4x4x4 Parity Algorithms

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Parity (also known as **Orientation Parity** and **Permutation Parity**) on the 4x4x4 is situation (occurring in 3/4 of all solves) commonly identified when only two or four edge pieces need to be cycled in order to complete solving the 4x4x4 or at least successfully bring the 4x4x4 into a pseudo 3x3x3 state. However, as is shown on this page, parity cases can take many other forms.

This page attempts to list all efficient algorithms for every common form of parity as well as those only common in specific solving methods. Solutions listed which are not as efficient as others in their categories are at least relatively efficient for their specific effect on the cube or for the move set they are confined to.

Contents

Introduction

The shortest 4x4x4 cube odd parity fix which preserves the colors of the centers (PLL Parity algorithms are even parity fixes for wing edges) is:

	(11,7)	2F2 2R e2 2R e2 2R 2F2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&stage=(11,7)&type=alg&view=playback&alg=2F2%202R%20e2%202R%20e2%202R%202F2)

(Thanks to the work of Tom Rokicki (https://www.speedsolving.com/forum/showthread.php?46925-Announcing-New-4x4x4-Brute-Force-Solver&p=975170&viewfull=1#post975170) and Ed Trice (https://www.speedsolving.com/forum/showthread.php?46925-Announcing-New-4x4x4-Brute-Force-Solver&p=975561&viewfull=1#post975561) in 2014.)

The shortest (and well-known) nxnxn cube odd parity fix which preserves the colors of the centers is simply:

	(13,9)	(2R U2)4 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&stage=(13,9)&type=alg&view=playback&alg=%282R%20U2%294%202R)

For those who are familiar with commutators and conjugates, this quick nxnxn cube parity fix can be represented as [2R: [U2, 2R] [2R2 U2: 2R]]. In fact, we can do the same 4-cycle of wing edges with just one conjugate [2R2 2D' 2R2 u2 s': 2R'].

The phrase "there is more than one way to solve any given problem" holds true with tackling 4x4x4 parity situations. In fact, there are different categories of parity algorithms, and algorithms can consist of different move patterns (the move set of one algorithm might be entirely different than the algorithm above and/or below it). This page not only contains commonly practiced speedsolving algorithms, but it also contains algorithms which illustrate the veracity of the 4x4x4 cube parity algorithm domain.

NOTES

- All algorithms are in SiGN Notation
- Some algorithms have been named, and their names are in the first column.

  Names such as "Alg(v1)", "Alg(v2)" are not actual names: they are just a notification that consecutive ordered version algorithms are different versions of the same algorithm.

- The algorithms below each case image solve the permutation in the case image.
- All algorithms' lengths are written next to them (slice quarter turn, slice half turn).

  Algorithms with fewer slice half turns (STM) are listed first in each category.
  Algorithms which have fewer slice quarter turn moves (SQTM) are listed before other algorithms which have the same number of STM as them.

- Most of these algorithms affect centers on the 4x4x4 supercube: not all algorithms affect the supercube centers in the same manner.
- All algorithms can be applied to the 6x6x6 if instead of turning the outer 2 layers, turn the outer 3 layers; instead of turning 1 inner layer slice, turn 2 inner layer slices.

PLL Parity

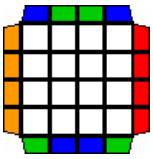
- As of the last edit, this page includes most algorithms from all of the following sources (all of which contain algorithms to most of the PLL Parity cases).
  - https://web.archive.org/web/20090808131640/http://www.math.leidenuniv.nl/~mfung/speedcubing/algs/4x4x4/
  - http://frederickbadie.free.fr/444PLLparity.html
  - http://hem.bredband.net/_zlv_/rubiks/4x4/444pllpar.html.

Dedges

- Algorithms marked as "Safe" are supercube safe.

Two Dedges (Oriented)

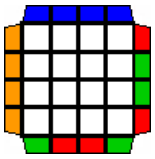
Opposite



		2R2 U2 2R2 u2 2R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R2%20u2%202R2%202U2)	(12,6)	Chris Hardwick	[X]
		2R2 U2 2R2 U2 2D2 2R2 2D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R2%20U2%202D2%202R2%202D2)	(14,7)		[X]
	SP01	(u2 r2 U2) 2R2 (U2 r2 u2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28u2%20r2%20U2%29%202R2%20%28U2%20r2%20u2%29)	(14,7)	Stefan Pochmann	[X]
		(d2 r2 U2) 2R2 (U2 r2 d2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28d2%20r2%20U2%29%202R2%20%28U2%20r2%20d2%29)	(14,7)	Stefan Pochmann	[X]
		(r2 F2 U2) 2R2 (U2 F2 r2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r2%20F2%20U2%29%202R2%20%28U2%20F2%20r2%29)	(14,7)	Stefan Pochmann	[X]
		(r2 B2 U2) 2R2 (U2 B2 r2) (http://alg.cubing.net/?			

		puzzle=4x4x4&type=alg&alg=%28r2%20B2%20U2%29%202R2%20%28U2%20B2%20r2%29)	(14,7)	Stefan Pochmann	[X]
		r2 (U2 2R U2 s2)2 r2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20%28U2%202R%20U2%20s2%292%20r2%2F%2FSafe)	(18,10)	Walter Randelshofer	[X]
		2R2 U2 B2 2L 2R U2 m' U2 2R2 B2 U2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%202R%20U2%20m%27%20U2%202R2%20B2%20U2%2F%2FSafe)	(19,11)	
	Alg(v1)	y r2 U2 r U2 r2 U2 r2 U2 r U2 r2 y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r2%20U2%20r%20U2%20r2%20U2%20r2%20U2%20r%20U2%20r2%20y%27)	(20,11)	[X]	
	Alg(v2)	y r2 U2 r' U2 r2 U2 r2 U2 r' U2 r2 y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r2%20U2%20r%27%20U2%20r2%20U2%20r2%20U2%20r%27%20U2%20r2%20y%27)	(20		
		2R2 U2 2R U2 2R2 U2 2R2 U2 2R U2 2R2 U2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20U2%202R2%20U2%202R2%20U2%202R%20U2%202R2%20U2%2F%2FSafe)	(22,		
		2R' F U' R F' U 2L 2R U' F R' U F' 2L'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20F%20U%27%20R%20F%27%20U%202L%202R%20U%27%20F%20R%27%20U%20F%27%2			

