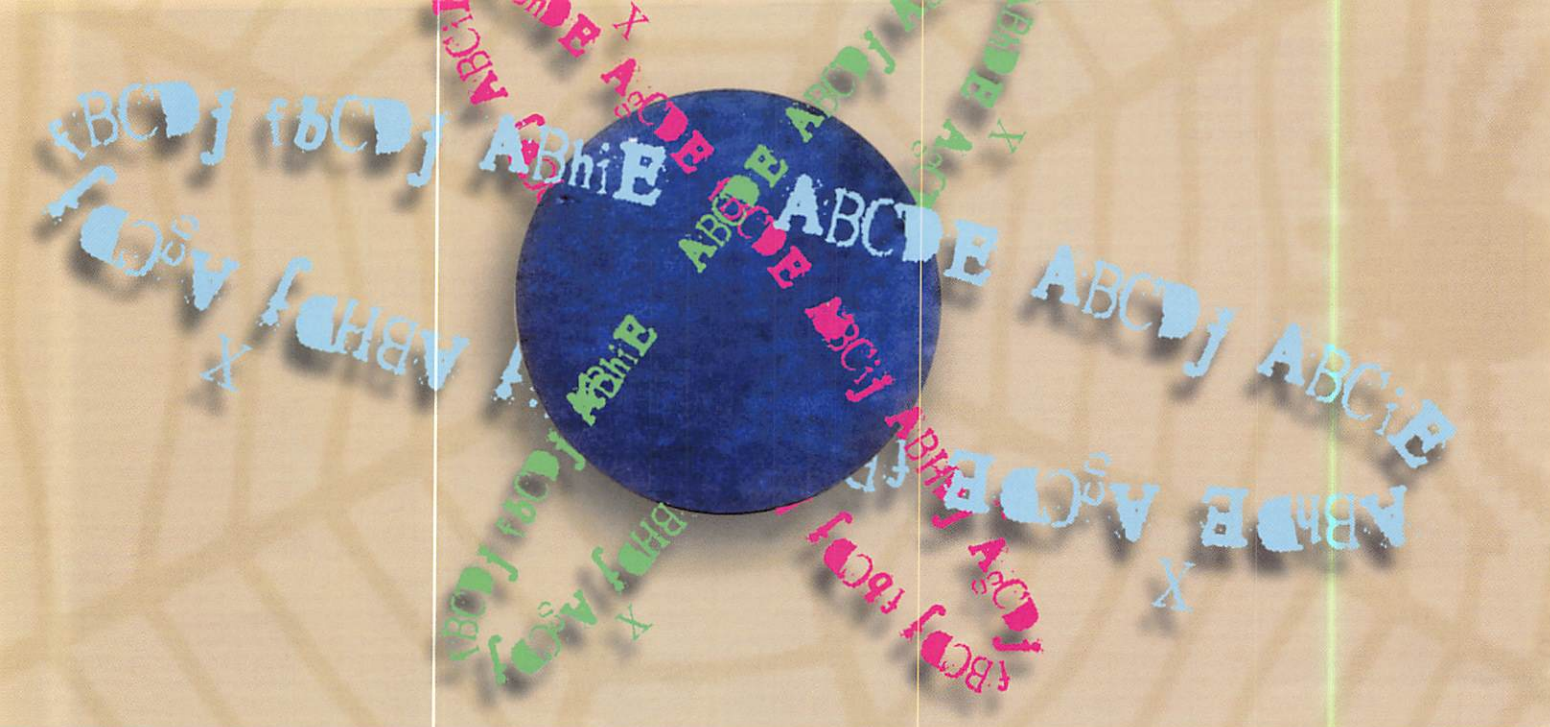
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Here we are again, venturing into the interesting and enigmatic world of spherical masterkeying. For the sake of those who might be interested in using the sphere in an interchangeable core application, I have enlisted some mathematical help and completed the seven-pin matrix and listing. Shortly after finishing the six-pin system, I decided that I was pretty much obligated to go ahead and finish what I had started. The daunting task of generating the 128 possible key combinations was, however, more than I wanted to face alone!

I put in a call to Perry Price, one of my classmates from Gardner-Webb University (Boiling Springs, NC). Perry was a math major there, and then went on to get his Master's Degree from the University of North Carolina at Pembroke. I was sure that once he understood what I was trying to achieve, it would be a simple task for him. He was sure of it also, and despite the fact that Perry knew nothing of master keying, he promised to fax me a list of the 128 combinations.

It would seem that generating the 128 combinations proved a daunting task for even the most savvy mathematician that I know, and that frightened me somewhat. If he was in over his head, I knew I was in way over mine! Perry was, however, quick to realize that the patterns that emerge when generating a spherical system fit nicely into Pascal's triangle -- something I knew nothing of, but I can give you a faint glimmer of what it's all about.

Blaise Pascal lived from 1623 to 1662. He was a mathematician, physicist, and theologian. His father was a tax collector, and he managed to devise a mechanical calculator capable of addition to help his father out. Some of you may recall that there is a computer program named after Pascal. Although the groupings of keys in spher-

The Magic of Spherical Master Keying Part 2

By Eric Costley, CRL

[Editor's Note: Part 1 of this article appeared in November 2003's Keynotes.]

A cylinder pinned to key 1 and the numbered key: Is operated by the following keys:

Key 1. Key 1 only
Key 2. Keys 1 and 2
Key 3. Keys 1 and 3
Key 4. Keys 1 and 4
Key 5. Keys 1 and 5
Key 6. Keys 1 and 6
Key 7. Keys 1 and 7
Key 8. Keys 1 and 8
Key 9. Keys 1,2,3,9
Key 10. Keys 1,2,4,10
Key 11. Keys 1,2,5,11
Key 12. Keys 1,2,6,12
Key 13. Keys 1,2,7,13
Key 14. Keys 1,2,8,14
Key 15. Keys 1,3,4,15
Key 16. Keys 1,3,5,16
Key 17. Keys 1,3,6,17
Key 18. Keys 1,3,7,18
Key 19. Keys 1,3,8,19
Key 20. Keys 1,4,5,20
Key 21. Keys 1,4,6,21
Key 22. Keys 1,4,7,22
Key 23. Keys 1,4,8,23
Key 24. Keys 1,5,6,24
Key 25. Keys 1,5,7,25
Key 26. Keys 1,5,8,26
Key 27. Keys 1,6,7,27
Key 28. Keys 1,6,8,28
Key 29. Keys 1,7,8,29
Key 30. Keys 1,2,3,4,9,10,15,30
Key 31. Keys 1,2,3,5,9,11,16,31
Key 32. Keys 1,2,3,6,9,12,17,32
Key 33. Keys 1,2,3,7,9,13,18,33
Key 34. Keys 1,2,3,8,9,14,19,34
Key 35. Keys 1,3,4,5,15,16,20,35
Key 36. Keys 1,3,4,6,15,17,21,36
Key 37. Keys 1,3,4,7,15,18,22,37
Key 38. Keys 1,3,4,8,15,19,23,38
Key 39. Keys 1,4,5,6,20,21,24,39
Key 40. Keys 1,4,5,7,20,22,25,40
Key 41. Keys 1,4,5,8,20,23,26,41
Key 42. Keys 1,5,6,7,24,25,27,42
Key 43. Keys 1,5,6,8,24,26,28,43
Key 44. Keys 1,6,7,8,27,28,29,44
Key 45. Keys 1,5,7,8,25,26,29,45
Key 46. Keys 1,4,7,8,22,23,29,46
Key 47. Keys 1,3,7,8,18,19,29,47
Key 48. Keys 1,2,7,8,13,14,29,48
Key 49. Keys 1,4,6,7,21,22,27,49
Key 50. Keys 1,3,6,7,17,18,27,50
Key 51. Keys 1,2,6,7,12,13,27,51
Key 52. Keys 1,3,5,6,16,17,24,52
Key 53. Keys 1,2,5,6,11,12,24,53
Key 54. Keys 1,2,4,5,10,11,20,54
Key 55. Keys 1,2,4,6,10,12,21,55
Key 56. Keys 1,2,5,7,11,13,25,56
Key 57. Keys 1,3,5,7,16,18,25,57
Key 58. Keys 1,2,4,7,10,13,22,58
Key 59. Keys 1,2,5,8,11,14,26,59
Key 60. Keys 1,3,5,8,16,19,26,60

Key 61. Keys 1,3,6,8,17,19,28,61
Key 62. Keys 1,2,6,8,12,14,28,62
Key 63. Keys 1,4,6,8,21,23,28,63
Key 64. Keys 1,2,4,8,10,14,23,64
Key 65. Keys
1,2,3,4,5,9,10,11,15,16,20,30,31,35,54,65
Key 66. Keys
1,2,3,4,6,9,10,12,15,17,21,30,32,36,55,66
Key 67. Keys
1,2,3,5,6,9,11,12,16,17,24,31,32,52,53,67
Key 68. Keys
1,2,4,5,6,10,11,12,20,21,24,39,53,54,55,68
Key 69. Keys
1,3,4,5,6,15,16,17,20,21,24,35,36,39,52,69
Key 70. Keys
1,2,3,4,7,9,10,13,15,18,22,30,33,37,58,70
Key 71. Keys
1,2,3,5,7,9,11,13,16,18,25,31,33,56,57,71
Key 72. Keys
1,2,4,5,7,10,11,13,20,22,25,40,54,56,58,72
Key 73. Keys
1,3,4,5,7,15,16,18,20,22,25,35,37,40,57,73
Key 74. Keys
1,2,3,6,7,9,12,13,17,18,27,32,33,50,51,74
Key 75. Keys
1,2,4,6,7,10,12,13,21,22,27,49,51,55,58,75
Key 76. Keys
1,3,4,6,7,15,17,18,21,22,27,36,37,49,50,76
Key 77. Keys
1,2,5,6,7,11,12,13,24,25,27,42,51,53,56,77
Key 78. Keys
1,3,5,6,7,16,17,18,24,25,27,42,50,52,57,78
Key 79. Keys
1,4,5,6,7,20,21,22,24,25,27,39,40,42,49,79
Key 80. Keys
1,2,3,4,8,9,10,14,15,19,23,30,34,38,64,80
Key 81. Keys
1,2,3,5,8,9,11,14,16,19,26,31,34,59,60,81
Key 82. Keys
1,2,4,5,8,10,11,14,20,23,26,41,54,59,64,82
Key 83. Keys
1,3,4,5,8,15,16,19,20,23,26,35,38,41,60,83
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1,2,3,6,8,9,12,14,17,19,28,32,34,61,62,84
Key 85. Keys
1,2,4,6,8,10,12,14,21,23,28,55,62,63,64,85
Key 86. Keys
1,3,4,6,8,15,17,19,21,23,28,36,38,61,63,86
Key 87. Keys
1,2,3,7,8,9,13,14,18,19,29,33,34,47,48,87
Key 88. Keys
1,2,4,7,8,10,13,14,22,23,29,46,48,58,64,88
Key 89. Keys
1,3,4,7,8,15,18,19,22,23,29,37,38,46,47,89
Key 90. Keys
1,2,6,7,8,12,13,14,27,28,29,44,48,51,62,90
Key 91. Keys
1,3,6,7,8,17,18,19,27,28,29,44,47,50,61,91
Key 92. Keys
1,5,6,7,8,24,25,26,27,28,29,42,43,44,45,92

