

Beyer-Hardwick Corner Algorithms

Hello and welcome to Daniel's and Chris' page about our jointly created blind solving method. The method was created by Daniel Beyer and Chris Hardwick to be used as an advanced method for solving any sized cube blindfolded. This page is under construction, so please bear with us as we add more material to this website.

This particular page is about solving corners using the Beyer-Hardwick method. The goal is to use an optimal length algorithm for all 3-cycles starting from a fixed buffer piece. You perform sticker cycles, and will thus solve the position and orientation of any given corner at the same time. The goal is to have a prepared algorithm for every possible cycle, reducing the thinking time during solving. Other pages will be devoted to how to figure out which type of algorithm to use given a certain cycle. This is based on the case name for each algorithm. If you are interested to learn the method, please continue to check back for further pages explaining how to use the case names of each algorithm below.

Here are the number of each length algorithm necessary to solve all possible corner 3-cycles starting from a fixed buffer.

Optimal Solution Length (in HTM)	# of cases
8 turns:	198 cases
9 turns:	126 cases
10 turns:	30 cases
11 turns:	18 cases
12 turns:	6 cases
Total Case Count:	378 cases

The following are all algorithms necessary to use the Beyer-Hardwick method for corners. Please bear in mind that there are often multiple algorithms you could use for a certain case. The case name is more important for each algorithm than the given algorithm. In later pages to follow you will see how to use the case name for a certain cycle to construct the correct algorithm when solving. We include one algorithm for each case merely for completeness.

Many thanks to [Lucas Garron](#) for coding this page to show an applet for each algorithm. If you would like a printable version of this page [click here](#).

Cycle	Algorithm (optimal length)	Case Name
(URB UBL ULF)	L F' L B2 L' F L B2 L2 (9 HTM)	A9
(URB UBL UFR)	R2 B2 R F R' B2 R F' R (9 HTM)	A9
(URB UBL FUL)	L F R' F' L' F R F' (8 HTM)	Direct Insert
(URB UBL FRU)	R B L B' R' B L' B' (8 HTM)	Direct Insert

(URB UBL FLD)	U' B D' B' U B D B' (8 HTM)	Drop and Catch
(URB UBL FDR)	U' L' D2 L U L' D2 L (8 HTM)	Drop and Catch
(URB UBL RUF)	B U2 B D B' U2 B D' B2 (9 HTM)	A9
(URB UBL RFD)	U' B D2 B' U B D2 B' (8 HTM)	Drop and Catch
(URB UBL RDB)	U' L' D L U L' D' L (8 HTM)	Drop and Catch
(URB UBL BRD)	R' B L B' R B L' B' (8 HTM)	Direct Insert
(URB UBL BDL)	U' B D B' U B D' B' (8 HTM)	Direct Insert
(URB UBL LFU)	B2 D' B U2 B' D B U2 B (9 HTM)	A9
(URB UBL LBD)	U' L' D' L U L' D L (8 HTM)	Direct Insert
(URB UBL LDF)	B' D2 B U B' D2 B U' (8 HTM)	Drop and Catch
(URB UBL DFL)	L2 D R2 D' L2 D R2 D' (8 HTM)	Direct Insert
(URB UBL DRF)	R2 B L B' R2 B L' B' (8 HTM)	Direct Insert
(URB UBL DLB)	D L2 D R2 D' L2 D R2 D2 (9 HTM)	A9
(URB UBL DBR)	D2 L2 D R2 D' L2 D R2 D (9 HTM)	A9
(URB ULF UBL)	L2 B2 L' F' L B2 L' F L' (9 HTM)	A9
(URB ULF UFR)	R B' R F2 R' B R F2 R2 (9 HTM)	A9
(URB ULF FRU)	L2 B2 L' F2 L B2 L' F2 L' (9 HTM)	A9
(URB ULF FLD)	U2 F' D' F U2 F' D F (8 HTM)	Direct Insert
(URB ULF FDR)	B' D B U2 B' D' B U2 (8 HTM)	Drop and Catch
(URB ULF RUF)	B' R2 B' L2 B R2 B' L2 B2 (9 HTM)	A9
(URB ULF RFD)	U2 L D' L' U2 L D L' (8 HTM)	Drop and Catch
(URB ULF RDB)	U2 F' D2 F U2 F' D2 F (8 HTM)	Drop and Catch
(URB ULF BLU)	R B2 R F2 R' B2 R F2 R2 (9 HTM)	A9
(URB ULF BRD)	U2 L D2 L' U2 L D2 L' (8 HTM)	Drop and Catch
(URB ULF BDL)	U2 F' D F U2 F' D' F (8 HTM)	Drop and Catch