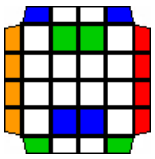
Adjacent



		(R2 D' x) 2R2 U2 2R2 u2 2R2 2U2 (x' D R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20x%29%202R2%20U2%202R2%20u2%202R2%202U2%20%28x%27%20D%20R2%			
	SP02	(R2 D' x u2 r2 U2) 2R2 (U2 r2 u2 x' D R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20x%20u2%20r2%20U2%29%202R2%20%28U2%20r2%20u2%20x%27%20D%			
	FB02	(R2 D' r2 U2 F2) 2R2 (F2 U2 r2 D R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20r2%20U2%20F2%29%202R2%20%28F2%20U2%20r2%20D%20R2%29)	(20,1		
		(F2 U r2 U2 F2) 2R2 (F2 U2 r2 U' F2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F2%20U%20r2%20U2%20F2%29%202R2%20%28F2%20U2%20r2%20U%27%20F2%29)	(20,11)		
		(R2 D' x r2 F2 U2) 2R2 (U2 F2 r2 x' D R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20x%20r2%20F2%20U2%29%202R2%20%28U2%20F2%20r2%20x%27%20D%20R2			
		(R2 D' x r2 B2 U2) 2R2 (U2 B2 r2 x' D R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20x%20r2%20B2%20U2%29%202R2%20%28U2%20B2%20r2%20x%27%20D%20R2			
		y' R' F 2L e F2 e' 2L' 2R' e F2 e' 2R F' R y//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20R%27%20F%202L%20e%20F2%20e%27%202L%27%202R%27%20e%20F2%20e%27%202R%			
		y' R' F 2L e' F2 e 2L' 2R' e' F2 e 2R F' R y//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20R%27%20F%202L%20e%27%20F2%20e%202L%27%202R%27%20e%27%20F2%20e%202R%			
		(R U R' U') 2R2 U2 2R2 u2 2R2 u2 (U' R U' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20U%20R%27%20U%27%29%202R2%20U2%202R2%20u2%202R2%20u2%20%28U%27%20R%			
		(R2 D' x) 2R2 U2 B2 2L 2R U2 m' U2 2R2 B2 U2 (x' D R2)//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20D%27%20x%29%202R2%20U2%20B2%202L%202R%20U2%20m%27%20U2%202R2%20B2			
	Alg(v1)	(r' U R U l' U2 r' U2) 2R2 (U2 r U2 l U' R' U' r) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r%27%20U%20R%20U%20l%27%20U2%20r%27%20U2%29%202R2%20%28U2%20r%20U2			
	Alg(v2)	y' (r U' R' U' r B2) (r B2 2R2 B2 r') (B2 r' U R U r') y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20%28r%20U%27%20R%27%20U%27%20r%20B2%29%20%28r%20B2%202R2%20B2%			
		y2 r U r' R U' r' U' r U r U' r' U' r' R U r U R' U' R' U y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20r%20U%20r%27%20R%20U%27%20r%27%20U%27%20r%20U%20r%20U%27%20r%27%20U%			
		y2 R' U' R' U r U R r' U' r' U' r U r U' r' U' R r' U r U y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20R%27%20U%27%20R%27%20U%20r%20U%20R%20r%27%20U%27%20r%27%20U%27%20r%			
		y R' U r U R r' U' r' U' r U r U' r' U' R r' U r U R' U' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20R%27%20U%20r%20U%20R%20r%27%20U%27%20r%27%20U%27%20r%20U%20r%20U%27%2			
		y r' U2 r U2 r' U2 r' U' r U' r U r' U' r U r2 U r U' r U r' U r U y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r%27%20U2%20r%20U2%20r%27%20U2%20r%27%20U%27%20r%20U%27%20r%20U%20r%27			

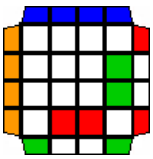
Two Dedges (Unoriented)

Opposite



	F2 2L e F2 e' 2L' 2R' e F2 e' 2R F2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%20e%20F2%20e%27%202L%27%202R%27%20e%20F2%20e%27%202R%20F2%2F%2FSafe)
	F2 2L e' F2 e 2L' 2R' e' F2 e 2R F2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%20e%27%20F2%20e%202L%27%202R%27%20e%27%20F2%20e%202R%20F2%2F%2FSafe)
	(y R' U F') 2R2 U2 2R2 u2 2R2 2U2 (F U' R y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20R%27%20U%20F%27%29%202R2%20U2%202R2%20u2%202R2%202U2%20%28F%20U%27
	2R U2 2L D2 2L' U2 m U2 2R D2 2R' U2 2L'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202L%20D2%202L%27%20U2%20m%20U2%202R%20D2%202R%27%20U2%202L%27%2F
	(y' R' F U' r2 U2 F2) 2R2 (F2 U2 r2 U F' R y) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%27%20R%27%20F%20U%27%20r2%20U2%20F2%29%202R2%20%28F2%20U2%20r2%20U%20
	(y R' U F' r2 F2 U2) 2R2 (U2 F2 r2 F U' R y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20R%27%20U%20F%27%20r2%20F2%20U2%29%202R2%20%28U2%20F2%20r2%20F%20U%2
	2L U2 m 2L U2 m' 2L' U2 m' U2 r m' U2 m 2R' U2 r'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U2%20m%202L%20U2%20m%27%202L%27%20U2%20m%27%20U2%20r%20m%27%20U2%20
	(F 2R U' R U' l U2 r U2) 2R2 (U2 r' U2 l' U R' U 2R' F') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F%202R%20U%27%20R%20U%27%20l%20U2%20r%20U2%29%202R2%20%28U2%20r%27%20U2
	(r U2 r' U 2L' U' l' U2 r' U' 2L2 U') 2R2 (U 2L2 U r U2 l U 2L U' r U2 r') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r%20U2%20r%27%20U%202L%27%20U%27%20l%27%20U2%20r%27%20U%27%202L2%20U%27

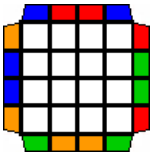
Adjacent



	(R B) 2R2 U2 2R2 u2 2R2 2U2 (B' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20B%29%202R2%20U2%202R2%20u2%202R2%202U2%20%28B%27%20R%27%29)	(16,10)	
	(R B r2 F2 U2) 2R2 (U2 F2 r2 B' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20B%20r2%20F2%20U2%29%202R2%20%28U2%20F2%20r2%20B%27%20R%27%29)	(18,11)	
	(3l U r2 U2 F2) 2R2 (F2 U2 r2 U' 3l') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%283l%20U%20r2%20U2%20F2%29%202R2%20%28F2%20U2%20r2%20U%27%203l%27%29)	(18,11)	
	R B U2 2R2 U2 B2 2L 2R U2 m' U2 2R2 B R'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20B%20U2%202R2%20U2%20B2%202L%202R%20U2%20m%27%20U2%202R2%20B%20R%27%2F		