Key 93. Keys
1,4,6,7,8,21,22,23,27,28,29,44,46,49,63,93
Key 94. Keys
1,4,5,7,8,20,22,23,25,26,29,40,41,45,46,94
Key 95. Keys
1,4,5,6,8,20,21,23,24,26,28,39,41,43,63,95
Key 96. Keys
1,2,5,7,8,11,13,14,25,26,29,45,48,56,59,96
Key 97. Keys
1,2,5,6,8,11,12,14,24,26,28,43,53,59,62,97
Key 98. Keys
1,3,5,7,8,16,18,19,25,26,29,45,47,57,60,98
Key 99. Keys
1,3,5,6,8,16,17,19,24,26,28,43,52,60,61,99
Key 100. Keys
1,2,3,4,5,6,9,10,11,12,15,16,17,20,21,24,30,31,
32,35,36,39,52,53,54,55,65,66,67,68,69,100
Key 101. Keys
1,2,3,4,5,7,9,10,11,13,15,16,18,20,22,25,30,31,
33,35,37,40,54,56,57,58,65,70,71,72,73,101
Key 102. Keys
1,2,3,4,6,7,9,10,12,13,15,17,18,21,22,27,30,32,
33,36,37,49,50,51,55,58,66,70,74,75,76,102
Key 103. Keys
1,2,3,5,6,7,9,11,12,13,16,17,18,24,25,27,31,32,
33,42,50,51,52,53,56,57,67,71,74,77,78,103
Key 104. Keys
1,2,4,5,6,7,10,11,12,13,20,21,22,24,25,27,39,40,
42,49,51,53,54,55,56,58,68,72,75,77,79,104
Key 105. Keys
1,3,4,5,6,7,15,16,17,18,20,21,22,24,25,27,35,36,
37,39,40,42,49,50,52,57,69,73,76,78,79,105
Key 106. Keys
1,2,3,4,5,8,9,10,11,14,15,16,19,20,23,26,30,31,
34,35,38,41,54,59,60,64,65,80,81,82,83,106
Key 107. Keys
1,2,3,4,6,8,9,10,12,14,15,17,19,21,23,28,30,32,
34,36,38,55,61,62,63,64,66,80,84,85,86,107
Key 108. Keys
1,2,3,5,6,8,9,11,12,14,16,17,19,24,26,28,31,32,
34,43,52,53,59,60,61,62,67,81,84,97,99,108
Key 109. Keys
1,2,4,5,6,8,10,11,12,14,20,21,23,24,26,28,39,41,
43,53,54,55,59,62,63,64,68,82,85,95,97,109
Key 110. Keys
1,3,4,5,6,8,15,16,17,19,20,21,23,24,26,28,35,36,
38,39,41,43,52,60,61,63,69,83,86,95,99,110
Key 111. Keys
1,2,3,4,7,8,9,10,13,14,15,18,19,22,23,29,30,33,
34,37,38,46,47,48,58,64,70,80,87,88,89,111
Key 112. Keys
1,2,3,5,7,8,9,11,13,14,16,18,19,25,26,29,31,33,
34,45,47,48,56,57,59,60,71,81,87,96,98,112
Key 113. Keys
1,2,4,5,7,8,10,11,13,14,20,22,23,25,26,29,40,41,
45,46,48,54,56,58,59,64,72,82,88,94,96,113
Key 114. Keys
1,3,4,5,7,8,15,16,18,19,20,22,23,25,26,29,35,37,
38,40,41,45,46,47,57,60,73,83,89,94,98,114
Key 115. Keys
1,2,3,6,7,8,9,12,13,14,17,18,19,27,28,29,32,33,

34,44,47,48,50,51,61,62,74,84,87,90,91,115
Key 116. Keys
1,2,4,6,7,8,10,12,13,14,21,22,23,27,28,29,44,46,
48,49,51,55,58,62,63,64,75,85,88,90,93,116
Key 117. Keys
1,3,4,6,7,8,15,17,18,19,21,22,23,27,28,29,36,37,
38,44,46,47,49,50,61,63,76,86,88,91,93,117
Key 118. Keys
1,2,5,6,7,8,11,12,13,14,24,25,26,27,28,29,42,43,
44,45,48,51,53,56,59,62,77,90,92,96,97,118
Key 119. Keys
1,3,5,6,7,8,16,17,18,19,24,25,26,27,28,29,42,43,
44,45,47,50,52,57,60,61,78,91,92,98,99,119
Key 120. Keys
1,4,5,6,7,8,20,21,22,23,24,25,26,27,28,29,39,40,
41,42,43,44,45,46,49,63,79,92,93,94,95,120
Key 121. Keys
1,2,3,4,5,6,7,9,10,11,12,13,15,16,17,18,20,21,22,
24,25,27,30,31,32,33,35,36,37,39,40,42,49,50,
51,52,53,54,55,56,57,58,65,66,67,68,69,70,71,72,
73,74,75,76,77,78,79,100,101,102,103,104,
105,121
Key 122. Keys
1,2,3,4,5,6,8,9,10,11,12,14,15,16,17,19,20,21,23,
24,26,28,30,31,32,34,35,36,38,39,41,43,52,53,
54,55,59,60,61,62,63,64,65,66,67,68,69,80,81,82,
83,84,85,86,95,97,99,100,106,107,108,109,
110,122
Key 123. Keys
1,2,3,4,5,7,8,9,10,11,13,14,15,16,18,19,20,22,23,
25,26,29,30,31,33,34,35,37,38,40,41,45,46,47,
48,54,56,57,58,59,60,64,65,70,71,72,73,80,81,82,
83,87,88,89,94,96,98,101,106,111,112,113,
114,123
Key 124. Keys
1,2,3,4,6,7,8,9,10,12,13,14,15,17,18,19,21,22,23,
27,28,29,30,32,33,34,36,37,38,44,46,47,48,49,
50,51,55,58,61,62,63,64,66,70,74,75,76,80,84,85,
86,87,88,89,90,91,93,102,107,111,115,116,
117,124
Key 125. Keys
1,2,3,5,6,7,8,9,11,12,13,14,16,17,18,19,24,25,26,
27,28,29,31,32,33,34,42,43,44,45,47,48,50,51,
52,53,56,57,59,60,61,62,67,71,74,77,78,81,84,87,
90,91,92,96,97,98,99,103,108,112,115,118,
119,125
Key 126. Keys
1,2,4,5,6,7,8,10,11,12,13,14,20,21,22,23,24,25,
26,27,28,29,39,40,41,42,43,44,45,46,48,49,51,
53,54,55,56,58,59,62,63,64,68,72,75,77,79,82,85,
88,90,92,93,94,95,96,97,104,109,113,116,
118,120,126
Key 127. Keys
1,3,4,5,6,7,8,15,16,17,18,19,20,21,22,23,24,25,
26,27,28,29,35,36,37,38,39,40,41,42,43,44,45,
46,47,49,50,52,57,60,61,63,69,73,76,78,79,83,86,
89,91,92,93,94,95,98,99,105,110,114,117,
119,120,127
Key 128. Operated by all keys within the system

ical keying relate directly to Pascal's triangle, my knowledge of math doesn't extend that far! If any of you are really interested in the mathematical basis for all this, I suggest that you fire up your computer and type Pascal's triangle into your favorite search engine; there is ample information out there to whet the appetite of even the most mathematical mind!

Meanwhile, my customers kept asking for exotic cross keying in their master key systems, and my familiarity with the ins and outs of the spherical system became more clear as I tried to implement it.

There are a lot of quirks with trying to implement a spherical system, and the greatest of these is the severe limitation of individual change keys. Do this by counting the number of change keys needed and noting the size of the largest grouping of keys available in the sphere you are using.

A five-pin system of 32 keys yields the following groupings of keys: 1,5,10,10,5,1. The largest grouping here is 10 keys. If you need more than 10 independent change keys, the sphere will not accommodate your customer's needs! A six-pin system yields 64 combinations, grouped as follows: 1,6,15,20,15,6,1. If you need more than 20 individual change keys, you are once again out of luck. The seven-pin system will allow you a whopping 128 keys, but the largest group of independent change keys you can use here is merely 35! A seven-pin system falls into the following hierarchy: 1,7,21,35,35,21,7,1.

Confused yet? Join the crowd! Even so, I have delved further into the sphere. For the sake of those who are totally confused, I will digress a bit.

For every master wafer we add to a cylinder, we add keys that will operate that cylinder exponentially. One master wafer creates two keys. Two master wafers creates four potential keys, and so forth. With five master wafers, we create 32 potential keys that will operate the cylinder. However, the choice of the keys that are actually implemented into the system is just as important as the pinning of any individual cylinder.

One of the big "flaws" of master keying is that many of us rely on some computer-generated system to design our final product. Unless you actually understand the concept of master keying initially, all of this

will wash over you as just another "technical article" in one of the trade magazines. Since I have been getting lots of questions on spherical master keying, I know that many of you are actually beginning to catch on.

Every master key system that you implement is an icon unto itself, and every customer you satisfy is another feather in your cap. The end user of any given system has no clue of how intense their particular system may be, or how many sleepless nights you spent designing it; all they know is you either did or did not manage to do exactly what they initially requested. If you did not, they are likely to go somewhere else next time, no matter how many times you try to reiterate that what they have requested is outrageous.

The Sphere is simple in theory. In any given pin position, you have only two variables, either the master key cut, or the change key cut. It is a very limited rotating constant system, and those limitations can be an asset, as we will see later on.

Back to the heart of the matter: In a five-pin system, you are limited to 10 autonomous change keys. In a six-pin system, that doubles to 20. In a seven-pin system, that expands to 35 change keys. However, the beauty of the system lies in the ability to pin cylinders to a variety of keys that may or may not actually exist in the final system.

Here again I must jump on my high horse and degrade most of the existing master keying software. A computer that spits out change keys and pinning charts does not help you; it limits you. Relying on such software exclusively tends to make the brain lazy, and the actual theory behind what you accomplish is not necessary when you simply punch numbers into a computer program. If you realize that pinning a cylinder with three master wafers will accommodate eight individual keys that operate that cylinder, (even if only two or three of those keys are actually used in the final system), you are smarter than any computer program.

If I come off as arrogant, it is certainly unintentional. What I do know is that what the customer wants and what you can actually do mathematically are often two different things. What the Sphere accomplishes is an alternative that might make your life a little easier, and your customer's system a little more secure.

The Sandwich

Here's the really exciting part of the Sphere: It is not a stand alone system! A spherical system can be "sandwiched" into a classical system, if you plan ahead! (If you're lost already, raise your hand. My number is in the book, and my employers have been patient so far.) In a standard classical master key system, the master key cuts never appear in any of the change keys. If you go ahead and generate your standard keying matrix, your results might resemble something like this:

GMK: 147945

bitting array: 369167

581389

03501

925723

If you want to make a sandwich while you're reading this, make sure you don't get mustard on the pages; it might make coming back to this difficult when a customer is depending on you! I am about to make a sandwich myself – by plugging a sphere into this classical full position progression system! Let's go into our existing bitting array and eliminate the following possibilities, from left to right: 561503. This is a six-pin system, so the positions that we have eliminated from our system are now our 64th key in our sphere. Now that these possibilities are gone, there is no possibility of interchange with our classical system, and our master key will still work in both of our co-existing systems!

This will limit the size of the classical end of your master key system, but it also allows you to do some extensive cross keying without stacking master wafers in a single pin chamber. Unless you are working on a large industrial system, it is unlikely that you would ever use the myriad of change keys generated by a full-blown classical system anyway. Once you have substituted actual key bittings for the letters in the Sphere listing, all that remains is to pick from the listing of "what fits what" to accommodate your customer's requirements. This can be time consuming and often confusing, but the results are very gratifying. Once you've decided exactly what the needs of the system are, start looking in the "lower levels" for

your extensively cross-keyed doors, and then pick your keys that operate those doors from the higher levels of the Sphere. It takes a bit of practice, but after a few times, you will find that it becomes easier.

For those of you who might be wondering, no this is not just some theory that I dreamed up while I stared lazily out of my window on a summer day. I developed this system pretty much by accident as I attempted to fulfill my clients' diverse needs in some rather intricate systems. As I publish this, these systems have actually been physically implemented in a few locations, and I have yet to have problems or complaints from my customers. As they say, "The proof is in the pudding," and evidently, this is some pretty good pudding.

Initially, I never intended to go beyond the five-pin sphere. However, a phone call from Hank Tennenbaum, CRL, with Precision Door in Alexandria, VA, changed my mind. Hank had read the initial article, (see the November 2003 issue of Keynotes,) and called before I ever saw my article in print! He was struggling with a customer who was switching from an Abloy rotating disc system to a Primus six-pin system. The elaborate keying that was possible with Abloy does not translate well into a standard pin tumbler lock, and yet the customer wanted basically the same exotic master keying and cross keying. Once I looked at the maze of cross keys needed, I decided to try to take Spherical keying to the next level in order to help Hank. Problem is, however, that the Sphere didn't quite accommodate the requirements. By the time I figured out the "sandwich effect," I was already working with Perry on my seven-pin system. A second look at Hank's system requirements indicate that the "sandwich" may very well be able to tame the fierce maze that his customer has dropped in his lap. I must also thank Hank for prodding me onward; many e-mails of attempted charts for the Sphere passed back and forth before I finally sat down and got it in gear.