(URB ULF LUB)	<u>F2 R2 F L2 F' R2 F L2 F</u> (9 HTM)	A9
(URB ULF LBD)	<u>R D' R' U2 R D R' U2</u> (8 HTM)	Drop and Catch
(URB ULF LDF)	<u>U2 L D L' U2 L D' L'</u> (8 HTM)	Direct Insert
(URB ULF DFL)	<u>R U2 R' U' L2 U R U' L2 U' R'</u> (11 HTM)	Columns
(URB ULF DRF)	<u>U F2 U' F2 U' R2 U F2 U F2 U' R2</u> (12 HTM)	Per Special
(URB ULF DLB)	<u>U2 F U2 F' L2 F' L2 F L2 B L2 B'</u> (12 HTM)	Per Special
(URB ULF DBR)	<u>R B R2 B L' B' R2 B L B2 R'</u> (11 HTM)	Columns
(URB UFR UBL)	<u>R' F R' B2 R F' R' B2 R2</u> (9 HTM)	A9
(URB UFR ULF)	<u>R2 F2 R' B' R F2 R' B R'</u> (9 HTM)	A9
(URB UFR FUL)	<u>R2 D R' U2 R D' R' U2 R'</u> (9 HTM)	A9
(URB UFR FLD)	<u>R D2 R' U' R D2 R' U</u> (8 HTM)	Drop and Catch
(URB UFR FDR)	<u>U F D F' U' F D' F'</u> (8 HTM)	Direct Insert
(URB UFR RFD)	<u>U R' D' R U' R' D R</u> (8 HTM)	Direct Insert
(URB UFR RDB)	<u>R D R' U' R D' R' U</u> (8 HTM)	Direct Insert
(URB UFR BLU)	<u>R' U2 R' D' R U2 R' D R2</u> (9 HTM)	A9
(URB UFR BRD)	<u>U F D' F' U' F D F'</u> (8 HTM)	Drop and Catch
(URB UFR BDL)	<u>U R' D2 R U' R' D2 R</u> (8 HTM)	Drop and Catch
(URB UFR LUB)	<u>L F' L' B L F L' B'</u> (8 HTM)	Direct Insert
(URB UFR LFU)	<u>R B R' F R B' R' F'</u> (8 HTM)	Direct Insert
(URB UFR LBD)	<u>U F D2 F' U' F D2 F'</u> (8 HTM)	Drop and Catch
(URB UFR LDF)	<u>U R' D R U' R' D' R</u> (8 HTM)	Drop and Catch
(URB UFR DFL)	<u>R B R' F2 R B' R' F2</u> (8 HTM)	Direct Insert
(URB UFR DRF)	<u>D' F2 D' B2 D F2 D' B2 D2</u> (9 HTM)	A9
(URB UFR DLB)	<u>D F2 D' B2 D F2 D' B2</u> (8 HTM)	Toss Up
(URB UFR DBR)	<u>D2 F2 D' B2 D F2 D' B2 D'</u> (9 HTM)	A9
(URB FUL UBL)	<u>F R' F' L F R F' L'</u> (8 HTM)	Drop and Catch

(URB FUL UFR)	<u>R U2 R D R' U2 R D' R2</u> (9 HTM)	A9
(URB FUL FRU)	<u>U L U' R' U L' U' R</u> (8 HTM)	Direct Insert
(URB FUL FLD)	<u>F' L B2 L' F L B2 L'</u> (8 HTM)	Drop and Catch
(URB FUL FDR)	<u>F2 D B' D' F2 D B D'</u> (8 HTM)	Drop and Catch
(URB FUL RUF)	<u>F2 D' F U2 F' D F U2 F</u> (9 HTM)	A9
(URB FUL RFD)	<u>U R' B2 R F R' B2 R F' U'</u> (10 HTM)	Orthogonals
(URB FUL RDB)	<u>D' F2 D B' D' F2 D B</u> (8 HTM)	Toss Up
(URB FUL BLU)	<u>F R' U2 R F' R' F U2 F' R</u> (10 HTM)	Cyclic Shift
(URB FUL BRD)	<u>B' L2 B R B' L2 B R'</u> (8 HTM)	Drop and Catch
(URB FUL BDL)	<u>F R' F' L2 F R F' L2</u> (8 HTM)	Drop and Catch
(URB FUL LUB)	<u>L F L' B L F' L' B'</u> (8 HTM)	Direct Insert
(URB FUL LBD)	<u>U L' B R2 B' L B R2 B' U'</u> (10 HTM)	Orthogonals
(URB FUL LDF)	<u>D F2 D B' D' F2 D B D2</u> (9 HTM)	A9
(URB FUL DFL)	<u>F R' F' L' F R F' L</u> (8 HTM)	Drop and Catch
(URB FUL DRF)	<u>D' L D R2 D' L' D R2</u> (8 HTM)	Drop and Catch
(URB FUL DLB)	<u>B2 R' F R B2 R' F' R</u> (8 HTM)	Drop and Catch
(URB FUL DBR)	<u>D2 L D R2 D' L' D R2 D</u> (9 HTM)	A9
(URB FRU UBL)	<u>R' F' L F R F' L' F</u> (8 HTM)	Drop and Catch
(URB FRU ULF)	<u>L F2 L B2 L' F2 L B2 L2</u> (9 HTM)	A9
(URB FRU FUL)	<u>U' B' U F U' B U F'</u> (8 HTM)	Direct Insert
(URB FRU FLD)	<u>U' B' U F2 U' B U F2</u> (8 HTM)	Direct Insert
(URB FRU FDR)	<u>U' B' U F' U' B U F</u> (8 HTM)	Direct Insert
(URB FRU RFD)	<u>U2 L' U R2 U' L U R2 U</u> (9 HTM)	A9
(URB FRU RDB)	<u>D' F D B' D' F' D B</u> (8 HTM)	Drop and Catch
(URB FRU BLU)	<u>L2 F2 L B2 L' F2 L B2 L</u> (9 HTM)	A9