Four Dedges (Oriented)

O + Permutation



	CG03	2R2 u2 2R2 2B2 U' 2R2 2B2 U 2B2 u2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20u2%202R2%202B2%20U%27%202R2%202B2%20U%202B2%20u2%202R2)	(20,11)	Cléme Galle	
		2F2 u2 2F2 2R2 U' 2F2 2R2 U 2R2 u2 2F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2F2%20u2%202F2%202R2%20U%27%202F2%202R2%20U%202R2%20u2%202F2)	(20,11)	Clément Gallet	[X
		2B2 U2 2B2 d2 m2 2F2 u' 2U' m2 U m2 y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2B2%20U2%202B2%20d2%20m2%202F2%20u%27%202U%27%20m2%20U%20m2%20y2)	(20,11)	Clé Ga	
		m2 U' m2 U' m U2 2L2 U2 2R2 u2 2R2 u2 U2 m (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20U%27%20m2%20U%27%20m%20U2%202L2%20U2%202R2%20u2%202R2%20u2%20U2%20m)			
		m2 U' m2 U' m' U2 2R2 U2 2L2 u2 2L2 u2 U2 m' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20U%27%20m2%20U%27%20m%27%20U2%202R2%20U2%202L2%20u2%202L2%20u2%20U2%2			
	PKF03	u2 2R2 u2 2R2 U2 2L2 U m2 U' m' e2 m' D2 y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u2%202R2%20u2%202R2%20U2%202L2%20U%20m2%20U%27%20m%27%20e2%20m%27%20D			
		2L2 U2 2L2 2U2 2F2 2U2 U' 2F2 2L2 U 2F2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L2%202U2%202F2%202U2%20U%27%202F2%202L2%20U%202F2%20U2%202L2)	(23,		
		2U2 2L2 U2 2L2 2F2 2U2 U' 2F2 2L2 U 2F2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%202L2%20U2%202L2%202F2%202U2%20U%27%202F2%202L2%20U%202F2%20U2%202L2)	(23,		
		m2 U' 2R2 U2 F2 2R2 F2 U2 2L 2R U2 m' U' m2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20U%27%202R2%20U2%20F2%202R2%20F2%20U2%202L%202R%20U2%20m%27%20U%27%20			
		2L 2R 3d' L R 2U' L' R' 3d m2 3d L' R' 2U' L R 3d' 2L 2R//Safe (http://alg.cubing.net/?			

	puzzle=4x4x4&type=alg&alg=2L%202R%203d%27%20L%20R%202U%27%20L%27%20R%27%203d%20m2%203d%20L%27%20R%2
	2L' 2R' 3d' L' R' 2U L R 3d m2 3d L R 2U L' R' 3d' 2L' 2R'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%202R%27%203d%27%20L%27%20R%27%202U%20L%20R%203d%20m2%203d%20L%20R%2
	2L 2R 3d L R 2U L' R' 3d' m2 3d' L' R' 2U L R 3d 2L 2R//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R%203d%20L%20R%202U%20L%27%20R%27%203d%27%20m2%203d%27%20L%27%20R%2
	2L' 2R' U y L' R' 2U' L R 3d' m2 3d' L R 2U' L' R' U y 2L' 2R'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%202R%27%20U%20y%20L%27%20R%27%202U%27%20L%20R%203d%27%20m2%203d%27%
	(F R U R' U' F') (2R2 U2 2R2 u2 2R2 u2) (R' U' F R' F' R U R) U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F%20R%20U%20R%27%20U%27%20F%27%29%20%282R2%20U2%202R2%20u2%202R2%20u2%
	(F2 U2 m U f2 2R2 2U s' r2 2U2) m' (2U2 r2 s 2U' 2R2 f2 U' m' U2 F2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F2%20U2%20m%20U%20f2%202R2%202U%20s%27%20r2%202U2%29%20m%27%20%282U2%2
	U r2 U2 R U' R' U r U2 r2 U2 r2 U2 r R' U' R U R' U' R2 U' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20r2%20U2%20R%20U%27%20R%27%20U%20r%20U2%20r2%20U2%20r2%20U2%20r%20R%27%
	U r2 U' R2 U' R' U R U' r R' U2 r2 U2 r2 U2 r U R' U' R U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20r2%20U%27%20R2%20U%27%20R%27%20U%20R%20U%27%20r%20R%27%20U2%20r2%20U2
	r' U r U R' r U' r' U R' U' R' U' R2 U r' U' R' r U R r U R' r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%20U%20R%27%20r%20U%27%20r%27%20U%20R%27%20U%27%20R%27%20U%2
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	U r2 U R U R' U' R' U r U2 r2 U2 r2 U2 r U2 R' U R' U' r2 R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20r2%20U%20R%20U%20R%27%20U%27%20R%27%20U%20r%20U2%20r2%20U2%20r2%20U2%
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	U r2 U2 R U' R' U r' U2 r2 U2 r2 U2 r' R' U' R U R' U' R2 U' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20r2%20U2%20R%20U%27%20R%27%20U%20r%27%20U2%20r2%20U2%20r2%20U2%20r%27%2
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	R2 U R U R2 U' r2 R2 U2 r' U2 r2 U2 r2 U2 r' U2 r2 R U' R' U2 R'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%20R%20U%20R2%20U%27%20r2%20R2%20U2%20r%27%20U2%20r2%20U2%20r2%20U2%
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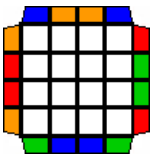
W Permutation (8 Permutation)



	m2 U m' U2 m U 2L2 U2 2R2 u2 2R2 u2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20U%20m%27%20U2%20m%20U%202L2%20U2%202R2%20u2%202R2%20u2%20U2)	(20,12)	
	2U2 s2 u' 2U' 2B2 R2 2B2 r2 2F2 2R2 U s2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%20s2%20u%27%202U%27%202B2%20R2%202B2%20r2%202F2%202R2%20U%20s2)	(21,12)	Clé Ga
	F2 D' 2F2 2D2 2B2 D' B2 d2 3u' m2 3u F2 u2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20D%27%202F2%202D2%202B2%20D%27%20B2%20d2%203u%27%20m2%203u%20F2%20u2)		(
	PKF04	(2R2 U2 2R2 u2 2R2 2U2) (F2 U m' U2 m U F2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R2%20U2%202R2%20u2%202R2%202U2%29%20%28F2%20U%20m%27%20U2%20m%20U	
	CG04	R2 u2 B2 R2 u2 B2 R2 U R2 B2 R2 U B2 u2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20u2%20B2%20R2%20u2%20B2%20R2%20U%20R2%20B2%20R2%20U%20B2%20u2)	(26,14	
	F2 u' 2U' m2 U' F2 D s2 d 2D b2 2U2 2B2 U2 y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20u%27%202U%27%20m2%20U%27%20F2%20D%20s2%20d%202D%20b2%202U2%202B2%20U2		
	2L2 D2 B2 r2 B2 D2 2L2 F2 U' F2 L2 F2 U' L2 (http://alg.cubing.net/?		