One final note concerning a standard key coding system: After the initial Sphere system was in place and working, I began to worry that someone else might have to step in and tamper with my system in the event of my unavailability, or my eventual demise. I'm sure not many of you would want to go in simply looking at my key listing and try to figure out exactly

B

1. ABCDEFG	44. hijDEFG	87. hiCEmnn
2. ABCDEFn	45. hiCkEFG	88. hiCDIFn
3. ABCDEmG	46. hiCDIFG	89. hiCDImG
4. ABCDIFG	47. hiCEmG	90. hijDEFn
5. ABCKEFG	48. hiCEFn	91. hijDEmG
6. ABjDEFG	49. AijDIFG	92. hijkEFG
7. AiCEFG	50. AijDEmG	93. hijDIFG
8. hBCDEFG	51. AijDEFn	94. hiCkIFG
9. ABCDEmnn	52. ABjkEmG	95. hBjklFG
10. ABCDIFn	53. ABjkEFn	96. hiCkEFn
11. ABCKEFn	54. ABckIFn	97. hBjkEFn
12. ABjDEFn	55. ABjDIFn	98. hiCkEmG
13. AiCEFn	56. AiCkEFn	99. hBjkEmG
14. hBCDEFn	57. AiCkEmG	100. ABjklmn
15. ABCDImG	58. AiCDIFn	101. AiCklmn
16. ABCKEmG	59. hBCKEFn	102. AijDlmn
17. ABjDEmG	60. hBCKEmG	103. AijkEmnn
18. AiCEmG	61. hBjDEmG	104. AijklFn
19. hBCDEmG	62. hBjDEFn	105. AijklmG
20. ABCKIFG	63. hBjDIFG	106. hBCKlmn
21. ABjDIFG	64. hBCDIFn	107. hBjDlmn
22. AiCDIFG	65. ABCKlmn	108. hBjkEmnn
23. hBCDIFG	66. ABjDlmn	109. hBjklFn
24. ABjkEFG	67. ABjkEmnn	110. hBjklmG
25. AiCkEFG	68. ABjklFn	111. hiCDlmn
26. hBCKEFG	69. ABjklmG	112. hiCkEmnn
27. AijDEFG	70. AiCDlmn	113. hiCklFn
28. hBjDEFG	71. AiCkEmnn	114. hiCklmG
29. hiCEFG	72. AiCklFn	115. hijDEmnn
30. ABCDlmn	73. AiCklmG	116. hijDIFn
31. ABCKEmnn	74. AijDEmnn	117. hijDImG
32. ABjDEmnn	75. AijDIFn	118. hijkEFn
33. AiCEmnn	76. AijDImG	119. hijkEmG
34. hBCDEmnn	77. AijkEFn	120. hijklFG
35. ABCKImG	78. AijkEmG	121. Aijklmn
36. ABjDImG	79. AijklFG	122. hBjklmn
37. AiCDImG	80. hBCDlmn	123. hiCklmn
38. hBCDImG	81. hBCKEmnn	124. hijDlmn
39. ABjklFG	82. hBCKlFn	125. hijkEmnn
40. AiCklFG	83. hBCKImG	126. hijklFn
41. hBCKIFG	84. hBjDEmnn	127. hijklmG
42. AijkEFG	85. hBjDIFn	128. hijklmn
43. hBjkEFG	86. hBjDImG	

key 1 ABCDEF

key 2 ABCDEI

key 3 ABCDkF

key 4 ABCjEF

key 5 ABiDEF

key 6 AhCDEF

key 7 gBCDEF

key 8 ABCDkl

key 9 ABCjEl

key 10 ABiDEI

key 11 AhCDEI

key 12 gBCDEI

key 13 ABCjkF

key 14 ABiDkF

key 15 AhCDkF

key 17 ABijEF

key 18 AhCjEF

key 19 gBCjEF

key 20 AhiDEF

key 21 gBiDEF

key 22 ghCDEF

key 23 ABCjkl

key 24 ABiDkl

key 25 AhCDkl

key 26 gBCDkl

key 27 ABijkF

key 28 AhCjkF

key 29 gBCjkF

key 30 AhijEF

key 31 gBijEF

key 32 ghiDEF

key 33 gBiDkF

key 34 gBiDEI

key 35 AhCjEl

key 36 ABijEl

key 37 AhiDEI

key 38 AhiDkF

key 39 gBCjEl

key 40 ghCDkF

key 41 ghCDEI

key 42 ghCjEF

key 43 ghijEF

key 44 ghiDkF

key 45 ghiDEI

key 46 ghCjkF

key 47 ghCjEl

key 48 ghCDkl

key 49 gBijkF

key 50 gBijEl

key 51 gBiDkl

key 52 gBCjkl

key 53 AhijkF

key 54 AhijEl

key 55 AhiDkl

key 56 AhCjkl

key 57 ABijkl

key 58 ghijkF

key 59 ghijEl

key 60 ghiDkl

key 61 ghCjkl

key 62 gBijkl

key 63 Ahijkl

key 64 ghijkl

C



cylinder pinned to key 1 Is operated by the following keys:

what I had done. So when I implemented the second system (which is a “sandwich” of a Sphere and a classical system), I decided to find a way to notate what I had done so that anyone who knew anything of spherical keying could replicate what I had done in the event that the entire system needed to be rekeyed.

If I am using the Sphere in or as a master key system, my spherical keys all contain the prefix “SP.” The number that follows is the position of the key in the spherical system. For example, in a six-pin system, a key stamped SP55 would mean that the key would be “AhiDkl”, so that anyone knowing the basic principles of the system could deduce what the cylinder was keyed to, and the relationships between the existing keys and cylinders. I would appreciate it if anyone who implements a spherical system would follow suit: It’s nice if we are all on the same page concerning terms and definitions.

For those of you who might be considering a spherical system, or a “sandwich,” I must warn you that from this point onward, I am obliged to charge a consulting fee for my system design services. But if you just have some simple questions, I will gladly help you out. I can be contacted via e-mail at: spiderologist@yahoo.com. Good luck, and once again... Happy Spherical master keying!

key 1	key 1 only	key 43	keys
key 2	keys 1, 2	key 44	keys
key 3	keys 1, 3	key 45	keys
key 4	keys 1, 4	key 46	keys
key 5	keys 1, 5	key 47	keys
key 6	keys 1, 6	key 48	keys
key 7	keys 1, 7	key 49	keys
key 8	keys 1, 2, 3, 8	key 50	keys
key 9	keys 1, 2, 4, 9	key 51	keys
key 10	keys 1, 2, 5, 10	key 52	keys
key 11	keys 1, 2, 6, 11	key 53	keys
key 12	keys 1, 2, 7, 12	key 54	keys
key 13	keys 1, 3, 4, 13	key 55	keys
key 14	keys 1, 3, 5, 14	key 56	keys
key 15	keys 1, 3, 6, 15	key 57	keys
key 16	keys 1, 3, 7, 16	key 58	keys
key 17	keys 1, 4, 5, 17	key 59	keys
key 18	keys 1, 4, 6, 18	key 60	keys
key 19	keys 1, 4, 7, 19	key 61	keys
key 20	keys 1, 5, 6, 20	key 62	keys
key 21	keys 1, 5, 7, 21	key 63	keys
key 22	keys 1, 6, 7, 22	key 64	All keys within the system.
key 23	keys 1, 2, 3, 4, 8, 9, 13, 23		
key 24	keys 1, 2, 3, 5, 8, 10, 14, 24		
key 25	keys 1, 2, 3, 6, 8, 11, 15, 25		
key 26	keys 1, 2, 3, 7, 8, 12, 16, 26		
key 27	keys 1, 3, 4, 5, 13, 14, 17, 27		
key 28	keys 1, 3, 4, 6, 13, 15, 18, 28		
key 29	keys 1, 3, 4, 7, 13, 16, 19, 29		
key 30	keys 1, 4, 5, 6, 17, 18, 20, 30		
key 31	keys 1, 4, 5, 7, 17, 19, 21, 31		
key 32	keys 1, 5, 6, 7, 20, 21, 22, 32		
key 33	keys 1, 3, 5, 7, 14, 16, 21, 33		
key 34	keys 1, 2, 5, 7, 10, 12, 21, 34		
key 35	keys 1, 2, 4, 6, 9, 11, 18, 35		
key 36	keys 1, 2, 4, 5, 9, 10, 17, 36		
key 37	keys 1, 2, 5, 6, 10, 11, 20, 37		
key 38	keys 1, 3, 5, 6, 14, 15, 20, 38		
key 39	keys 1, 2, 4, 7, 9, 12, 19, 39		
key 40	keys 1, 3, 6, 7, 15, 16, 22, 40		
key 41	keys 1, 2, 6, 7, 11, 12, 22, 41		
key 42	keys 1, 4, 6, 7, 18, 19, 22, 42		



The ABC's, GMK's, MK's and CK's of Masterkeying (A Beginners Guide)

By Jim Hancock, CRL

Of all the tasks we are asked to perform in this profession, probably the one that is the most feared, abused and misunderstood is that of creating a master key system for a customer. It is feared by some because it purely and simply boils down to mathematics. Master keying is misunderstood by those who proceed without the proper training, and who create bad systems, or worse, by those who choose to “shoebox” a system. It is also misunderstood by virtually every customer who breathes. What we will attempt to do in this article is take you through the process of creating a small system, but more importantly, we will hopefully be able to give beginners a better understanding of the workings of a master key system and remove some of the fear. This is by no means meant to replace a hands-on class by some of the gurus of our industry (a tip of the cap to you guys), but strictly act as a primer.

The first thing we must do to gain an understanding of masterkeying is to learn the true definition of masterkeying. If you ask a customer what it is, you will get one of the following or something close:

“It means all my locks will open with my key!”

“It will allow me to get into anywhere I want, but restrict my employees from going where I don’t want them to go!”

“It will help with the security of my property because I can control the places people will be able to go.”

If you ask a fellow security professional, the general answer by those who do not fully understand masterkeying, is something akin to “It’s the ability to rekey groups of locks so that a common key operates them all, while each retains a separate operating key.” All of these are valid assumptions, and though some may define the nature of a master key system, they do not convey the true definition. Ready? The purest definition of a master key system is, “A CONTROLLED LOSS OF SECURITY.” That’s right, kids:

Masterkeying and security are pretty much polar opposites. Though many equate the two, nothing is further from the truth. If masterkeying is accomplished by adding more shear line possibilities to a lock, then it would stand to reason that the lock is less secure than it would be with only one shear line possibility. What will separate you from the “key jockeys” of our industry will be the ability to control the

amount of security loss by creating a good system, thus limiting the number of unauthorized keys (ghost keys, if you will) that will operate your locks.

What Is Shoe Boxing?

A very bad idea! As you will see, once we attack some of the mathematics, shoe boxing allows for no control over a system and opens the possibilities for many, many ghost keys to operate your locks, as well as the possibility of unintentional cross keying – meaning keys in your system will work on locks they should not. Shoe boxing is basically taking pre-cut keys or randomly generated keys and using them as a system, or blending them into an existing system. If you are creating a system from scratch, there should be absolutely no need to shoe box, unless you are lazy or uninformed. I will try to show that you can’t solve the lazy problem. However, if you are like most of us, you have at least one customer who has an existing system, with no documentation, that is always wanting to rekey locks and set it to his or her master. (Their master key is usually something like a 99899 – gotta love those contract hardware houses and maintenance personnel!) In this instance, you are destined to shoe box and hope for the best, or refuse to do the job because you know it isn’t right. (Can you say “mortgage payments, van payments ... food”?) So even though it is not the right way, you will occasionally be called upon to perform this task.

Terminology

As you well know from the other aspects of locksmithing, terminology in this business is a killer, and masterkeying is no different. There are numerous terms you will need to learn. Following is a short list of terms we will use in the article; however, this is by no means all of them:

Master Key – The most misused term possibly in our profession. Any time you have a key that operates more than one lock, it suddenly becomes a “master key” to the customer. Also, people in our profession will use this term to describe the top level key that indeed operates the locks of a system, but as you will soon see, the “master key” is not necessarily the top level key at all, but rather another key in the hierarchy of the system.

Top Master Key – The name assigned for our purposes to the key that does serve as the highest level key of a system.

Levels of a system – The hierarchy or family tree of a master key system. The levels of a system help determine how a system is put together.

Incidental Master Key or Ghost keys – Unauthorized keys that operate locks in a system.

Rotation – The systematic changing of the pin chambers to achieve a system.

2 Step (not the dance) – The system parameters for our purposes. It basically states that there will be at least a depth differential of two increments on any given key within a chamber. For example, if your “master” is 27496, then no other master nor change key in your system would have a 1st cut of 1 or 3; a 2nd cut of 6 or 8; a 3rd cut of 3 or 5, etc. There should be at least two steps between chambered cuts. The reason? See the following definition for starters.

Tolerance – The deviation allowed from a given dimension. In basics, the distance between the lock plug (core) and the lock housing (shell) at the shear line location (top of the plug at the pin chambers).

R.O.D. – Range of depth. The array of cuts available in a given lock by its manufacturer. For example, Schlage has an ROD of 0 to 9, with 0 being the shallowest cut available, 9 being the deepest.