(URB FRU BRD)	U'F'U'B2'U'F'U'B2'U2 (9 HTM)	A9
(URB FRU BDL)	U'L'U'R'U'L'U'R' (8 HTM)	Drop and Catch
(URB FRU LUB)	U'L'U'R'U'L'U'R' (8 HTM)	Direct Insert
(URB FRU LFU)	R'F'L'F'R'F'L'F (8 HTM)	Direct Insert
(URB FRU LBD)	R'U'L2'U'R'U'L2'U' (8 HTM)	Drop and Catch
(URB FRU LDF)	R'U'L'U'R'U'L'U' (8 HTM)	Drop and Catch
(URB FRU DFL)	U'L2'U'R'U'L2'U'R' (8 HTM)	Drop and Catch
(URB FRU DRF)	U2'F2'U'B'U'F2'U'B'U (9 HTM)	A9
(URB FRU DLB)	L'F2'L'B2'L'F2'L'B2 (8 HTM)	Toss Up
(URB FRU DBR)	U'R2'U'L'U'R2'U'L'U2 (9 HTM)	A9
(URB FLD UBL)	U'R'D2'R'U'R'D2'R' (8 HTM)	Drop and Catch
(URB FLD ULF)	U2'R'D2'R'U2'R'D2'R' (8 HTM)	Drop and Catch
(URB FLD UFR)	U'R'D2'R'U'R'D2'R' (8 HTM)	Drop and Catch
(URB FLD FUL)	L'B2'L'F'L'B2'L'F (8 HTM)	Drop and Catch
(URB FLD FRU)	F2'U'B'U'F2'U'B'U (8 HTM)	Direct Insert
(URB FLD FDR)	F'D'B'D'F'D'B'D' (8 HTM)	Drop and Catch
(URB FLD RUF)	B'R2'B'L'B'R2'B'L'B2 (9 HTM)	A9
(URB FLD RFD)	D'F'U'F'D'F'U'F (8 HTM)	Toss Up
(URB FLD RDB)	B'R'F2'R'B'R'F2'R (8 HTM)	Drop and Catch
(URB FLD BLU)	U'B2'D'B'U2'B'D'B'U2'B'U' (11 HTM)	Columns
(URB FLD BRD)	D2'B'U'B'D2'B'U'B' (8 HTM)	Direct Insert
(URB FLD BDL)	F2'R'F'L2'F'R'F'L2'F' (9 HTM)	A9
(URB FLD LUB)	U'F'U'B'U'F'U'B' (8 HTM)	Drop and Catch
(URB FLD LFU)	D2'R'D'L2'D'R'D'L2'D (9 HTM)	A9
(URB FLD LBD)	L'U2'L'D'L'U2'L'D' (8 HTM)	Toss Up
(URB FLD DRF)	U'L'U'F2'U'L'U'L'F2'L'U2 (11 HTM)	Columns

(URB FLD DLB)	<u>D F D' B2 D F' D' B2</u> (8 HTM)	Direct Insert
(URB FLD DBR)	<u>U R2 U L' U' R2 U L U2</u> (9 HTM)	A9
(URB FDR UBL)	<u>U B' D B U' B' D' B</u> (8 HTM)	Drop and Catch
(URB FDR ULF)	<u>U2 B' D B U2 B' D' B</u> (8 HTM)	Drop and Catch
(URB FDR UFR)	<u>U' B' D B U B' D' B</u> (8 HTM)	Drop and Catch
(URB FDR FUL)	<u>D B' D' F2 D B D' F2</u> (8 HTM)	Drop and Catch
(URB FDR FRU)	<u>F' U' B' U F U' B U</u> (8 HTM)	Direct Insert
(URB FDR FLD)	<u>F L B2 L' F' L B2 L'</u> (8 HTM)	Drop and Catch
(URB FDR RUF)	<u>D B' R2 B D' B' D R2 D' B</u> (10 HTM)	Cyclic Shift
(URB FDR RDB)	<u>R F R' B' R F' R' B</u> (8 HTM)	Direct Insert
(URB FDR BLU)	<u>L2 F L B2 L' F' L B2 L</u> (9 HTM)	A9
(URB FDR BRD)	<u>B R2 B L B' R2 B L' B2</u> (9 HTM)	A9
(URB FDR BDL)	<u>D2 L U' L' D2 L U L'</u> (8 HTM)	Toss Up
(URB FDR LUB)	<u>U' F2 U B U' F2 U B'</u> (8 HTM)	Drop and Catch
(URB FDR LFU)	<u>U R' F L2 F' R F L2 F' U'</u> (10 HTM)	Orthogonals
(URB FDR LBD)	<u>U F' L2 F R F' L2 F R' U'</u> (10 HTM)	Orthogonals
(URB FDR LDF)	<u>D' F U2 F' D F U2 F'</u> (8 HTM)	Toss Up
(URB FDR DFL)	<u>L D2 L U' L' D2 L U L2</u> (9 HTM)	A9
(URB FDR DLB)	<u>L' F L B2 L' F' L B2</u> (8 HTM)	Drop and Catch
(URB FDR DBR)	<u>D2 L' D R2 D' L D R2 D</u> (9 HTM)	A9
(URB RUF UBL)	<u>B2 D B' U2 B D' B' U2 B'</u> (9 HTM)	A9
(URB RUF ULF)	<u>B2 L2 B R2 B' L2 B R2 B</u> (9 HTM)	A9
(URB RUF FUL)	<u>F' U2 F' D' F U2 F' D F2</u> (9 HTM)	A9
(URB RUF FLD)	<u>B2 L B R2 B' L' B R2 B</u> (9 HTM)	A9
(URB RUF FDR)	<u>B' D R2 D' B D B' R2 B D'</u> (10 HTM)	Cyclic Shift