		puzzle=4x4x4&type=alg&alg=2L2%20D2%20B2%20r2%20B2%20D2%202L2%20F2%20U%27%20F2%20L2%20F2%20U%27%20L2) (2
	SP04	R' U R' U' R' U' R' U R U' u2 2R2 u2 2R2 U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%27%20U%20R%27%20U%27%20R%27%20U%27%20R%27%20U%20R%20U%27%20u2%202R
		R2 U R' U' R2 U R U r2 U2 R' r U2 R' r2 U2 r2 U2 r U2 r2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%20R%27%20U%27%20R2%20U%20R%20U%20r2%20U2%20R%27%20r%20U2%20R%27%20
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		R2 U R' U' R2 U R U R' r2 U2 R' r' U2 r2 U2 r2 U2 r' U2 r2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%20R%27%20U%27%20R2%20U%20R%20U%20R%27%20r2%20U2%20R%27%20r%27%20U2
		y R2 U' R' U' R U2 r U R r' U' r' U' r U r U' r' U' R r' U R r y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20R2%20U%27%20R%27%20U%27%20R%20U2%20r%20U%20R%20r%27%20U%27%20r%27%20U
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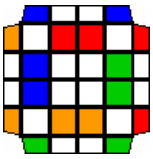
Four Dedges (Unoriented)

O + Permutation



		B2 m' B2 u2 U 2R2 u2 2R2 U2 2L2 U F2 m' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%20m%27%20B2%20u2%20U%202R2%20u2%202R2%20U2%202L2%20U%20F2%20m%27%20F2) (
		m' U2 F2 U m2 U m' u2 y' 2R2 u2 2R2 U2 r2 U2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m%27%20U2%20F2%20U%20m2%20U%20m%27%20u2%20y%27%202R2%20u2%202R2%20U2%20r2
		L2 s L2 U' s2 U r2 (U2 2R2 u2 2R2 2U2) s R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20s%20L2%20U%27%20s2%20U%20r2%20%28U2%202R2%20u2%202R2%202U2%29%20s%20R2
		L2 s' L2 U s2 U' r2 (U2 2R2 u2 2R2 2U2) s' R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20s%27%20L2%20U%20s2%20U%27%20r2%20%28U2%202R2%20u2%202R2%202U2%29%20s%2
		R2 s' (2U2 2R2 u2 2R2 U2) r2 U s2 U' L2 s' L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20s%27%20%282U2%202R2%20u2%202R2%20U2%29%20r2%20U%20s2%20U%27%20L2%20s%
		R2 s (2U2 2R2 u2 2R2 U2) r2 U' s2 U L2 s L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20s%20%282U2%202R2%20u2%202R2%20U2%29%20r2%20U%27%20s2%20U%20L2%20s%20L2
		m2 D' L R y m2 2U m2 y' L' R' D2 L' R' 2U L R D' m2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20D%27%20L%20R%20y%20m2%202U%20m2%20y%27%20L%27%20R%27%20D2%20L%27%20
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		m2 D L' R' 2D' L R D2 L R y m2 2D' m2 y' L' R' D m2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20D%20L%27%20R%27%202D%27%20L%20R%20D2%20L%20R%20y%20m2%202D%27%20m2%
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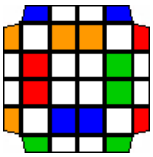
		(m2 U f2 2R2 2U s' r2 2U2) m (2U2 r2 s 2U' 2R2 f2 U' m2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%20f2%202R2%202U%20s%27%20r2%202U2%29%20m%20%282U2%20r2%20s%202U%
		(m2 U f2 2R2 2U' s' r2 2U2) m (2U2 r2 s 2U 2R2 f2 U' m2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%20f2%202R2%202U%27%20s%27%20r2%202U2%29%20m%20%282U2%20r2%20s%20

W Permutation (8 Permutation)



		y' m2 U' D2 2R2 s2 2L s2 2R2 e2 2R' U' m2 y'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20m2%20U%27%20D2%202R2%20s2%202L%20s2%202R2%20e2%202R%27%20U%27%20m2%
		m2 U' 2R U D L2 U D s2 2R s2 D' U' L2 D' m2//Safe (http://alg.cubing.net/?

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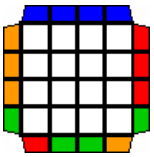
	y m2 U 2R' U' D' L2 U' D' s2 2R' s2 D U L2 D m2 y'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20m2%20U%202R%27%20U%27%20D%27%20L2%20U%27%20D%27%20s2%202R%27%20s2%20D	
	m2 D R2 D U 2R U' D' R2 U' D' s2 2R s2 U m2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%20D%20R2%20D%20U%202R%20U%27%20D%27%20R2%20U%27%20D%27%20s2%202R%20s2	
	y m2 D' R2 D' U' 2R' U D R2 U D s2 2R' s2 U' m2 y'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20m2%20D%27%20R2%20D%27%20U%27%202R%27%20U%20D%20R2%20U%20D%20s2%202R%	
	(m2 U')(2R' e2 2L e2)3 (U m2)//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%27%29%282R%27%20e2%202L%20e2%293%20%28U%20m2%29%2F%2FSafe)	(24,16)
	(m2 U')(e2 2R' e2 2L)3 (U m2)//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%27%29%28e2%202R%27%20e2%202L%293%20%28U%20m2%29%2F%2FSafe)	(24,16)
	(y x' m2 f 2F 2R2 2U 2R2 s' 2U2) m (2U2 s 2R2 2U' 2R2 2F' f' m2 x y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20x%27%20m2%20f%202F%202R2%202U%202R2%20s%27%202U2%29%20m%20%282U2%2	
	(y x' m2 f 2F 2R2 2U' 2R2 s' 2U2) m (2U2 s 2R2 2U 2R2 2F' f' m2 x y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20x%27%20m2%20f%202F%202R2%202U%27%202R2%20s%27%202U2%29%20m%20%282U2	
	(m2 U f2 2R2 2D 2R2 u2 s') m (s u2 2R2 2D' 2R2 f2 U' m2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%20f2%202R2%202D%202R2%20u2%20s%27%29%20m%20%28s%20u2%202R2%202D%	
	(m2 U f2 2R2 2D' 2R2 u2 s') m (s u2 2R2 2D 2R2 f2 U' m2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28m2%20U%20f2%202R2%202D%27%202R2%20u2%20s%27%29%20m%20%28s%20u2%202R2%2	