M.A.C.S. – Maximum Adjacent Cut Specification; Maximum Allowable difference between adjacent cut depths. A pretty fancy term that essentially means do not over-cut the key. Every lock manufacturer sets a MACS for their locks based on their own spacings, cut angles, depth increments, etc. MACS will tell you what cut depths can be adjacent to each other and still produce a working key. For example, Schlage has a MACS of 7. This means that the differential between any two adjacent cuts cannot exceed seven depths. If you have a key that is cut to 719283, it would violate the MACS. Why? Because between 2 and 3 cuts, there is a differential of 8 depths. ($3-1=8$) All of the other adjacent cuts follow the rule. Why does this rule exist? Again, think about the basic

operation of a pin tumbler lock. You insert the proper key into the lock; the pins move up and down over the angles of the key until it seats and allows a shear line for releasing. You know from impressing or hand filing keys that the angles of the cuts are pretty critical for a smooth operation. You learned this the first time you made a key and the cut angles became too vertical to allow the key to be inserted or removed easily, because the pins struggled to overcome the angles. So the deeper a cut gets, the wider the cut becomes to compensate the angles. The MACS, in short, tells you how far apart adjacent cuts can be in depth before the deeper cut wipes out the shallower cut, leaving no place for the pin in a shallow cut.

Parity – The term we’ll use for keeping the chambers consistent between the top master key and any change keys in the system. Also called “even and odd integrity,” basically it means that if your top master is cut to 27416, your first, third and fifth chambers use an even number cut; that way, all of your change keys in this two-step system will use even numbered cuts in the same chamber location, as well as odds with odds.

Rotating Constant Method – Method used to progress key bittings in a system in which at least one cut in each key is identical to that of the top master. The constant cut is moved from position to position until all logical locations are used. This method generally will yield the highest number of possible changes.

Total Position Method – Method used to progress key bittings in a system in which bittings in change keys and master key(s) always differ. Will not yield as many changes as Rotating Constant and mathematically allows more ghost keys.

TMK – Top Master Key. The big daddy, head honcho, el guapo key in a system. Opens everything (perhaps) in a system. Depending upon size of system, could be simply the MK (master key), GMK (grand master key), GGMK (great grand master key). You get the picture.

CK – Change key. The absolute lowest level of any system. Sometimes referred to as the customer’s key, the tenant key, the renter key, the key for that door, etc.

This is not even the tip of the proverbial iceberg as far as terms. There are a great deal more to learn as you continue to get more versed in masterkeying; however, these are a few of the ones we will use in this article. Again, take a class from some of the industry giants at ALOA's annual convention or your local association's meetings. Now let's press onward.

Choosing A System (method)

Choosing what type of system to use will be dictated by several factors: size of system needed (levels of masterkey and number of change keys), the lock's tolerance, the lock's ROD and MACS, and certainly not the least of all, your comfort level in doing the system from a mathematical and systematic standpoint. Now, it is generally at this point of teaching a class that I get asked, "Why do we need to go through all of this? There is computer software out there that will do all of the math and print a system in a nanosecond rather than me using my Big Chief tablet and #2 pencil." Yes, that is correct. There is software out there to do this, but most of it requires that you know some of the parameters in order to do the system. Also, it is more important for the following reasons:

1. You get a service call 40 or 50 miles out of your normal area to rekey a couple of locks. While there, the customer asks if you can set his small 10 or 12 unit facility on a masterkey system. If you rely on a laptop that may be dead or have to drive the return trip of 50 miles to set up the system then return another 50 miles to do the job, then return to home base, that's a total of 200 miles traveled to rekey and master 10 or 12 doors. It's a \$200 job at best; you've just lost money. Between the expense of travel and what would be probably over three hours of "windshield" time, you should probably have just walked away. You would have lost less money.
2. A new customer contacts you and wants you to take over and maintain their existing masterkey system, for which they have some of the documentation. If you understand systems, there is a good likelihood that you can pick up their system, decipher what has been done and continue it without a hiccup (provided it is a good system to start with, of course)

So, can you simply purchase the software and start masterkeying? Yes, probably. Would you have a clue as to what you really just did to the lock? No, probably not. Now back to choosing a system.

For our purposes, we are going to use a two-step rotating constant method. If you are doing the system in your head, it is, theoretically, by far the easiest system to create. We choose two-step because of the safety factor. Safety from what, you might ask? Well here goes. The first safety issue is the step increments of the lock manufacturer's depths. If you have a lock that uses .015 as a step (meaning the depth differential from a 1 to 2 is .015, and a 2 to 3 is .015, etc.), that is a small step. If you have trouble conceiving that distance, look in your pin kit at a .015 top pin. If the lock you are dealing with has a wide tolerance, a large space between the plug and housing at the shear line, it is conceivable that a small .015 master pin could get lodged in that space and even move out of its chamber, getting caught in the void. If this happens, the keys may not work well, or at all. But perhaps the biggest safety issue is the ability to "shake" a key that is cut close to the proper key and still make it operate. In other words, your operating key is 27618; a key cut to 27628 or 27617 or 17617 etc., may be able to work the lock with a little oscillation because the .015 distance. If you want to test this theory yourself, take a lock with a notoriously wide tolerance (like Weiser) and duplicate the operating key changing one cut by one depth. Did you try it? Your key worked also, I'll bet. Now try the same thing -- only make one of the cuts a difference of two depth increments. Probably didn't work this time. Thus endith the lesson.

The other reason for two-step is the "goof proof" factor, as I like to call it. Once the two-step rotating constant method is learned, you can expand this system to its maximum limits, in your head, just as the computer will do, and never repeat a single bitting. Yep, you could do all 4096 or whatever your lock allows for, on paper in your head and NEVER repeat a single code.

Getting Started, Sort of

We will now start putting the system together. The reason for the qualifier of "sort of" is that putting together the system is actually the middle part of the

process. The first part is the prep work we will discuss later. The last part is obviously the keying itself. So let's put together the system.

For our purposes, we need a simple 2 two-level system, meaning just change keys and a master key, which operates them all. Since this is a new system of your own design, the bitting for the master key can come from your own imagination. Are there any rules to picking a master key bitting? Well, it's kind of like speed limit signs in my native Louisiana/Mississippi area — not really rules, just suggestions. First, it is a good idea not to start a master key with a deep cut. What is deep? It depends on the lock, but for our exercise here we will be using Schlage, so since Schlage has an ROD of 0 through 9, I would say deep would be anything 5 or above. So why nothing deep? In a master key system, say on an apartment complex, which key gets used the most daily do you think? Probably the master. And who uses the master? Maintenance personnel and property managers who, for whatever reason, assume that the key not only should turn the lock to open it, but that it should also serve as a pull/push to swing the door. And as they are pulling/pushing the door with the key, where is all the stress on that key? At the bow, by the first cut, which if cut deeply is a ready-made break for them. This doesn't even address those folks that assume you can turn a key and push/pull the door in one continuous motion.

So, no deep cuts in the first position. We also must adhere to the ROD and MACS of the lock. We do not want a key that has cuts that are on the same plane across the key. In other words, no 99899s or 12121s or 33443s. Again, common sense and practical locksmith abilities tell you that this will be a detriment to the security of the lock, because there is no deviation.

So let's pick a master key bitting. We'll use the following: 294703. You will notice that our TMK alternates evens and odds in each chamber, even as it uses the deepest and shallowest cuts of our ROD in its bitting.

This is once again a safety feature in our system. Once we have gotten our TMK, we now need to develop our bitting. The bitting area is nothing more than a guideline for us to use that allows us a quick visual of which cuts are available in any given chamber for our system. Depending on your choice of progression, total rotation vs. rotating constant, your array may look a bit different and certainly as you get more familiar with masterkeying, you will tweak your array to suit your needs.

Bitting Array

TMK	2	9	4	7	0	3
	0	1	0	1	2	1
	4	3	2	3	4	5
	6	5	6	5	6	7
	8	7	8	9	8	9

As you can see in chamber 1, we will have cut depths of 0,4,6 and 8 available to us to use as changes from the TMK bitting. I choose not to re-list the TMK in my array. This allows me to use this same layout on either total progression or rotating constant. You also notice that in each even chamber, there are only even numbers. In odd chambers there are only odd cuts numbers. PARITY!

The next thing we want to do is develop a rotation table. This serves as another road map that will tell you which chambers we want to progress to achieve our change keys, as well as which chambers we want to leave untouched. We never want to rotate more chambers than necessary to obtain our required bittings. The more chambers we can keep constant between the TMK and the CKs, the better our system will be. So here is our rotation table:

TMK	H	H	H	H	H	H
CK	H	H	H	P ₃	P ₂	P ₁

Now, what this table shows me is that obviously my TMK biting will not change. That's why there is the "H" symbol, meaning Hold this chamber constant. It also shows that I am going to Progress the last three chambers. I also go one extra step and you can see the order that I will progress those chambers; 6th chamber first, 5th chamber second and 4th chamber third. Why did I choose these three in this order? Just because this is what I wanted to use. The key as to which chambers to rotate is the size of the system needed and which pattern makes it easy for you to remember. Now, how many changes will I get from rotating four chambers? In each chamber, four changes are available, so one chamber will yield four changes. Two chambers will yield 4x4 or 16 changes. Three will yield 4x4x4, or 64 changes. So should you need to progress all six chambers, you will achieve 4,096 changes. Not bad, except when you consider three factors. First, this lock started with 10 changes (0 through 9) in each chamber, which is 10x10x10x10x10x10. Put down the calculators, this equals one million changes. So we have gone from one million to 4,096. Wow! Big drop. But that will not be all. Of the 4,096, there is a good percentage that will not pass the MACS limits. So taking that into account, how important do you think it is to control this system and limit unauthorized keys? It is absolutely critical. Next month, we'll take a closer look at our little system, and explore methods of planning and executing a basic master key system.

Editor's Note: For a complete listing of Master Keying terms, contact ALOA for a printed version of the ALOA Locksmith Glossary.

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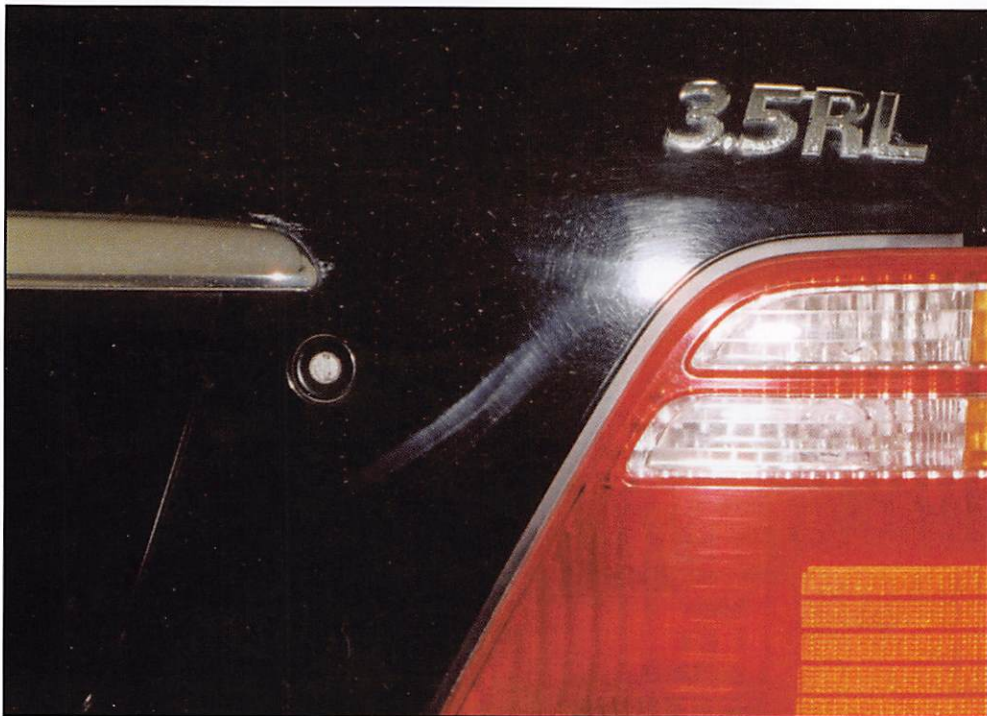
2001 ACURA 3.5RL:

FITTING A KEY AND CLONING IT

TRANSPONDER Equipped (CODE SERIES 5001-8442)

There are still too many locksmiths out in the field who are letting the automotive dollars slip away because technology and education seem to be too demanding. They aren't, and this series will aim to help show how simple (and lucrative) next-generation automotive locksmithing can be.