(URB RUF RFD)	<u>F R2 F L F' R2 F L' F2</u> (9 HTM)	A9
(URB RUF RDB)	<u>F' U2 F' D2 F U2 F' D2 F2</u> (9 HTM)	A9
(URB RUF BLU)	<u>L F' U2 F L' F' L U2 L' F</u> (10 HTM)	Cyclic Shift
(URB RUF BRD)	<u>B2 L' B R2 B' L B R2 B</u> (9 HTM)	A9
(URB RUF BDL)	<u>F' U2 F' D F U2 F' D' F2</u> (9 HTM)	A9
(URB RUF LUB)	<u>F R2 F L2 F' R2 F L2 F2</u> (9 HTM)	A9
(URB RUF LFU)	<u>B L' U2 L B' L' B U2 B' L</u> (10 HTM)	Cyclic Shift
(URB RUF LBD)	<u>F R2 F L' F' R2 F L F2</u> (9 HTM)	A9
(URB RUF LDF)	<u>U2 B' U2 B' D2 B U2 B' D2 B2 U2</u> (11 HTM)	Columns
(URB RUF DFL)	<u>B2 D' B' U2 B D B' U2 B'</u> (9 HTM)	A9
(URB RUF DRF)	<u>B2 D2 B' U2 B D2 B' U2 B'</u> (9 HTM)	A9
(URB RUF DLB)	<u>U R2 D' R' U2 R D R' U2 R' U'</u> (11 HTM)	Columns
(URB RUF DBR)	<u>D' F R2 F' D F D' R2 D F'</u> (10 HTM)	Cyclic Shift
(URB RFD UBL)	<u>B D2 B' U' B D2 B' U</u> (8 HTM)	Drop and Catch
(URB RFD ULF)	<u>L D' L' U2 L D L' U2</u> (8 HTM)	Drop and Catch
(URB RFD UFR)	<u>R' D' R U R' D R U'</u> (8 HTM)	Direct Insert
(URB RFD FUL)	<u>U F R' B2 R F' R' B2 R U'</u> (10 HTM)	Orthogonals
(URB RFD FRU)	<u>U' R2 U' L' U R2 U' L U2</u> (9 HTM)	A9
(URB RFD FLD)	<u>F' U F D F' U' F D'</u> (8 HTM)	Toss Up
(URB RFD RUF)	<u>F2 L F' R2 F L' F' R2 F'</u> (9 HTM)	A9
(URB RFD RDB)	<u>D' F' D B' D' F D B</u> (8 HTM)	Direct Insert
(URB RFD BLU)	<u>L2 D' L' U2 L D L' U2 L'</u> (9 HTM)	A9
(URB RFD BRD)	<u>F' U F D' F' U' F D</u> (8 HTM)	Toss Up
(URB RFD BDL)	<u>U R B2 R' F' R B2 R' F U'</u> (10 HTM)	Orthogonals
(URB RFD LUB)	<u>L F2 L' B L F2 L' B'</u> (8 HTM)	Drop and Catch

(URB RFD LFU)	<u>F2 L' B L F2 L' B' L</u> (8 HTM)	Drop and Catch
(URB RFD LBD)	<u>F' U F D2 F' U' F D2</u> (8 HTM)	Toss Up
(URB RFD LDF)	<u>L' F2 L' B L F2 L' B' L2</u> (9 HTM)	A9
(URB RFD DFL)	<u>F D' B2 D F' D' B2 D</u> (8 HTM)	Drop and Catch
(URB RFD DLB)	<u>B2 U F' U' B2 U F U'</u> (8 HTM)	Drop and Catch
(URB RFD DBR)	<u>F' U R2 U' F U F' R2 F U'</u> (10 HTM)	Cyclic Shift
(URB RDB UBL)	<u>U R D R' U' R D' R'</u> (8 HTM)	Direct Insert
(URB RDB ULF)	<u>U2 R D R' U2 R D' R'</u> (8 HTM)	Direct Insert
(URB RDB UFR)	<u>U' R D R' U R D' R'</u> (8 HTM)	Direct Insert
(URB RDB FUL)	<u>R' F R B R' F' R B'</u> (8 HTM)	Drop and Catch
(URB RDB FRU)	<u>U F U' B U F' U' B'</u> (8 HTM)	Direct Insert
(URB RDB FLD)	<u>R' F2 R B R' F2 R B'</u> (8 HTM)	Drop and Catch
(URB RDB FDR)	<u>R' U' R D R' U R D'</u> (8 HTM)	Direct Insert
(URB RDB RUF)	<u>F2 D2 F U2 F' D2 F U2 F</u> (9 HTM)	A9
(URB RDB RFD)	<u>U F' U' B U F U' B'</u> (8 HTM)	Toss Up
(URB RDB BLU)	<u>R B2 R F R' B2 R F' R2</u> (9 HTM)	A9
(URB RDB BDL)	<u>R' U' R D' R' U R D</u> (8 HTM)	Direct Insert
(URB RDB LUB)	<u>U2 R2 U L U' R2 U L' U</u> (9 HTM)	A9
(URB RDB LFU)	<u>B' R F2 R' B R F2 R'</u> (8 HTM)	Drop and Catch
(URB RDB LBD)	<u>R2 F' R B2 R' F R B2 R</u> (9 HTM)	A9
(URB RDB LDF)	<u>R' U' R D2 R' U R D2</u> (8 HTM)	Direct Insert
(URB RDB DFL)	<u>U F2 U' B U F2 U' B'</u> (8 HTM)	Drop and Catch
(URB RDB DRF)	<u>F D2 F U2 F' D2 F U2 F2</u> (9 HTM)	A9
(URB RDB DLB)	<u>R2 D2 R U R' D2 R U' R</u> (9 HTM)	A9
(URB BLU ULF)	<u>R2 F2 R' B2 R F2 R' B2 R'</u> (9 HTM)	A9
(URB BLU UFR)	<u>R2 D' R U2 R' D R U2 R</u> (9 HTM)	A9