Two Corner Swaps

Adjacent



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	L' U l2 L B2 2L2 b2 2L2 2B2 U' L2 F2 R' D' R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L%27%20U%20l2%20L%20B2%202L2%20b2%202L2%202B2%20U%27%20L2%20F2%20R%27%20D%2	
PKF10	y' B2 L U L' B2 R D' 2R2 F2 2R2 f2 2R2 2F2 R D R2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20B2%20L%20U%20L%27%20B2%20R%20D%27%202R2%20F2%202R2%20f2%202R2%2	
	R U' R B2 L' D L B2 R2 U 2R2 F2 2R2 f2 2R2 2F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20U%27%20R%20B2%20L%27%20D%20L%20B2%20R2%20U%202R2%20F2%202R2%20f2%202R2	
	F2 L2 B D B' L2 F U' F 2F2 U2 L2 2B2 L2 U2 2F2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20L2%20B%20D%20B%27%20L2%20F%20U%27%20F%202F2%20U2%20L2%202B2%20L2%20U2%	
	R U' 3l U2' L' B L U2' 3l2' B l2 F2 U2' 2L2' U2' F2 l2' x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20U%27%203l%20U2%27%20L%27%20B%20L%20U2%27%203l2%27%20B%20l2%20F2%20U2%27	
	z 2R2 U2 R' U2 R' U2 R x U2 r2 U2 B2' L U2 L' U2 r2 U2' z' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%202R2%20U2%20R%27%20U2%20R%27%20U2%20R%20x%20U2%20r2%20U2%20B2%27%20L%20	
	z' r2 x U2 R' U2 x' U2 R' U2 R U2 L' x U2 r2 U2 r2 U2 r2 x' U2 r2 z U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20r2%20x%20U2%20R%27%20U2%20x%27%20U2%20R%27%20U2%20R%20U2%20L%27%20	
	2R2 U2 2R2 u2 2R2 2U2 y' R U R' U' R' F R2 U' R' U' R U R' F' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R2%20u2%202R2%202U2%20y%27%20R%20U%20R%27%20U%27%20R%27%20F%2	
	y' (R U R' F') U' 2R2 U2 2R2 u2 2R2 u2 U' (R U R' U') R' F R2 U' R' U' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20%28R%20U%20R%27%20F%27%29%20U%27%202R2%20U2%202R2%20u2%202R2%20u2%	
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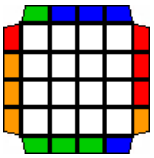
	z' x r2 R' U2 r U2 r2 U2 r2 U2 L r U2 R' U2 R U2 L' R U2 R U2 r2 x' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20x%20r2%20R%27%20U2%20r%20U2%20r2%20U2%20r2%20U2%20L%20r%20U2%20R%27%	

Opposite/Diagonal



		r2 2F2 U2 f2 D r2 U2 f2 U' f2 L2 U2 B2 l2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20U2%20f2%20D%20r2%20U2%20f2%20U%27%20f2%20L2%20U2%20B2%20l2%20U) (27
	Alg2	r2 2F2 U2 b2 D' r2 U2 b2 U f2 R2 D2 B2 l2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20U2%20b2%20D%27%20r2%20U2%20b2%20U%20f2%20R2%20D2%20B2%20l2%20U
	Alg2(v2)	r2 2F2 U2 f2 U' r2 U2 f2 U f2 R2 U2 F2 r2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20U2%20f2%20U%27%20r2%20U2%20f2%20U%20f2%20R2%20U2%20F2%20r2%2
		r2 2F2 D2 f2 U' r2 U2 b2 U b2 R2 U2 F2 r2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20D2%20f2%20U%27%20r2%20U2%20b2%20U%20b2%20R2%20U2%20F2%20r2%20U%27
		r2 2F2 D2 f2 D' r2 U2 b2 U b2 L2 U2 B2 l2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20D2%20f2%20D%27%20r2%20U2%20b2%20U%20b2%20L2%20U2%20B2%20l2%20U) (2
		r2 2F2 D2 b2 U r2 U2 f2 U' b2 L2 D2 F2 r2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202F2%20D2%20b2%20U%20r2%20U2%20f2%20U%27%20b2%20L2%20D2%20F2%20r2%20U%27
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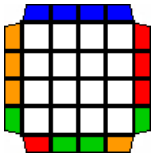
		f2 2R2 D2 r2 U b2 D2 r2 D' r2 F2 D2 L2 b2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=f2%202R2%20D2%20r2%20U%20b2%20D2%20r2%20D%27%20r2%20F2%20D2%20L2%20b2%20U) (2
		r2 F2 U2 y r2 U' r2 U D l2' U' l2' y' 2R2 U2 F2 r2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F2%20U2%20y%20r2%20U%27%20r2%20U%20D%20l2%27%20U%27%20l2%27%20y%27%202
		r2 F2 U2 y l2' U l2' U' D' r2 U r2 y' 2R2 U2 F2 r2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F2%20U2%20y%20l2%27%20U%20l2%27%20U%27%20D%27%20r2%20U%20r2%20y%27%202
		2R2 F2 L' U2 l2 F2 R' D2 R2 U2 B2 R D2 B2 r2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20L%27%20U2%20l2%20F2%20R%27%20D2%20R2%20U2%20B2%20R%20D2%20B2%20r
	reParity	y' z (R2' u2' R2 U R2') y (R2 U2 R2' U' R2) y' (R2' u2' R2 (d' 2U) R2) u2 U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20z%20%28R2%27%20u2%27%20R2%20U%20R2%27%29%20y%20%28R2%20U2%20R
		y' r' 2R' s2 U R U' B2 D L' D l 2L D2 F2 l 2L D2 z2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%27%202R%27%20s2%20U%20R%20U%27%20B2%20D%20L%27%20D%20l%202L%20D2%
		F2 L' U2 L R U2 R' F2 l2 F2 U2 l2' L' U2 F2 l2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20L%27%20U2%20L%20R%20U2%20R%27%20F2%20l2%20F2%20U2%20l2%27%20L%27%20U2%
		y' 2R2 F2 R' F2 U2 R2 U2 R' F2 R2 U2 r' 2R' U2 F2 r2 U2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%202R2%20F2%20R%27%20F2%20U2%20R2%20U2%20R%27%20F2%20R2%20U2%20r%27%20
		y' 2R2 B2 R' U2 r2 U2 B2 R' B2 2R2 U2 r2 B2 U2 R' U2 r2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%202R2%20B2%20R%27%20U2%20r2%20U2%20B2%20R%27%20B2%202R2%20U2%20r2%20B2
		L2 2U2 F2 U2 L2 2U2 F2 U' F2 L2 U2 L2 U L2 U2 F2 2U2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%202U2%20F2%20U2%20L2%202U2%20F2%20U%27%20F2%20L2%20U2%20L2%20U%20L2%20U2
	FB14	y' R r2 F2 L U L' B D L D' B2 U B 2R2 U2 F2 r2 R' U2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20R%20r2%20F2%20L%20U%20L%27%20B%20D%20L%20D%27%20B2%20U%20B%202R
		y' 2R2 U2 2R2 u2 2R2 u2 L' U R' U2 L U' L' R U R' U2 L U' R U y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%202R2%20U2%202R2%20u2%202R2%20u2%20L%27%20U%20R%27%20U2%20L%20U%27%20
		r2 R U2 R U2 R' U2 r U2 r2 U2 r2 U2 L r U2 R' U2 R U2 L' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20R%20U2%20R%20U2%20R%27%20U2%20r%20U2%20r2%20U2%20r2%20U2%20L%20r%20U2%
		r2 R U2 R U2 R' U2 r' U2 r2 U2 r2 U2 L r' U2 R' U2 R U2 L' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20R%20U2%20R%20U2%20R%27%20U2%20r2%20U2%20r2%20U2%20L%20r%27
		2L2 U2 F2 2L R U2 R' U2 L2 F2 L F2 l F2 U2 l2 U2 F2 U2 F2 L' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20F2%202L%20R%20U2%20R%27%20U2%20L2%20F2%20L%20F2%20l%20F2%20U2%20
		(F R U') (R' U' R U) (R' F') U 2R2 U2 2R2 u2 2R2 u2 U (R U R' U') (R' F R F') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F%20R%20U%27%29%20%28R%27%20U%27%20R%20U%29%20%28R%27%20F%27%29%20U%