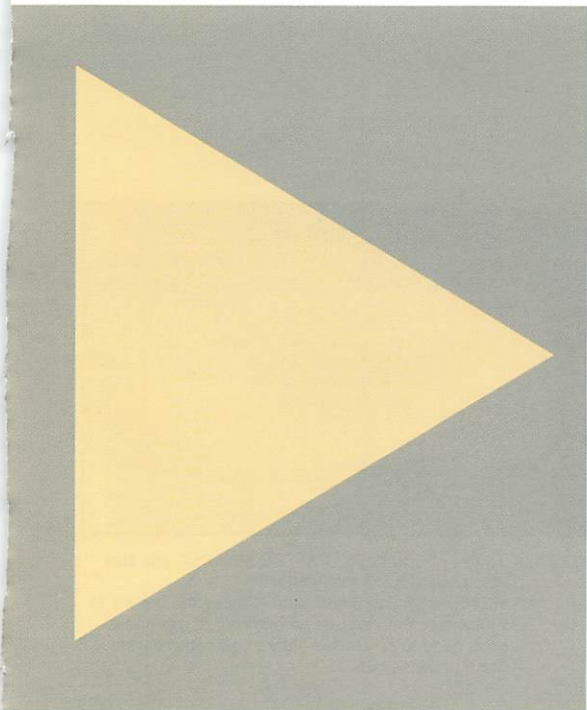
Our subject is a 2001 Acura 3.5RL – chosen for the supposed difficulty in dealing with the Honda system, as referenced by many experts. Let's take a look:



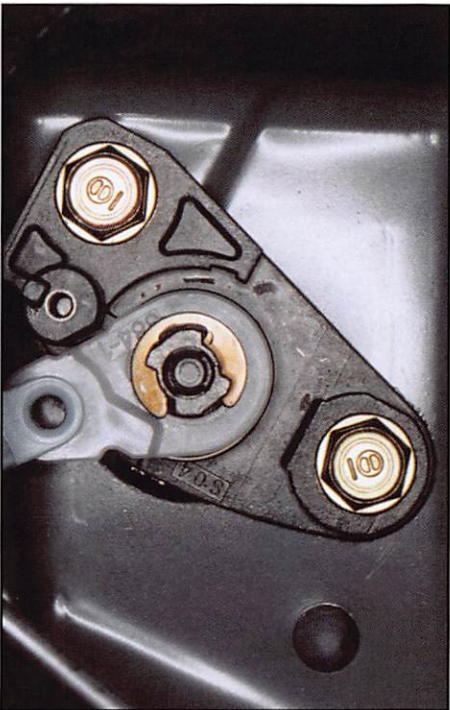
1. We start by gently prying out the plastic tabs, and move the cover enough to expose the trunk lock, and take a close up look at the trunk lock.



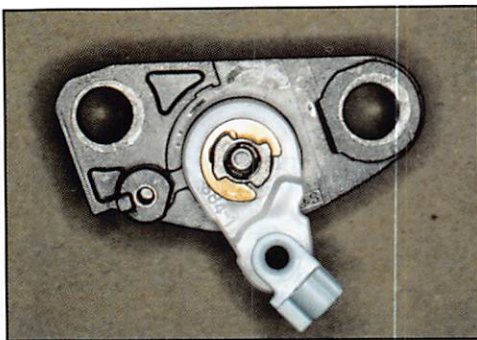
2. Next, we disconnect the lock rod.



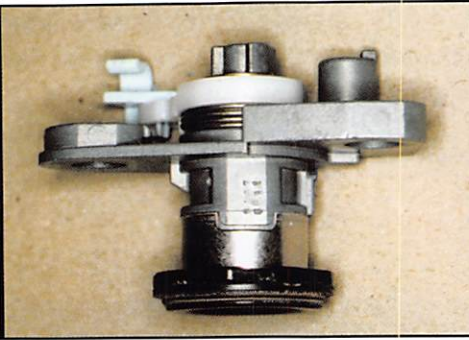
3. Remove the Philips screw



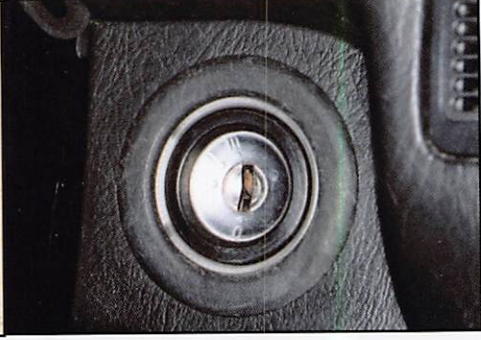
4. Then we gently remove the electric release assembly by using a small screwdriver to slightly bend the tabs out of the way.



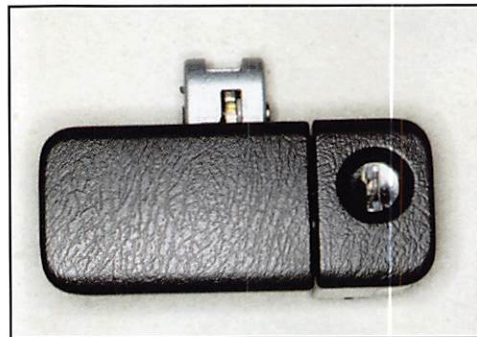
5. This is a close up of what has been removed and what we need to do next: remove both 10 mm bolts along with the trunk lock, from the inside.



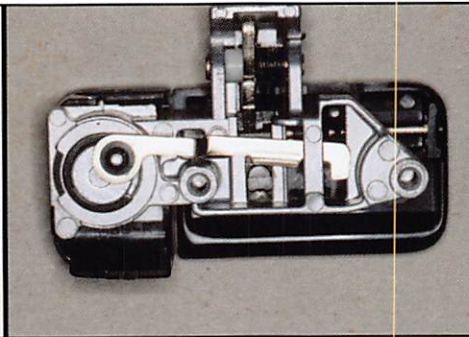
7. The top of the lock and shows two rows of numbers. The bottom row of four numbers is the key code 6511. Now you would cut a mechanical key by code to check it in the ignition cylinder and other locks (use key blank #110-103 when cutting the mechanical key). Know your code series; it will help you to more easily identify key codes. Make sure that a 6 could not be an 8. It appears that looking through the drain hole at the bottom of the cylinder; it has 6 wafers, positions 3-8. The tail is free floating on the back of the trunk lock.



8. The ignition cylinder on the dash. Here we have a lighted ring and a hidden antenna ring for the key transponder system. Ignition removal requires disassembly of the front and lower dash. Upon removal of the light and antenna rings, just release the steering column; the ignition cylinder is held in place by a roll pin.



9. Here is the glove box lock, removed (no code stamped on). To remove the glove box lock assembly, you need to remove two Philips screws from the inside of the glove box, and the assembly comes out from the front. Also on the glove box is an ON/OFF switch for the trunk release; if the switch is turned off, you cannot open the trunk. From the trunk release located on the driver's door panel, flip the switch to ON.



10. The back of the glove box lock. If you need to disassemble, have a replacement retainer that goes on the post at the end of the cam lock; there are usually four wafers in the glove box lock.



11. The passengers door lock with warning label on the glass.



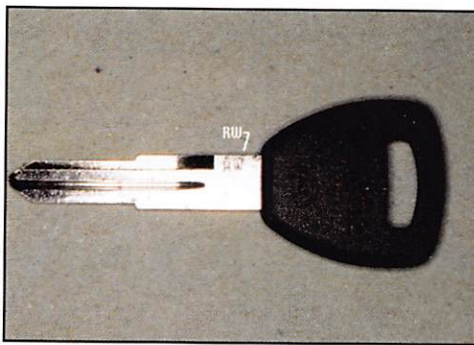
12. The anti-theft sticker.



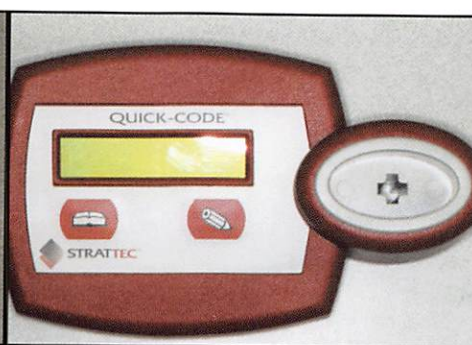
13. The red theft light in the radio -- another anti-theft feature.



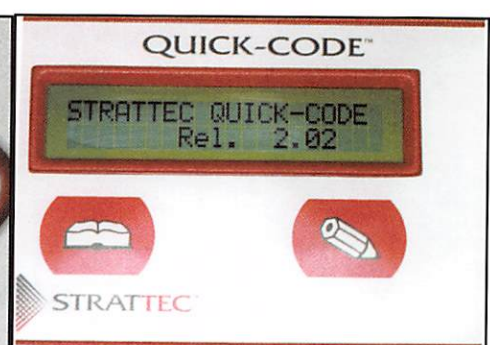
14. The key package, STRATTEC #692057; you can also use an ILCO key (#HD106PT and HD106PT5). The 5 indicated is a key that needs to be cloned. You can use an original; all cloneable keys need to be cloned before you can program them to the vehicle.



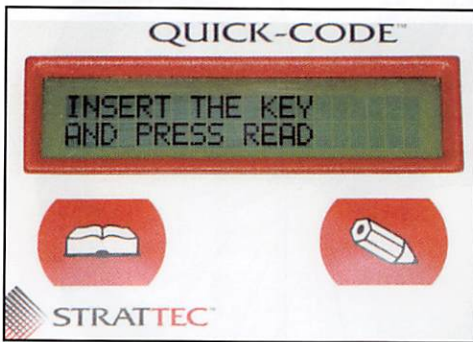
15. Key #692057; the RW stamped on the key means that this is a read/write key that needs to be cloned before it can be used. There are two ways to clone: with an RW2, or a quick code. I own a quick code, so let's use it to demonstrate.



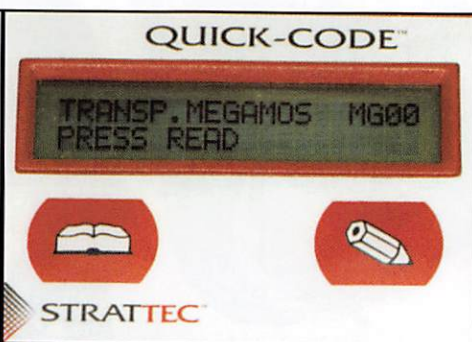
16. The Quick Code.



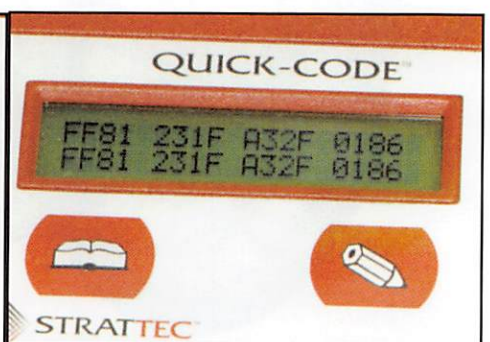
17. Plugged into 110 volts.



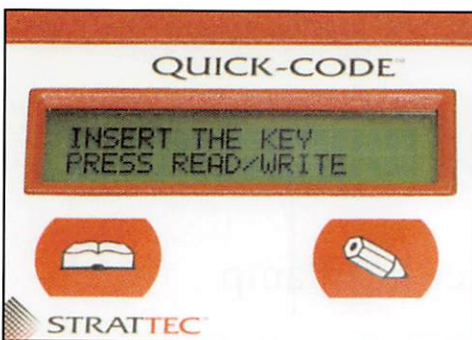
18. Step one: Insert key and press READ.



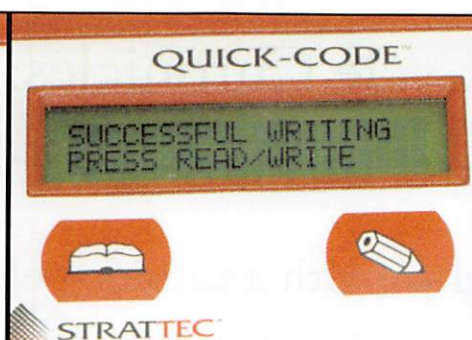
19. A transponder key is detected; press READ again -- we are cloning from an original key.