(URB BLU FUL)	<u>R' F U2 F' R F R' U2 R F'</u> (10 HTM)	Cyclic Shift
(URB BLU FRU)	<u>L' B2 L' F2 L B2 L' F2 L2</u> (9 HTM)	A9
(URB BLU FLD)	<u>U B U2 B D' B' U2 B D B2 U'</u> (11 HTM)	Columns
(URB BLU FDR)	<u>L' B2 L' F L B2 L' F' L2</u> (9 HTM)	A9
(URB BLU RUF)	<u>F' L U2 L' F L F' U2 F L'</u> (10 HTM)	Cyclic Shift
(URB BLU RFD)	<u>L U2 L D' L' U2 L D L2</u> (9 HTM)	A9
(URB BLU RDB)	<u>R2 F R' B2 R F' R' B2 R'</u> (9 HTM)	A9
(URB BLU BRD)	<u>L U2 L D2 L' U2 L D2 L2</u> (9 HTM)	A9
(URB BLU BDL)	<u>L' B2 L' F' L B2 L' F L2</u> (9 HTM)	A9
(URB BLU LFU)	<u>L U2 L D L' U2 L D' L2</u> (9 HTM)	A9
(URB BLU LBD)	<u>R D' B2 D R' D' R B2 R' D</u> (10 HTM)	Cyclic Shift
(URB BLU LDF)	<u>R2 F' R' B2 R F R' B2 R'</u> (9 HTM)	A9
(URB BLU DFL)	<u>R2 D R U2 R' D' R U2 R</u> (9 HTM)	A9
(URB BLU DRF)	<u>U2 L2 D2 L U2 L' D2 L U2 L U2</u> (11 HTM)	Columns
(URB BLU DLB)	<u>R2 D2 R U2 R' D2 R U2 R</u> (9 HTM)	A9
(URB BLU DBR)	<u>D L' B2 L D' L' D B2 D' L</u> (10 HTM)	Cyclic Shift
(URB BRD UBL)	<u>U B' D' B U' B' D B</u> (8 HTM)	Direct Insert
(URB BRD ULF)	<u>U2 B' D' B U2 B' D B</u> (8 HTM)	Direct Insert
(URB BRD UFR)	<u>U' B' D' B U B' D B</u> (8 HTM)	Direct Insert
(URB BRD FUL)	<u>R B' L2 B R' B' L2 B</u> (8 HTM)	Drop and Catch
(URB BRD FRU)	<u>U2 B2 U' F' U B2 U' F U'</u> (9 HTM)	A9
(URB BRD FLD)	<u>D2 L' U2 L D2 L' U2 L</u> (8 HTM)	Toss Up
(URB BRD FDR)	<u>B2 L B' R2 B L' B' R2 B'</u> (9 HTM)	A9
(URB BRD RUF)	<u>B' R2 B' L' B R2 B' L B2</u> (9 HTM)	A9
(URB BRD RFD)	<u>D' F' U F D F' U' F</u> (8 HTM)	Toss Up

(URB BRD BLU)	<u>L2 D2 L' U2 L D2 L' U2 L'</u> (9 HTM)	A9
(URB BRD BDL)	<u>U' L U R' U' L' U R</u> (8 HTM)	Drop and Catch
(URB BRD LUB)	<u>U' L' U R' U' L U R</u> (8 HTM)	Direct Insert
(URB BRD LFU)	<u>R D L2 D' R' D L2 D'</u> (8 HTM)	Drop and Catch
(URB BRD LBD)	<u>R B' L' B R' B' L B</u> (8 HTM)	Direct Insert
(URB BRD LDF)	<u>B L2 B' R' B L2 B' R</u> (8 HTM)	Drop and Catch
(URB BRD DFL)	<u>U' L2 U R' U' L2 U R</u> (8 HTM)	Drop and Catch
(URB BRD DRF)	<u>D' F D' B2 D F' D' B2 D2</u> (9 HTM)	A9
(URB BRD DLB)	<u>L' D2 L' U2 L D2 L' U2 L2</u> (9 HTM)	A9
(URB BDL UBL)	<u>L B' R' B L' B' R B</u> (8 HTM)	Direct Insert
(URB BDL ULF)	<u>F' D F U2 F' D' F U2</u> (8 HTM)	Drop and Catch
(URB BDL UFR)	<u>R' D2 R U R' D2 R U'</u> (8 HTM)	Drop and Catch
(URB BDL FUL)	<u>L2 F R' F' L2 F R F'</u> (8 HTM)	Drop and Catch
(URB BDL FRU)	<u>R U' L U R' U' L' U</u> (8 HTM)	Drop and Catch
(URB BDL FLD)	<u>F L2 F R' F' L2 F R F2</u> (9 HTM)	A9
(URB BDL FDR)	<u>L U' L' D2 L U L' D2</u> (8 HTM)	Toss Up
(URB BDL RUF)	<u>F2 D F U2 F' D' F U2 F</u> (9 HTM)	A9
(URB BDL RFD)	<u>U F' R B2 R' F R B2 R' U'</u> (10 HTM)	Orthogonals
(URB BDL RDB)	<u>D' R' U' R D R' U R</u> (8 HTM)	Direct Insert
(URB BDL BLU)	<u>L2 F' L B2 L' F L B2 L</u> (9 HTM)	A9
(URB BDL BRD)	<u>R' U' L U R U' L' U</u> (8 HTM)	Drop and Catch
(URB BDL LUB)	<u>U B2 U F U' B2 U F' U2</u> (9 HTM)	A9
(URB BDL LFU)	<u>U L' F2 L B L' F2 L B' U'</u> (10 HTM)	Orthogonals
(URB BDL LDF)	<u>D F U2 F' D' F U2 F'</u> (8 HTM)	Toss Up
(URB BDL DFL)	<u>L' D R2 D' L D R2 D'</u> (8 HTM)	Drop and Catch
(URB BDL DRF)	<u>R2 U' L U R2 U' L' U</u> (8 HTM)	Drop and Catch