Two Corner Swaps (Only 2 X-center Piece Exchange on the Supercube)

Adjacent



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		z' f' L2 u F' U R U' F 2R2 F' U R' U' F 2R2 f u' L u f' u' L f L z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20L2%20u%20F%27%20U%20R%20U%27%20F%202R2%20F%27%20U%20R%27%20
		z' f' L2 u 2R2 F' U R U' F 2R2 F' U R' U' F f u' L u f' u' L f L z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20L2%20u%202R2%20F%27%20U%20R%20U%27%20F%202R2%20F%27%20U%20R
		y' (r' R2 U' R' U R' r U' R U2' R' U' R' r U R r' U' r' F r2 U' r' U') (r U r' F') y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20%28r%27%20R2%20U%27%20R%27%20U%20R%27%20r%20U%27%20R%20U2%27%20R%
		y' r' U' R U 2R U' R' U R2 U R' U' 2R U 2R' F' r U r' U' r' F r2 U' r' U' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%27%20U%27%20R%20U%202R%20U%27%20R%27%20U%20R2%20U%20R%27%20U%27

	y' r' U' R U 2R U' R' U R2 U R' U' 2R U 2R' U' r' F r2 U' r' U' r U r' F' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%27%20U%27%20R%20U%202R%20U%27%20R%27%20U%20R2%20U%20R%27%20U%27
	y' r' U' R U 2R U' R' U R2 U R' U' 2R U R U' l u2 r' U' r d2 r' U r' F' x y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%27%20U%27%20R%20U%202R%20U%27%20R%27%20U%20R2%20U%20R%27%20U%27
	U r2 b2 r F r' b2 r F' D' 2F' D F2 D' 2F D F2 r L F' L' 2F' L F L' 2F (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20r2%20b2%20r%20F%20r%27%20b2%20r%20F%27%20D%27%202F%27%20D%20F2%20D%27%
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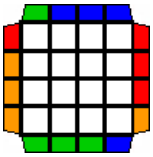
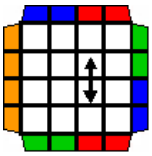
Opposite/Diagonal



	F 2R2 F' U R' U' F 2R2 f u' L u f' u' L f L f' L2 u F' U R U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F%202R2%20F%27%20U%20R%27%20U%27%20F%202R2%20f%20u%27%20L%20u%20f%27%20u%
	F r' F r2 U' r' U' r' U' R U 2R U' R' U R2 U R' U' 2R U 2R' F' r U r' U' F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F%20r%27%20F%20r2%20U%27%20r%27%20U%27%20r%27%20U%27%20R%20U%202R%20U%27%

Two X-Center Piece Swap Algorithms

- These algorithms, and other algorithms like them, are used to make two corner swap algorithms which only swap two X-center pieces on the 4x4x4 supercube.

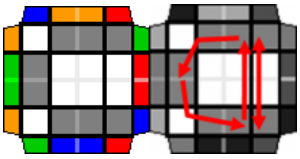


	y r U' l u2 r' U r u2 x r2 U y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r%20U%27%20l%20u2%20r%27%20U%20r%20u2%20x%20r2%20U%20y%27)	(13,10)	[X]
	f' U' r f r' U' r f' r' U2 f U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=f%27%20U%27%20r%20f%20r%27%20U%27%20r%20f%27%20r%27%20U2%20f%20U%27)	(13,12)	
	r U r' U' r' F r2 U' r' U' r U r' F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%20r%27%20U%27%20r%27%20F%20r2%20U%27%20r%27%20U%27%20r%20U%20r%27%20		
	r' U' l U l' U' r U l U' l' r' U r U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%27%20l%20U%20l%27%20U%27%20r%20U%20l%20U%27%20l%27%20r%27%20U%20r%		