20. The transponder valve; press READ again.



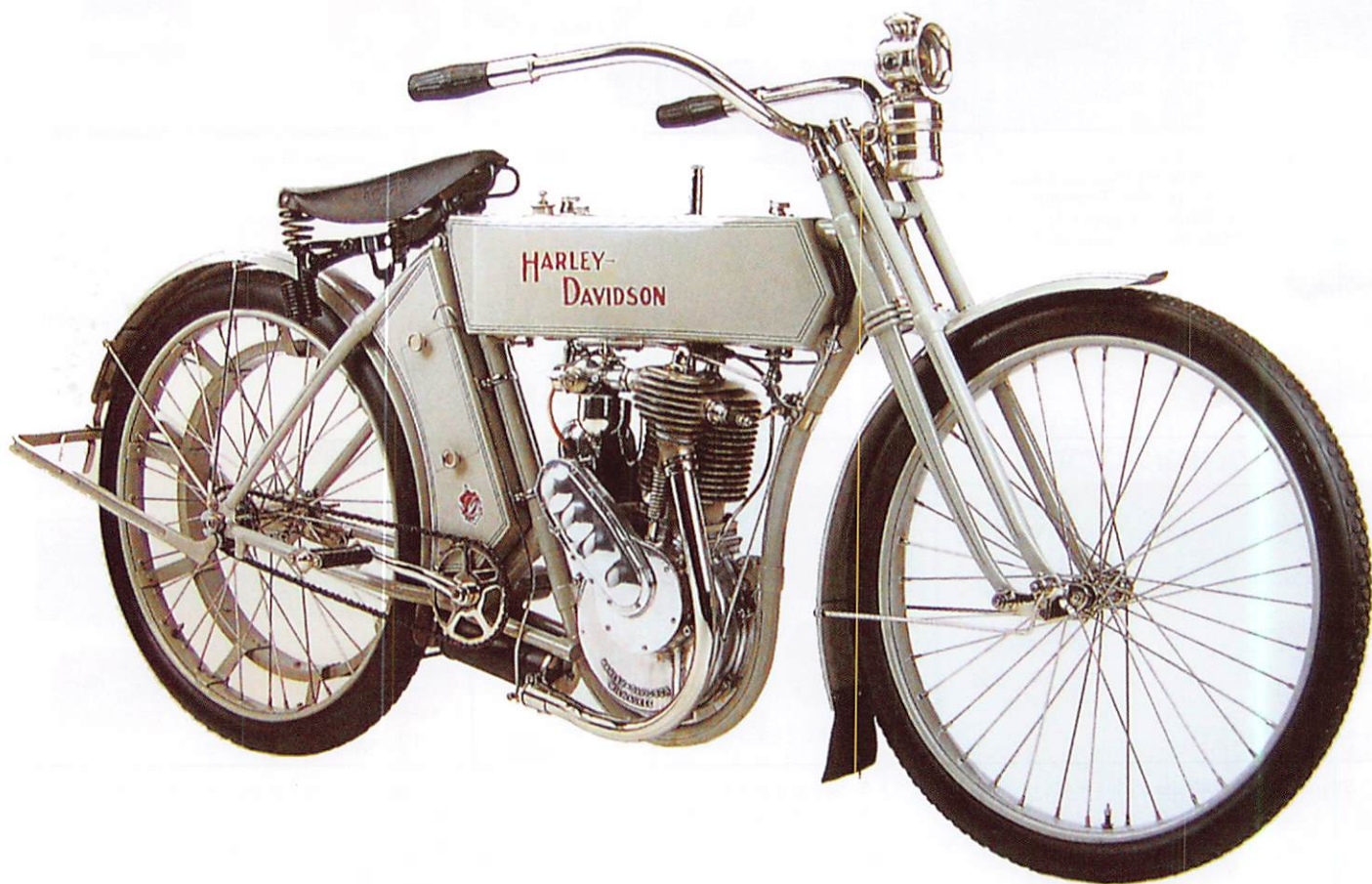
21. Next step: Press WRITE.



22. We are successful!



23. The back of the Quick Code, where you can connect it to a computer and save customer data for future use.



Cycle Chronicles: 100 years of Harley-Davidson

A 1909 Model 5A with a carbide pellet headlamp

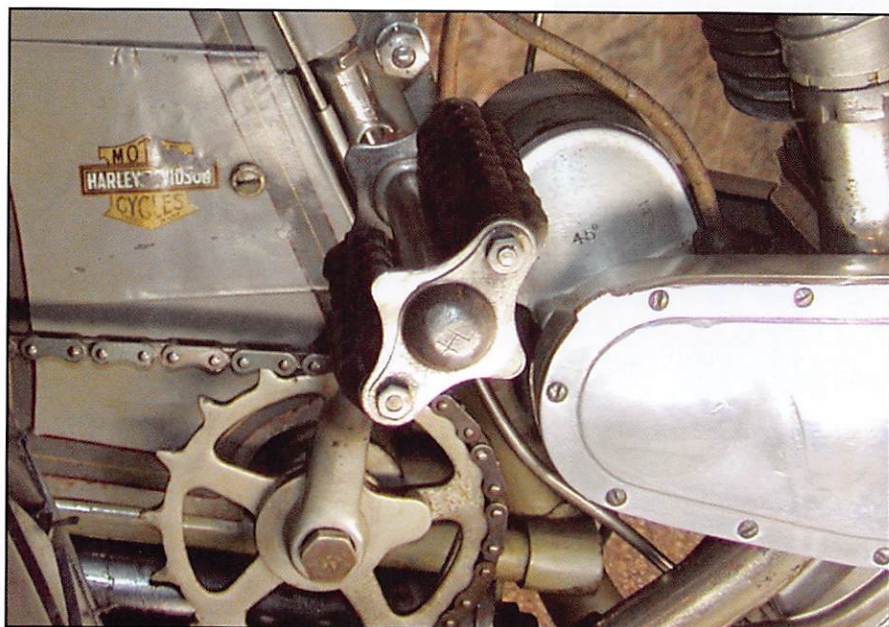
In 2003, Harley-Davidson celebrated its 100th anniversary. Officially, its legacy begins slowly and humbly at a small Milwaukee Wisconsin shop in 1903 where three young men, Walter Davidson, Arthur Davidson and William S. Harley produced their first motorcycle. Is that what really happened? How did it all really begin?

In 1901, 21-year-old William S. Harley and 20-year-old Arthur Davidson met each other while working for the same company. Both avid anglers and somewhat mechanically inclined, they became friends and spent their spare time building an outboard motor, which they hoped would take them to their favorite fishing spots. But a nagging distraction, the newfangled "motorcycle," began shifting their attention. William had previously worked in a bicycle shop, and Arthur had been trained in school as a pattern maker. Neither had any money to buy a motorcycle, so together with Emil Kroger (a draftsman friend who had worked in Europe on prototypes of the de Dion internal combustion engine), Harley and Davidson looked away from their outboard motor project and set their sights on building a motorcycle. Little did they know their project would consume all their spare time for the next two years, but here were three young men preparing to have a lot of fun, and at this point in their lives, creating the mighty Harley-Davidson Empire was the furthest thing from their minds.

Their first bike was little more than a power-assisted bicycle. (Note one of the pedals in photo #1.) The pedals were to get the bike started and going, and when

necessary, back home when, for whatever reason, the engine stopped running. But the engine they had chosen was not very powerful, working well on flat terrain but not well on inclines; so on their first bike, the pedals were also needed to climb hills. They needed a bigger engine! So while Arthur Davidson's brother, Walter, was in town for their older brother William's wedding, Arthur convinced Walter, who was working as a machinist for the railroad in Kansas City, to transfer to Milwaukee and spend his spare time along with them on a "next generation" engine. Meanwhile, locals began asking when they could have their own bike built, so as the three young men worked out the engine problem, something else happened that would change the course of motorcycle history. They decided to build the next bike with the intention of selling it!

In 1904, they produced not one but two bikes! Both were equipped with larger engines and other improvements over the first bike. Even the Davidson brothers' Aunt Janet Davidson pitched in. She created the Harley-Davidson logo, painted it onto the gas tanks and pinstriped the bikes before sale. In 1905, they produced eight bikes, and then another 50 in 1906. In 1907, the third Davidson brother, William A. Davidson, joined the company and the four men formed a corporation: the Harley-Davidson Motor Company. That year, they produced 150 bikes, and in 1908, they produced over 400. During World War II, over 88,000 Harley-Davidsons were sold to the U.S. Military alone, and today as well, thousands are made and sold every year.



1

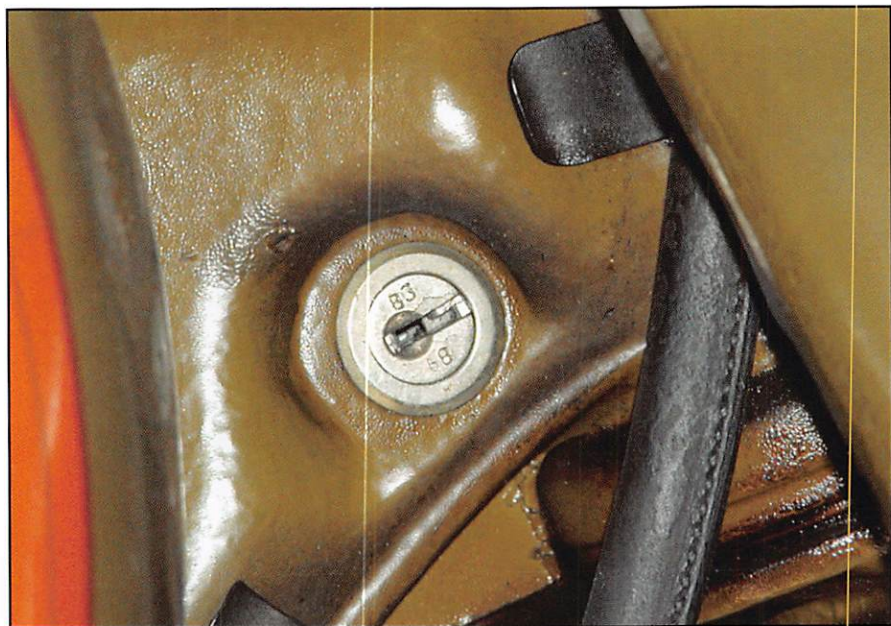


2

1903 – Late 1920s

Harley-Davidson's first model, Silent Grey Fellow, was not fitted with locks -- just a simple ground switch to shut down the engine. It wasn't until the late 1920s that locks began appearing on motorcycles. The early locks were primitive by today's standards, but state-of-the-art for their time. Remember that since the end of the 19th century, most automotive locks utilized warded or lever

locks and flat keys; these designs were invented, perfected and patented by Linus Yale in 1869. (Note the two warded switch locks set into the console of a 1929 Model C, pictured in photo #2.) The one on the left side of the ammeter is the ignition switch. The one on the right is the light switch. The keys are inserted at the top. Note the key bow protruding from the top of each switch. After the keys are inserted, the levers are rotated manually to operate the switches.



3

1930s – 1960s

Code Series: EC1-11LL226-450 B250-499

Key blank: CG1 CG16 B1

In the early 1930s, what we now call the standard disc lock became popular for vehicle use. Harley-Davidson contracted the services of various U.S. lock manufacturers during this period. In photo #3, a Briggs & Stratton standard disc lock, complete with key code B-368 stamped into the face of the plug, can be seen. From the 1930s and throughout the 1960s, other U.S. lock manufacturers, such as the Chicago Lock Company, were contracted by Harley-Davidson to supply locks. Harley-Davidson's relationship with U.S. lock manufacturers remained strong until 1969, when Harley-Davidson was bought by American Machine & Foundry, also known as AMF.