(URB BDL DBR)	<u>L U' B2 U L' U' L B2 L' U</u> (10 HTM)	Cyclic Shift
(URB LUB ULF)	<u>F' L2 F' R2 F L2 F' R2 F2</u> (9 HTM)	A9
(URB LUB UFR)	<u>R' F' R B' R' F R B</u> (8 HTM)	Direct Insert
(URB LUB FUL)	<u>R' F R B' R' F' R B</u> (8 HTM)	Toss Up
(URB LUB FRU)	<u>U F U' B' U F' U' B</u> (8 HTM)	Direct Insert
(URB LUB FLD)	<u>R' F2 R B' R' F2 R B</u> (8 HTM)	Drop and Catch
(URB LUB FDR)	<u>B U' F2 U B' U' F2 U</u> (8 HTM)	Drop and Catch
(URB LUB RUF)	<u>F2 L2 F' R2 F L2 F' R2 F'</u> (9 HTM)	A9
(URB LUB RFD)	<u>U F' U' B' U F U' B</u> (8 HTM)	Drop and Catch
(URB LUB RDB)	<u>U' L U' R2 U L' U' R2 U2</u> (9 HTM)	A9
(URB LUB BRD)	<u>R' U' L' U R U' L U</u> (8 HTM)	Direct Insert
(URB LUB BDL)	<u>U2 F U' B2 U F' U' B2 U'</u> (9 HTM)	A9
(URB LUB LFU)	<u>U R U' L' U R' U' L</u> (8 HTM)	Direct Insert
(URB LUB LBD)	<u>U R U' L U R' U' L'</u> (8 HTM)	Direct Insert
(URB LUB LDF)	<u>U R U' L2 U R' U' L2</u> (8 HTM)	Direct Insert
(URB LUB DFL)	<u>U F2 U' B' U F2 U' B</u> (8 HTM)	Drop and Catch
(URB LUB DRF)	<u>R2 U' L' U R2 U' L U</u> (8 HTM)	Direct Insert
(URB LUB DLB)	<u>U2 L2 U' R' U L2 U' R U'</u> (9 HTM)	A9
(URB LUB DBR)	<u>U' B2 U' F' U B2 U' F U2</u> (9 HTM)	A9
(URB LFU UBL)	<u>B' U2 B' D' B U2 B' D B2</u> (9 HTM)	A9
(URB LFU UFR)	<u>F R B R' F' R B' R'</u> (8 HTM)	Direct Insert
(URB LFU FRU)	<u>R B L' B' R' B L B'</u> (8 HTM)	Drop and Catch
(URB LFU FLD)	<u>D' L2 D' R D L2 D' R' D2</u> (9 HTM)	A9
(URB LFU FDR)	<u>U F L2 F' R' F L2 F' R U'</u> (10 HTM)	Orthogonals
(URB LFU RUF)	<u>L' B U2 B' L B L' U2 L B'</u> (10 HTM)	Cyclic Shift

(URB LFU RFD)	<u>L' B L F2 L' B' L F2</u> (8 HTM)	Drop and Catch
(URB LFU RDB)	<u>R F2 R' B' R F2 R' B</u> (8 HTM)	Drop and Catch
(URB LFU BLU)	<u>L2 D L' U2 L D' L' U2 L'</u> (9 HTM)	A9
(URB LFU BRD)	<u>R' B L' B' R B L B'</u> (8 HTM)	Drop and Catch
(URB LFU BDL)	<u>U B L' F2 L B' L' F2 L U'</u> (10 HTM)	Orthogonals
(URB LFU LUB)	<u>U' F' U B U' F U B'</u> (8 HTM)	Direct Insert
(URB LFU LBD)	<u>L2 D' R D L2 D' R' D</u> (8 HTM)	Drop and Catch
(URB LFU LDF)	<u>L F' R2 F L' F' R2 F</u> (8 HTM)	Drop and Catch
(URB LFU DFL)	<u>F' D' B2 D F D' B2 D</u> (8 HTM)	Drop and Catch
(URB LFU DRF)	<u>R2 B L' B' R2 B L B'</u> (8 HTM)	Drop and Catch
(URB LFU DLB)	<u>D F' D' B2 D F D' B2</u> (8 HTM)	Drop and Catch
(URB LFU DBR)	<u>D2 F' D' B2 D F D' B2 D'</u> (9 HTM)	A9
(URB LBD UBL)	<u>U R D' R' U' R D R'</u> (8 HTM)	Drop and Catch
(URB LBD ULF)	<u>U2 R D' R' U2 R D R'</u> (8 HTM)	Drop and Catch
(URB LBD UFR)	<u>U' R D' R' U' R D R'</u> (8 HTM)	Drop and Catch
(URB LBD FUL)	<u>U B R2 B' L' B R2 B' L U'</u> (10 HTM)	Orthogonals
(URB LBD FRU)	<u>U L2 U' R' U L2 U' R</u> (8 HTM)	Drop and Catch
(URB LBD FLD)	<u>D L' U2 L D' L' U2 L</u> (8 HTM)	Toss Up
(URB LBD FDR)	<u>U R F' L2 F R' F' L2 F U'</u> (10 HTM)	Orthogonals
(URB LBD RUF)	<u>F2 L' F' R2 F L F' R2 F'</u> (9 HTM)	A9
(URB LBD RFD)	<u>D2 F' U F D2 F' U' F</u> (8 HTM)	Toss Up
(URB LBD RDB)	<u>R' B2 R' F' R B2 R' F R2</u> (9 HTM)	A9
(URB LBD BLU)	<u>D' R B2 R' D R D' B2 D R'</u> (10 HTM)	Cyclic Shift
(URB LBD BRD)	<u>D' B U B' D B U' B'</u> (8 HTM)	Direct Insert
(URB LBD LUB)	<u>D' R D L' D' R' D L</u> (8 HTM)	Drop and Catch