Two Corner Swap and a Dedge 3-cycle

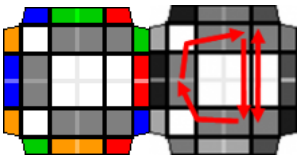
D Permutation

Da



		z2 F2 R2 d2 F2 U' R2 u2 U R2 U F2 u2 U m2 F2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z2%20F2%20R2%20d2%20F2%20U%27%20R2%20u2%20U%20R2%20U%20F2%20u2%20U%20m2%20
	FB07	F2 U r2 U' B2 U' F2 U B2 U' 2R2 F2 U2 r2 U' F2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20U%20r2%20U%27%20B2%20U%27%20F2%20U%20B2%20U%27%202R2%20F2%20U2%20
		y2 U' R2 2B2 2L2 f2 2L2 F2 2R2 L D L' B2 L D' L' F2 R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20U%27%20R2%202B2%202L2%20f2%202L2%20F2%202R2%20L%20D%20L%27%20B2%20L%20
		R2 U' 2F2 D2 L2 2B2 D' R2 D L2 D' R2 D' 2F2 U R2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%27%202F2%20D2%20L2%202B2%20D%27%20R2%20D%20L2%20D%27%20R2%20D%27%2

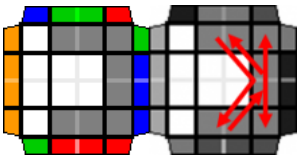
Db



		U F2 m2 u2 U' F2 U' R2 u2 U' R2 U F2 d2 R2 F2 z2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20F2%20m2%20u2%20U%27%20F2%20U%27%20R2%20u2%20U%27%20R2%20U%20F2%20d2%2
	FB07	U F2 U r2 U2 F2 2R2 U B2 U' F2 U B2 U r2 U' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20F2%20U%20r2%20U2%20F2%202R2%20U%20B2%20U%27%20F2%20U%20B2%20U%20r2%
		R2 F2 L D L' B2 L D' L' 2R2 F2 2L2 f2 2L2 2B2 R2 U y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20F2%20L%20D%20L%27%20B2%20L%20D%27%20L%27%202R2%20F2%202L2%20f2%202L2%2
		U R2 U' 2F2 D R2 D L2 D' R2 D 2B2 L2 D2 2F2 U R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20R2%20U%27%202F2%20D%20R2%20D%20L2%20D%27%20R2%20D%202B2%20L2%20D2%202

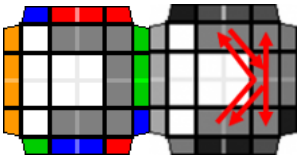
K Permutation

Ka



		U R U' L U2 R' U L 2L2 F2 l2 f2 2L2 f2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20R%20U%27%20L%20U2%20R%27%20U%20L%202L2%20F2%20l2%20f2%202L2%20f2)	(20,14)
		d2 R2 D B2 d2 D' B2 D' R2 d2 D' B2 L2 U' L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d2%20R2%20D%20B2%20d2%20D%27%20B2%20D%27%20R2%20d2%20D%27%20B2%20L2%20U%2	
	PKF06	2U2 2R2 u2 2R2 U2 r2 D R D' R F2 L' U L F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%202R2%20u2%202R2%20U2%20r2%20D%20R%20D%27%20R%20F2%20L%27%20U%20L%	
		2D2 D' B2 L2 U 2D2 L2 D' B2 U R2 U R2 d2 L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2D2%20D%27%20B2%20L2%20U%202D2%20L2%20D%27%20B2%20U%20R2%20U%20R2%20d2%20L	
		R U R' F' R U R' U' R' F R2 U' R' U (2R2 U2 2R2 u2 2R2 u2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20U%20R%27%20F%27%20R%20U%20R%27%20U%27%20R%27%20F%20R2%20U%27%20R%27	

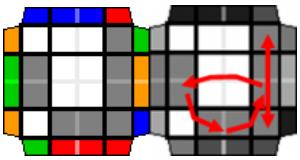
Kb



		f2 2L2 f2 l2 F2 2L2 L' U' R U2 L' U R' U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=f2%202L2%20f2%20l2%20F2%202L2%20L%27%20U%27%20R%20U2%20L%27%20U%20R%27%20U%	
		L2 U L2 B2 d2 D R2 D B2 d2 D B2 D' R2 d2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20U%20L2%20B2%20d2%20D%20R2%20D%20B2%20d2%20D%20B2%20D%27%20R2%20d2)	(23
	PKF06	F2 L' U' L F2 R' D R' D' r2 U2 2R2 u2 2R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20L%27%20U%27%20L%20F2%20R%27%20D%20R%27%20D%27%20r2%20U2%202R2%20	
		L2 d2 R2 U' R2 U' B2 D L2 2D2 U' L2 B2 D 2D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20d2%20R2%20U%27%20R2%20U%27%20B2%20D%20L2%202D2%20U%27%20L2%20B2%20D%	
		(2R2 U2 2R2 u2 2R2 u2 U2) R U R' F' R U R' U' R' F R2 U' R' U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R2%20U2%202R2%20u2%202R2%20u2%20U2%29%20R%20U%20R%27%20F%27%20R%20U%2	

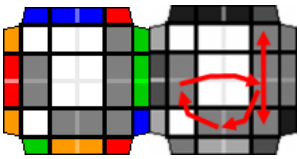
P Permutation

Pa



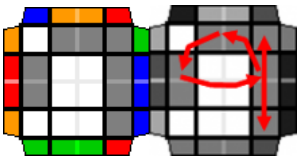
	CG05	U' z' U2 B2 l2 U2 L' B2 l2' L B2 L U2 l2' L U2 z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%27%20z%27%20U2%20B2%20l2%20U2%20L%27%20B2%20l2%27%20L%20B2%20L%20U2%2
	PKF05	R2 U R2 U' R2 F2 U' (f2 2R2)2 F2 2R2 D R2 D' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%20R2%20U%27%20R2%20F2%20U%27%20%28f2%202R2%292%20F2%202R2%20D%
	y2 L' U' L U L F' L2 U L (2R2 U2 2R2 u2 2R2 u2) U' L' U' L F y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20L%27%20U%27%20L%20U%20L%20F%27%20L2%20U%20L%20%282R2%20U2%202R2%20u2%	

Pb



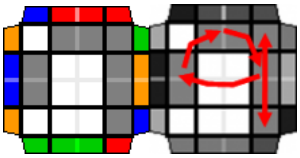
	CG05	z' U2 l2 L' U2 L' B2 l2' L' B2 L U2 l2' B2 U2 z U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20U2%20l2%20L%27%20U2%20L%27%20B2%20l2%27%20L%27%20B2%20L%20U2%20l2
	PKF05	R2 D' 2R2 F2 (2R2 f2)2 U F2 R2 U R2 U' R2 D (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20D%27%202R2%20F2%20%282R2%20f2%292%20U%20F2%20R2%20U%20R2%20U%27%
	R U R' U (2R2 U2 2R2 u2 2R2 u2) R' F R2 U' R' U' R U R' F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20U%20R%27%20U%20%282R2%20U2%202R2%20u2%202R2%20u2%29%20R%27%20F%20R2%2	