The AMF Period (1969-1981)

1970 – Early 1980s

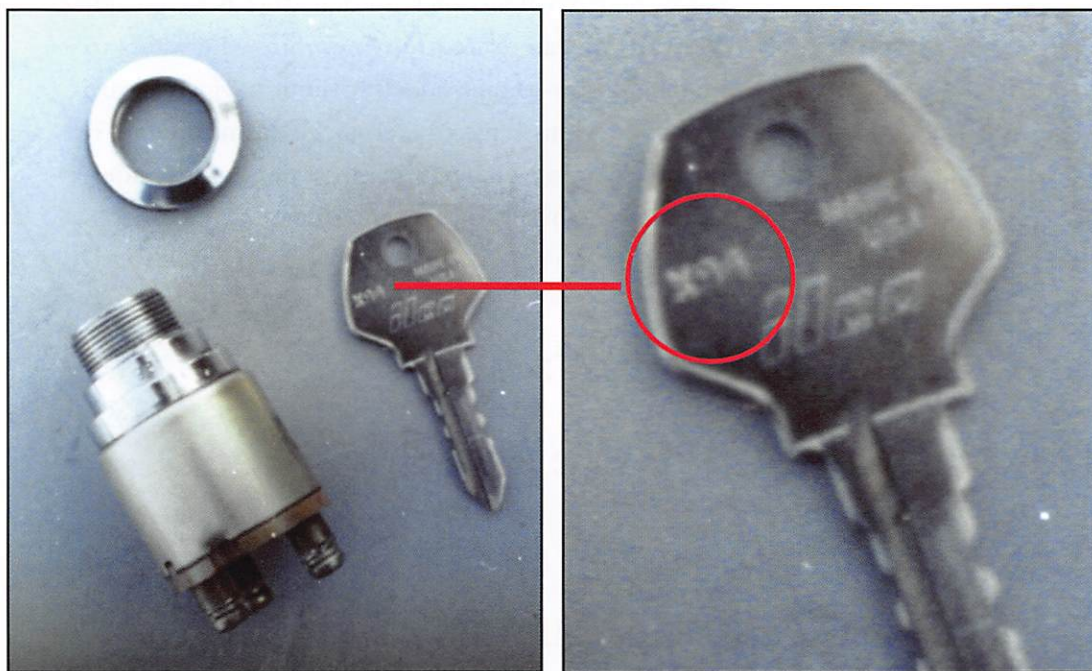
Code Series: 43-118

Key blank: X93-X127

During the AMF period, some locks were procured from offshore manufacturers. Photo #4 displays an example of an AMF period ignition switch. This switch lock, which we found on a 1972 X-90, is single bitted,

and depending on the lock broaching and key code, the key could be either single or double bitted. The lock is mounted to the side of the bike about knee high, and secured with a bezel nut. Note the key code #93 stamped into the side of the casing just beneath the bezel threads. Many stock key blanks were used, but only two depths or "steps" were used: a cut and a no cut. Aftermarket switches were not coded, nor did they utilize stock key blanks. This lock utilizes a dust shutter, which is spread apart by the tip of the key, as the key is inserted. Original keys were beveled at the tip to facilitate opening the dust shutter, but many aftermarket key blank manufacturers skipped the beveling step of the manufacturing process. That means these blank tips need beveling before they can be easily put into the lock.

Though AMF dramatically boosted the number of bikes produced per year and was eventually credited for keeping Harley-Davidson alive and in the public's eye, 1969 through 1981 quite possibly was the most difficult period Harley-Davidson ever endured. For, as quality of manufacturing declined, the simultaneous encroachment of competing Japanese and German bike manufacturers further cut into Harley-Davidson's market share. Ultimately, it would take years after the company was bought back from AMF to recover from these maligning circumstances. Next month, when Cycle Chronicles returns, we'll look at life after AMF and onward into the 21st Century.



4

If you want to pass the Safe Technicians Proficiency Program Certified Professional Safetech, or STPRP CPS exam you need to read Mike Oehlert's "Safe Technician Reference Manual." This is a commonly accepted industry reception to Mike's book. I have been hearing for years about this "must have" book. I've looked at it a couple times, and at first glance, thought it contained some good information; but I've already passed my CPS exam -- how much more could it teach me? Plenty!

I finally broke down and purchased a copy. The book contains a lot of excellent basic information. Basic information can be good; in some cases, it will reinforce what you already know.

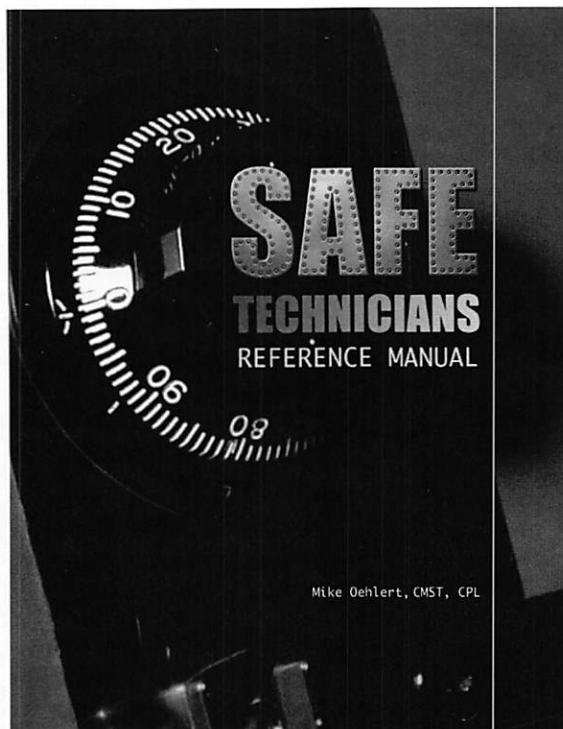
Other times, it may correct some misinformation you learned years ago. I know this book did both for me. Mike does an excellent job of covering the basics of safe work. From cast-iron safes to safe deposit and vault locks, this book gives an introduction to all facets of safe work.

Mike is the current editor of SAVTA's monthly magazine, *Safe & Vault Technology*, as well as SAVTA's hotline advisor. In other words, he's the chief cook and bottle washer. His job duties also include SAVTA edu-

cation manager and safe mover for the convention, as well as few more headaches he just sort of quietly handles. He has held this position for 10 years. Before becoming the technical advisor for SAVTA, Mike

worked in the field as a safe technician for 20 years. Most of that time was spent as a field technician for Tann safe out of Dallas. This is where Mike received most of his experience in high security. Speaking to Mike, I found out that although ALOA advertises this book as the study course for the STPRP, that was not his original intention. He found a general lack of understanding by many of the SAVTA members calling into the hotline. Mike also noticed a lack of published fundamental information for the technician. There was (and still is) a large amount of information on how to drill safes open, and some infor-

mation on diagnostics, but little has been written on the basics. Unfortunately, many of us took a class or two and only want to swing the handle in the least amount of time. We really don't want to learn the basics first! We'll just pick up that stuff as we go along. Most of you can relate to the new hire who wants to be taught how to pick a lock without having to learn how the various types of lock mechanisms operate or how to rekey a cylinder. Opening safes before understanding the basics is the same thing.



Book Review:

The Safe Technicians Reference Manual

By Mike Oehlert, CPL, CMST

Reviewed by Greg Perry, CML, CPS

Where does Mike's book start? At the beginning! Of course, starting with how to create your own library of information. Creating your own library is important for two reasons, first if you are like most of us in this industry we learn best by having our hands on the product. Disassembly, measuring and reassembly help to reinforce our memory. Reading is important and works as a guide, but the best way to learn is with hands on training. Second as time goes on your library will guide you with opening and help to jog your memory. Every time I come across a new lock or safe I take the time to stop and study it. I look at the construction for its strengths and weaknesses. I also look at the lock, how is it mounted, which model lock was used and why. I always take the time as Mike suggests, taking pictures of the safe and recording all the details. Yes this takes time away from other jobs and on a busy day it may not seem productive or important, but I consider it just another part of the job like writing the invoice. Next Mike covers how doors and locks are handed, then how safes are constructed. After construction Mike discusses how to effect repairs. At first you might ask why discuss repairs before drilling? The answer is simple if you don't understand and know how to repair any damage done during the opening, then you have no business putting a hole in the safe.

Now that we have an understanding of safe construction it's time to look at how the locks are constructed. Mike explains how all the parts are interrelated and gives a very good overview of the majority of locks a technician will find in the field. Next up, Mike finally gets to the opening part. Mike covers drill points and opening techniques including transferring, angle drilling and the tools necessary to open safes. This is one area I believe Mike puts the cart in front of the horse; I think diagnostics, troubleshooting and manipulation should come before the drilling part.

Mike goes on to cover contact points, combination changing troubleshooting, and manipulation diagnostics in the next chapters. Here is an area I think might be expanded. I know that in hindsight I wish I had been taught manipulation first. Instead, I learned how to drill and was told manipulation is only for the expert safe cracker. Learning and understanding manipulation first should be required of safecrackers before learning how to drill.

GSA (General Services Administration) Containers DOD (Department Of Defense) and Federal Standards are covered in depth. The majority of information is still current, although there are two additional locks (the KabaMas X-08 and X-09) have been introduced since this book was first published. GSA containers require a different approach and are typically only seen in military areas. Mike does a nice job of covering the differences from commercial work and explains where to find more information.

Mike also does a nice job of covering most of the various electronic, mechanical locks produced. He gives some information on timelocks and safe deposit locks. I believe this is the only one-stop reference source that lists spindle sizes and splining, in addition to contact points. These can be handy if you need to replace parts or for determining which lock might be inside, with only a few clues from the outside.

Mike has done a great job of presenting information helpful to all technicians. The beginner should read and study this book. The more advanced technician will appreciate the one stop source for lock ID's and will probably even pick up a few tips from a true expert in safe and vaults.

ALOA members can purchase the Safe Technicians Reference Manual at a 15% discount in the ALOA Store either online at www.aloa.org/store/merchant.mv or by phone 800-532-2562.

The Maryland Locksmith Association (MLA) is proud to host the 2004 ALOA Convention and Trade Show in their home state. Many MLA members live or work just a short distance from the Baltimore Convention Center—the site of this year's show. MLA will have a booth on the ALOA Convention floor. They hope to meet and welcome all attending the 2004 ALOA Convention.

Celebrating 50 years as an association, MLA was created for locksmiths to learn more about the trade and to provide valuable training for apprentices. They continue to uphold the highest standards in the industry, as security professionals. As the needs of their membership change, MLA continues to meet the challenge. They provide a unified, professional locksmith voice in Maryland.

Security professionals in the state of Maryland are encouraged to attend MLA meetings and become active members. The MLA offers training at a fraction of the cost elsewhere and represents the greatest resource of experienced locksmiths in the state. Participation keeps members up-to-date on what is happening locally in the industry. MLA provides a means by which a voice can be heard—not just as one—but as an association of professionals with specific needs, desires and concerns about the security industry.

The membership, now 127 strong, includes locksmiths from all over Maryland. With Maryland's diverse geography and industry, there is a great deal of information to share. Members come from all types of locksmith businesses—from the mobile operation to full service

store settings. There is a good mix of security professionals performing residential, institutional and commercial work. Some members specialize, or are solely involved in, one particular area of the trade. Some members work time is spent primarily performing auto work, while others do a great deal of access control, CCTV or safe work. It is this variety and mix of expertise that makes the association such a valuable asset to its membership.

Lance Edwards, past President of MLA, has been

involved with the industry for 15 years. He took a locksmithing course primarily as a hobby. Lance spent 10 years as a part-timer, "honing locksmithing skills" while working in another industry. He gained much valuable knowledge from his involvement with MLA. His "hobby" has now grown into a full-time career. Five years ago, he

decided to go full-time in the industry. "I have been happy ever since," he said. He now has a full time, family-run business with three trucks on the road.

David (Dave) Fullarton, CPL, CPS, is the newly-elected MLA President. He sold his full-service business in North Carolina in 1997, where he had two shops and four trucks, to go back home to Maryland. He now does safe and vault work exclusively under the name Safeworks.

As President, Dave wants to focus his attention on "moving MLA into the 21st Century" by doubling the membership and adding more industry resources. Placing major focus on helping the beginners in the



Meet the MLA

By Claire Cohen, CML

industry is of prime importance to MLA. "That's what we're here for," he explained.

Dave frequently is asked, "What's in it for me? Why should I join MLA?" His response is full of enthusiasm. Networking with other locksmiths can be a huge benefit. Experienced members can help provide knowledge of techniques as well as where to get parts, or even which parts to get. "Educating ourselves and passing our accumulated knowledge to others is the future of our profession," he said.

Many business meetings are held in a restaurant/banquet facility. Guest speakers and members are invited to conduct after-dinner classes and programs. These include topics such as new products, servicing techniques and legislation. Licensing and legislation are the two most important issues for MLA membership.

Classes are a major part of the association focus. A pizza dinner followed by an interesting class on electricity held at one of the local high schools proved to be a great meeting. Another popular class was the X-09 electromechanical safe lock class.

Bob DeWeese, CML, a past president of MLA, taught a two-day auto class. The first day of class was held in a classroom. Participants spent the second day at a local junkyard to practice techniques learned the previous day--making auto keys for any car in the lot. "Almost everybody still signs up for auto classes," he said. But increasingly, MLA members are getting away from automotive work.

For example, upcoming classes include Basic Safe Opening and Access Control, both taught by MLA members. It doesn't hurt to have some industry experts on the MLA membership roles!

This past year, one of MLA's most successful and enjoyable functions was a cookout/van show/swap meet, held at the Baltimore Raven's Football Stadium in downtown Baltimore. The parking lot was the scene of members sharing food and friendship. Many vans were on exhibition. There were even awards for





the "Best Equipped Van" and "Best Appearance Van." Everyone attending seemed to enjoy looking at the vans, the food and the camaraderie. The swap meet was a good place to find buyers for merchandise others no longer needed. Everyone loves a bargain! Next year's function for a similar event will have an extra-added attraction--the Baltimore Ravens Security Team will host a tour of the Raven's stadium.