(URB LBD LFU)	D' R D L2 D' R' D L2 (8 HTM)	Drop and Catch
(URB LBD LDF)	D' R D L D' R' D L' (8 HTM)	Drop and Catch
(URB LBD DFL)	F' D2 F' U F D2 F' U' F2 (9 HTM)	A9
(URB LBD DRF)	F L' F' R2 F L F' R2 (8 HTM)	Drop and Catch
(URB LBD DBR)	D2 F D' B2 D F' D' B2 D' (9 HTM)	A9
(URB LDF UBL)	U B' D2 B U' B' D2 B (8 HTM)	Drop and Catch
(URB LDF ULF)	U2 B' D2 B U2 B' D2 B (8 HTM)	Drop and Catch
(URB LDF UFR)	U' B' D2 B U B' D2 B (8 HTM)	Drop and Catch
(URB LDF FUL)	D2 B' D' F2 D B D' F2 D' (9 HTM)	A9
(URB LDF FRU)	U L' U' R' U L U' R (8 HTM)	Drop and Catch
(URB LDF FDR)	F U2 F' D' F U2 F' D (8 HTM)	Toss Up
(URB LDF RUF)	U2 B2 D2 B U2 B' D2 B U2 B U2 (11 HTM)	Columns
(URB LDF RFD)	L2 B L F2 L' B' L F2 L (9 HTM)	A9
(URB LDF RDB)	F U2 F' D2 F U2 F' D2 (8 HTM)	Toss Up
(URB LDF BLU)	R B2 R F' R' B2 R F R2 (9 HTM)	A9
(URB LDF BRD)	R' B L2 B' R B L2 B' (8 HTM)	Drop and Catch
(URB LDF BDL)	F U2 F' D F U2 F' D' (8 HTM)	Toss Up
(URB LDF LUB)	F' R2 F L2 F' R2 F L2 (8 HTM)	Toss Up
(URB LDF LFU)	F' R2 F L F' R2 F L' (8 HTM)	Drop and Catch
(URB LDF LBD)	F' R2 F L' F' R2 F L (8 HTM)	Drop and Catch
(URB LDF DRF)	R2 B L2 B' R2 B L2 B' (8 HTM)	Drop and Catch
(URB LDF DLB)	U B D2 B U' B' D2 B U B2 U' (11 HTM)	Columns
(URB LDF DBR)	U' B2 U' F U B2 U' F' U2 (9 HTM)	A9
(URB DFL UBL)	D R2 D' L2 D R2 D' L2 (8 HTM)	Toss Up
(URB DFL ULF)	R U L2 U R' U' L2 U R U2 R' (11 HTM)	Columns
(URB DFL UFR)	F2 R B R' F2 R B' R' (8 HTM)	Direct Insert

(URB DFL FUL)	<u>D R2 D' L D R2 D' L'</u> (8 HTM)	Drop and Catch
(URB DFL FRU)	<u>R U' L2 U R' U' L2 U</u> (8 HTM)	Drop and Catch
(URB DFL FDR)	<u>L2 U' L' D2 L U L' D2 L'</u> (9 HTM)	A9
(URB DFL RUF)	<u>B U2 B D' B' U2 B D B2</u> (9 HTM)	A9
(URB DFL RFD)	<u>D' B2 D F D' B2 D F'</u> (8 HTM)	Drop and Catch
(URB DFL RDB)	<u>R F' R' B' R F R' B</u> (8 HTM)	Drop and Catch
(URB DFL BLU)	<u>R' U2 R' D R U2 R' D' R2</u> (9 HTM)	A9
(URB DFL BRD)	<u>R' U' L2 U R U' L2 U</u> (8 HTM)	Drop and Catch
(URB DFL BDL)	<u>D R2 D' L' D R2 D' L</u> (8 HTM)	Drop and Catch
(URB DFL LUB)	<u>B' U F2 U' B U F2 U'</u> (8 HTM)	Drop and Catch
(URB DFL LFU)	<u>F L' B L F' L' B' L</u> (8 HTM)	Drop and Catch
(URB DFL LBD)	<u>F2 U F D2 F' U' F D2 F</u> (9 HTM)	A9
(URB DFL DRF)	<u>R2 U' L2 U R2 U' L2 U</u> (8 HTM)	Toss Up
(URB DFL DLB)	<u>L' F' L B2 L' F L B2</u> (8 HTM)	Direct Insert
(URB DFL DBR)	<u>R2 U2 L2 U R2 U' L2 U R2 U R2</u> (11 HTM)	Columns
(URB DRF UBL)	<u>R2 D' L2 D R2 D' L2 D</u> (8 HTM)	Toss Up
(URB DRF ULF)	<u>U2 F R2 F' R2 F' U2 F R2 F R2 F'</u> (12 HTM)	Per Special
(URB DRF UFR)	<u>D2 B2 D F2 D' B2 D F2 D</u> (9 HTM)	A9
(URB DRF FUL)	<u>R2 D' L D R2 D' L' D</u> (8 HTM)	Drop and Catch
(URB DRF FRU)	<u>U' B U' F2 U B' U' F2 U2</u> (9 HTM)	A9
(URB DRF FLD)	<u>U2 R2 U2 R D2 R' U2 R D2 R U2</u> (11 HTM)	Columns
(URB DRF RUF)	<u>B U2 B D2 B' U2 B D2 B2</u> (9 HTM)	A9
(URB DRF RDB)	<u>F2 U2 F' D2 F U2 F' D2 F'</u> (9 HTM)	A9
(URB DRF BLU)	<u>U2 L' U2 L' D2 L U2 L' D2 L2 U2</u> (11 HTM)	Columns
(URB DRF BRD)	<u>D2 B2 D F D' B2 D F' D</u> (9 HTM)	A9

(URB DRF BDL)	<u>U' L U R2 U' L' U R2</u> (8 HTM)	Drop and Catch
(URB DRF LUB)	<u>U' L' U R2 U' L U R2</u> (8 HTM)	Direct Insert
(URB DRF LFU)	<u>B L' B' R2 B L B' R2</u> (8 HTM)	Drop and Catch
(URB DRF LBD)	<u>R2 F L' F' R2 F L F'</u> (8 HTM)	Drop and Catch
(URB DRF LDF)	<u>R2 D' L' D R2 D' L D</u> (8 HTM)	Direct Insert
(URB DRF DFL)	<u>U' L2 U R2 U' L2 U R2</u> (8 HTM)	Toss Up
(URB DRF DLB)	<u>U R2 U' B2 U' B2 U B2 D B2 D' R2</u> (12 HTM)	Per Special
(URB DRF DBR)	<u>U' B2 U' F2 U B2 U' F2 U2</u> (9 HTM)	A9
(URB DLB UBL)	<u>D2 R2 D' L2 D R2 D' L2 D'</u> (9 HTM)	A9
(URB DLB ULF)	<u>U B2 U' B2 U' L2 U B2 U B2 U' L2</u> (12 HTM)	Per Special
(URB DLB UFR)	<u>R' F' R B2 R' F R B2</u> (8 HTM)	Direct Insert
(URB DLB FUL)	<u>R' F R B2 R' F' R B2</u> (8 HTM)	Drop and Catch
(URB DLB FRU)	<u>U F U' B2 U F' U' B2</u> (8 HTM)	Direct Insert
(URB DLB FLD)	<u>R' F2 R B2 R' F2 R B2</u> (8 HTM)	Toss Up
(URB DLB FDR)	<u>B2 L' F L B2 L' F' L</u> (8 HTM)	Drop and Catch
(URB DLB RUF)	<u>U R U2 R D' R' U2 R D R2 U'</u> (11 HTM)	Columns
(URB DLB RFD)	<u>U F' U' B2 U F U' B2</u> (8 HTM)	Drop and Catch
(URB DLB RDB)	<u>R' U R' D2 R U' R' D2 R2</u> (9 HTM)	A9
(URB DLB BLU)	<u>R' U2 R' D2 R U2 R' D2 R2</u> (9 HTM)	A9
(URB DLB BRD)	<u>L2 U2 L D2 L' U2 L D2 L</u> (9 HTM)	A9
(URB DLB LUB)	<u>U R' U L2 U' R U L2 U2</u> (9 HTM)	A9
(URB DLB LFU)	<u>B2 D F' D' B2 D F D'</u> (8 HTM)	Drop and Catch
(URB DLB LDF)	<u>U B2 U' B' D2 B U B' D2 B' U'</u> (11 HTM)	Columns
(URB DLB DFL)	<u>U F2 U' B2 U F2 U' B2</u> (8 HTM)	Toss Up
(URB DLB DRF)	<u>U' B2 U R2 U R2 U' R2 D' R2 D B2</u> (12 HTM)	Per Special
(URB DLB DBR)	<u>U R2 U L2 U' R2 U L2 U2</u> (9 HTM)	A9

(URB DBR UBL)	<u>D' R2 D' L2 D R2 D' L2 D2</u> (9 HTM)	A9
(URB DBR ULF)	<u>R B2 L' B' R2 B L B' R2 B' R'</u> (11 HTM)	Columns
(URB DBR UFR)	<u>D B2 D F2 D' B2 D F2 D2</u> (9 HTM)	A9
(URB DBR FUL)	<u>D' R2 D' L D R2 D' L' D2</u> (9 HTM)	A9
(URB DBR FRU)	<u>U2 L U' R2 U L' U' R2 U'</u> (9 HTM)	A9
(URB DBR FLD)	<u>U2 L' U' R2 U L U' R2 U'</u> (9 HTM)	A9
(URB DBR FDR)	<u>D' R2 D' L' D R2 D' L D2</u> (9 HTM)	A9
(URB DBR RUF)	<u>F D' R2 D F' D' F R2 F' D</u> (10 HTM)	Cyclic Shift
(URB DBR RFD)	<u>U F' R2 F U' F' U R2 U' F</u> (10 HTM)	Cyclic Shift
(URB DBR BLU)	<u>L' D B2 D' L D L' B2 L D'</u> (10 HTM)	Cyclic Shift
(URB DBR BDL)	<u>U' L B2 L' U L U' B2 U L'</u> (10 HTM)	Cyclic Shift
(URB DBR LUB)	<u>U2 F' U B2 U' F U B2 U</u> (9 HTM)	A9
(URB DBR LFU)	<u>D B2 D F' D' B2 D F D2</u> (9 HTM)	A9
(URB DBR LBD)	<u>D B2 D F D' B2 D F' D2</u> (9 HTM)	A9
(URB DBR LDF)	<u>U2 F U B2 U' F' U B2 U</u> (9 HTM)	A9
(URB DBR DFL)	<u>R2 U' R2 U' L2 U R2 U' L2 U2 R2</u> (11 HTM)	Columns
(URB DBR DRF)	<u>U2 F2 U B2 U' F2 U B2 U</u> (9 HTM)	A9
(URB DBR DLB)	<u>U2 L2 U' R2 U L2 U' R2 U'</u> (9 HTM)	A9

Go [back](#).