MLA is associated with the Chesapeake Chapter of ALOA and holds Chapter meetings after most MLA meetings. MLA is supportive of ALOA and the PRP program. They encourage members to form study groups and gain PRP certification. They recognize the value of the tests, and encourage education and professional efficiency.

Last year, MLA sponsored a mini convention/educational weekend in Jessup, MD. This location (about half way between Baltimore and Washington, D.C.) was the scene for the convention, classes and meetings. Among the classes taught were impressing, auto, and access control.

A sometimes overlooked benefit of membership in MLA is their education/scholarship fund. Each year, scholarship funds are set aside to pay for tuition to ALOA, SAVTA, or other industry related classes. Members can apply for this scholarship. The purpose of

this is to select a member(s) who is new to the industry, or a needy member, who would not be able to attend a class otherwise.

A "Hardship Fund" has been created to provide emergency assistance for fellow members in need due to health, injury or other issues. Anonymously presented, the MLA Board votes to award money to a fellow member "who has fallen on hard times." The amount "can't solve anybody's problems entirely," but is a token of the association's concern and dedication to support its members in time of need.

Every year, the association works with various charities. Last year, MLA joined with the U.S. Marine Corps in their Toys for Tots campaign. They collected toys for needy children and distributed them during the holiday season.

MLA works closely and supports other locksmith associations. As a group, they attend functions sponsored by other associations, including The Greater Philadelphia Locksmith Association (GPLA), and the Locksmith Association of Washington, D. C.

MLA maintains a web site (www.mdlock.org), which was created to share information with fellow members. This site has a message board for discussion groups, job postings, industry web links as well as a posting of upcoming events.

A quarterly newsletter is published by MLA member, Sam Haney, who has a background in public relations and publishing.

MLA encourages locksmiths in the "Old Line State" to contact the association regarding upcoming meetings, classes and other events. Members of the board can be contact via their web site. Members look forward to welcoming all attending this year's ALOA Convention in their home state, Maryland!

Bold Initiatives Point to Bright Future for Revered Lock-maker Sargent & Greenleaf

When most security insiders think of Sargent and Greenleaf, they envision one of the world's most respected players in lock and safe technology. Operating continuously for nearly a century-and-a-half, Sargent and Greenleaf is, after all, one of the grand old names in the security industry. But now it is the future, rather than the prosperous past, that occupies the minds of those close to the company.

"I believe the word most associated with the Sargent and Greenleaf brand now is 'innovation,'" says president and chief operating officer Bill Dempsey. "Personnel, products, distribution...every decision we make, every initiative we launch is being guided by our desire to listen to our customers and develop the best products to meet their needs and grow our company."

Dempsey himself is part of a newly reorganized management team charged with ushering in Sargent and Greenleaf's continued future success. While he acknowledges the team will benefit the company greatly, he is quick to put the emphasis back on the impressive slate of new products being introduced by S&G.

"Our electronic and mechanical locks are setting today's standard, and that's great," says Dempsey. "Now it's time to show our customers and business partners that we're poised to bring a similarly high level of innovation to other safety and security applications."

New Products

The North American introduction of Sargent and Greenleaf's groundbreaking ASK[®] System brings that point home. Already being successfully implemented throughout Europe, the ASK System is revolutionizing the management of safe deposit boxes, as well as high-security lockers and cabinets, through automation, according to Dempsey. Featuring a simple touch screen interface, PIN and swipe card operation and low maintenance design, the system eliminates the use of safe deposit keys and the headaches that accompany them.

The launch of Sargent and Greenleaf's second-generation A-Series[™] ATM Access Management System is another highlight. Using a reliable Microsoft[®] SQL2000 database design, the system enables centralized access control of an ATM network and helps maximize ATM uptime. Another key feature of the new A-Series system is accurate audit trails due to the elimination of time drift problems. The system will also save users money and logistical headaches thanks to the elimination of bank user keys.

One of Sargent and Greenleaf's most ambitious products is the IP Series[®] remote security management system. Using an advanced LAN/WAN network platform, the IP Series system provides remote management of electronic locks throughout a user's entire enterprise. The unique system can also be connected to security cameras, sensors and other peripherals, enabling fully integrated security management and real-time monitoring of all lock activity. The new system debuted during the Sicur Show in Spain in February and will be introduced in other markets later in the year.

Sargent and Greenleaf expanded their successful electronic lock line-up in February by adding the Rotarybolt[™] Z02. This new electronic lock is a first in the Rotarybolt family and is based on a patented S&G solenoid bolt design. The Z02 offers users superior programming flexibility, time delay and other commercial lock features.

"Through our new product launches this year, we're moving beyond on-location security and using our expertise in electronic security solutions to develop products that focus on full-enterprise security integration, regardless of application," Dempsey notes. "Obviously, the key benefits to the customer are simplified operation, significant cost savings and much greater accountability, all backed by Sargent & Greenleaf's proven record for quality."

Executive Team Supports New Strategies

Driving the bold initiatives at Sargent and Greenleaf this year is an experienced and capable team. Following the promotion of long-time president Jerry Morgan to chairman and CEO, the company promoted Bill Dempsey to serve as president and chief operating officer. Dempsey joined the company in 2003 as executive vice president. He previously served in senior management positions with Ashland, Inc. Dempsey and his operating management team will be responsible for implementing and managing the company's new strategic initiatives.

Sargent and Greenleaf also named Bryan Callihan its corporate controller. An 18-year Sargent and Greenleaf veteran, Callihan most recently served as the company's manager of accounting.

Signaling a renewed emphasis on marketing, Sargent and Greenleaf hired Phil Pitt to serve as marketing manager. With more than 20 years of experience in marketing and product management, Pitt previously held senior marketing positions with Source Technologies, Inc., based in Charlotte, North Carolina and with Lexmark International in Lexington, Kentucky.

Sargent and Greenleaf also announced promotions within its sales and product development team. The company named 17-year Sargent and Greenleaf employee Ned Urschel vice president of sales. Urschel will oversee the company's sales activities in the United States, Europe, and Asia. He was previously vice president of product and market development. Taking Urschel's place will be Michael Clark, who moves up to the role of manager of product development.

Sargent and Greenleaf, headquartered in Nicholasville, Kentucky is the world's leading manufacturer of medium and high security locks and locking systems. Since 1857, Sargent and Greenleaf has provided security solutions to financial institutions, commercial businesses, governments, and consumers around the world. Delivered through an international network of distribution partners, Sargent and Greenleaf products continue to set the standard for quality, value and technical innovation. For more information, visit the company online at www.sargentandgreenleaf.com, or call (859) 885-9411.

Greetings from Dallas!

This month marks my first year anniversary as ALOA's Government Relations Manager. The last 12 months have seen enormous changes in the legislative issues affecting locksmiths. It's simply been the most exciting and rewarding time of my entire professional career.

Licensing laws are being implemented across the country, and ALOA has been at the forefront of the process. ALOA joined a coalition and lobbied strongly for association health plan legislation that recently passed the U.S. House of Representatives. Even our quest for more automotive information has made waves, as ALOA recently helped set up and attended a very promising meeting in Detroit.

Legislation is a fickle creature. Quite often, the best laid plans of mice and men go awry. Then other times, seemingly insurmountable tasks are conquered overnight. We are constantly beholden to the whims of politicians. Still, I wouldn't have it any other way. ALOA has become a force nationwide. Legislators in state houses all over the United States are beginning to take notice. It's a great time to be a part of this association.

I love my job, I am honored to represent this great industry and I plan on celebrating many more anniversaries from my desk here at ALOA headquarters.

I look forward to seeing you all at our 2004 Convention!

Regards,



Paul Kanitra
Government Relations Manager

Motor Vehicle Right to Repair Act:

I recently helped organize a meeting in Southfield, Michigan. Board member, Mark Blum also attended. The meeting's purpose was to specifically discuss our issues with the automobile manufacturers. Eight different manufacturers were represented either in person or via teleconference. Also in attendance were other highly qualified locksmiths, representing various areas of our industry. Things progressed nicely and an agreement was laid out to get specific responses within two months.

A locksmith committee of sorts has been formed and is currently working on a graph to present to the manufacturers by June 1st. The manufacturers will have responses on each specific issue within a month.

This development will eventually get more information available to locksmiths looking to work on cars that they had previously been unable to work on. After the information that still isn't available is relayed to the manufacturers, talks will begin on the release of this information as well.

Our legislative angle is also still being pursued. We are currently up to 95 co-sponsors in the US House of Representatives and recently secured a sponsor for the Senate companion legislation.

Association Health Plan Legislation:

Just a few short days ago, the US House of Representatives approved the Association Health Plan bill (H.R. 4281) on a vote of 252-162, with nearly all Republicans and 37 Democrats supporting the bill. This vote is very similar to the vote on the identical H.R. 660 in June, 2003 (262-162), with the difference apparently being the number of members of Congress not voting due to absence. This is another strong victory for the AHP legislation!

A rule approved by the House combines H.R. 4281 with two other health care related bills and sends all three as a package to the Senate. Thus, if the Senate acts on any of the bills on an individual basis, it will be easier for the House to include all three in any future conference committee with the Senate. The other bills are a medical liability reform bill (H.R. 4280) and a bill to allow taxpayers to roll over up to \$500 in unused benefits in their flexible spending accounts, or transfer unused funds into HSAs (H.R. 4279). These bills were approved by the House on May 12 on votes of 229-197 and 273-152, respectively.

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WANTED TO BUY

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Classified Advertising Policy

Classified advertising space is provided free of charge to ALOA members, and for a fee of \$.60 per word, \$15 minimum for non-members. Classified ads may be used to advertise used merchandise and overstocked items for sale, "wanted to buy" items, business opportunities, employment opportunities/positions wanted and the like. Members or non-members wishing to advertise services or new merchandise for sale may purchase a "Commercial Classified Ad," for a fee of \$1.30 per word, with a minimum of \$40. Each ad will run for two issues. For blind boxes there is a \$5 charge to members and non-members. All ads must be submitted in writing to the ALOA office by the fifteenth of the month, two months prior to issue date. Send to Keynotes Classifieds, 3003 Live Oak St., Dallas TX 75204-6186. ALOA reserves the right to refuse any classified advertisement that it deems inappropriate according to the stated purpose of the classified advertising section.

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2003 Stan Haney Award presented to S&G in Nicholasville, KY by Donald Rule, CML President of the ALOA Scholarship Foundation

For those of you who were at the 2003 annual membership meeting, you will remember that there was not an award to be given. We won't go into why there was not an award, suffice to say that the award was indeed presented to Jerry Morgan in his office in Nicholasville, KY in mid-October 2003. This was my first opportunity to visit the S&G plant and I was duly impressed. The tour was conducted by none other than Mr. S&G himself Brian Costley, CML, CMST. As you can imagine the range of products produced by this historic company requires many highly qualified individuals who work as a team.

Again I want to thank the Sargent & Greenleaf Company for their continued support of the ALOA Scholarship Foundation. For those of you who were not at the membership meeting last July, here is a replay of the presentation speech:

On behalf of the ALOA Scholarship Foundation, I am honored to make this presentation of the Stan Haney Award. In 1976, Stan Haney started the ALOA Scholarship Fund to benefit locksmiths by awarding educational scholarships to the ALOA convention. Countless scholarships have been awarded in the years since then. There are several recipients in this room. In 1989, I was awarded a scholarship to the ALOA convention in Atlanta. I have benefited immeasurably from that award. Just look where I am today, I work really hard for no pay. Also in 1989, Sargent & Greenleaf made the first yearly donation to the ASF of \$2,000. Not only is this a token of S&G's support of our industry, but it serves to honor a truly great man who was instrumental in the growth of S&G and the advancement of locksmith and safe technician training. The Harry C. Miller Scholarship Award is not only S&G's tribute to one of its most important historical figures, but also recognizes that the training programs conducted by ALOA provide valuable experiences to a broad cross section of security professionals. The long-standing relationship between S&G and ASF exemplifies the spirit of sharing and goodwill that Harry Miller personified. S&G has also in the last two years been a co-sponsor of the ASF kickoff party. To the best of our knowledge S&G has donated in excess of \$50,000 through the years to ALOA, ASF and SAVTA. I now present the 2003 Stan Haney Award to Mr. Jerry Morgan president and chief executive officer of Sargent & Greenleaf. Be sure to send your reservation for the 2004 ALOA Convention & Security Expo in Baltimore, MD. July 13 to 19, 2004. The Scholarship Foundation Kickoff Party and Live Auction will be held Thursday July 17, 2004 at 7 p.m. We hope to see you there!

NEW CERTIFICATIONS

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CPLs	Elliott Connor	CPL
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