Pc



	CG05	z' U2 l2' L U2 L F2 l2' L F2 L' U2 l2 F2 U2 z U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20U2%20l2%27%20L%20U2%20L%20F2%20l2%27%20L%20F2%20L%27%20U2%20l2%20
	PKF05	R2 D 2R2 B2 (2R2 b2)2 U' B2 R2 U' R2 U R2 D' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20D%202R2%20B2%20%282R2%20b2%292%20U%27%20B2%20R2%20U%27%20R2%20U%
	y2 L' U' L U' (2R2 U2 2R2 u2 2R2 u2) L F' L2 U L U L' U' L F y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20L%27%20U%27%20L%20U%27%20%282R2%20U2%202R2%20u2%202R2%20u2%29%20L%20F	

Pd



	CG05	U z' U2 F2 l2' U2 L F2 l2 L' F2 L' U2 l2 L' U2 z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20z%27%20U2%20F2%20l2%27%20U2%20L%20F2%20l2%20L%27%20F2%20L%27%20U2%2
	PKF05	R2 U' R2 U R2 B2 U (b2 2R2)2 B2 2R2 D' R2 D (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%27%20R2%20U%20R2%20B2%20U%20%28b2%202R2%292%20B2%202R2%20D%27%
	R U R' U' R' F R2 U' R' (2R2 U2 2R2 u2 2R2 u2) U R U R' F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20U%20R%27%20U%27%20R%27%20F%20R2%20U%27%20R%27%20%282R2%20U2%202R2%20	

Q Permutation

Qa

	CG11	y' z U2 R' U2 r2 B2 R U2 r2 R' U2 R2 B2 r2 R U2 z' y U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20z%20U2%20R%27%20U2%20r2%20B2%20R%20U2%20r2%20R%27%20U2%20R2%20B2
		B2 L2 U2 L2 2D2 D' R2 U2 F2 2D2 D B2 U2 R2 U L2 R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%20L2%20U2%20L2%202D2%20D%27%20R2%20U2%20F2%202D2%20D%20B2%20U2%20R2%20U
		B2 2D2 L2 U2 L2 D' R2 U2 F2 2D2 D B2 U2 R2 U L2 R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202D2%20L2%20U2%20L2%20D%27%20R2%20U2%20F2%202D2%20D%20B2%20U2%20R2%20U
	PKF11	R' U' R F2 R' U R U F2 U' F2 U' f2 U2 2F2 u2 2F2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%27%20U%27%20R%20F2%20R%27%20U%20R%20U%20F2%20U%27%20F2%20U%27%20f2

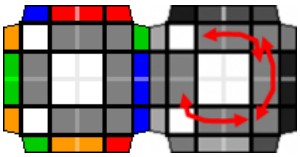
Qb

	CG11	y' z U2 R U2 r2 F2 R' U2 r2 R U2 R2 F2 r2 R' U2 z' y U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20z%20U2%20R%20U2%20r2%20F2%20R%27%20U2%20r2%20R%20U2%20R2%20F2%20
		2U2 F2 B2 U B2 U2 R2 D 2D2 L2 U2 B2 D' 2D2 F2 U2 F2 R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%20F2%20B2%20U%20B2%20U2%20R2%20D%202D2%20L2%20U2%20B2%20D%27%202D2%20F
		2U2 F2 B2 U B2 U2 R2 D 2D2 L2 U2 B2 D' F2 U2 F2 2D2 R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%20F2%20B2%20U%20B2%20U2%20R2%20D%202D2%20L2%20U2%20B2%20D%27%20F2%20U2
	PKF11	2U2 2L2 u2 2L2 U2 l2 U' L2 U' L2 3d L U L' F2 L U' L' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%202L2%20u2%202L2%20U2%20l2%20U%27%20L2%20U%27%20L2%203d%20L%20U%20L

Two Corner Swap and a Dedge Two 2-cycle

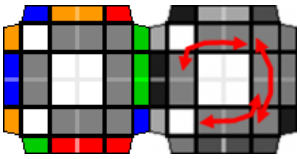
C Permutation

Ca



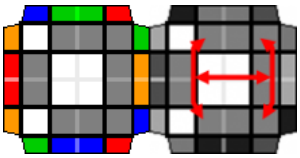
		y' r2 F2 U2 2R2 U' B2 U' F2 U B2 U' r2 U y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r2%20F2%20U2%202R2%20U%27%20B2%20U%27%20F2%20U%20B2%20U%27%20r2%20U	
	AO09	l2 U F2 U' B2 U F2 U 2L2 U2 B2 l2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%20U%20F2%20U%27%20B2%20U%20F2%20U%202L2%20U2%20B2%20l2%20U%27)	(21,13)
		y' r 2R B' R F2 R' B R U2 2R2 U2 F2 r2 U y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%202R%20B%27%20R%20F2%20R%27%20B%20R%20U2%202R2%20U2%20F2%20r2%20U	
		2R2 F2 R2 D2 2L2 D L2 D R2 D' L2 D F2 2R2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20R2%20D2%202L2%20D%20L2%20D%20R2%20D%27%20L2%20D%20F2%202R2%20U%	
		2L 2R U2 x U' L U' R2 U L' U' r2 U2 x' U2 2L' 2R' U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R%20U2%20x%20U%27%20L%20U%27%20R2%20U%20L%27%20U%27%20r2%20U2%20x%2	

Cb



		y r2 B2 U2 2R2 U F2 U B2 U' F2 U r2 U' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r2%20B2%20U2%202R2%20U%20F2%20U%20B2%20U%27%20F2%20U%20r2%20U%27%20y%2
	AO09	l2 U' B2 U F2 U' B2 U' 2L2 U2 F2 l2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%20U%27%20B2%20U%20F2%20U%27%20B2%20U%27%202L2%20U2%20F2%20l2%20U) (21
		y r' 2R' F R' B2 R F' R' U2 2R2 U2 B2 r2 U' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r%27%202R%27%20F%20R%27%20B2%20R%20F%27%20R%27%20U2%202R2%20U2%20B2%2
		2R2 B2 R2 D2 2L2 D' L2 D' R2 D L2 D' B2 2R2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20R2%20D2%202L2%20D%27%20L2%20D%27%20R2%20D%20L2%20D%27%20B2%202R
		2L' 2R' U2 x' U L' U R2 U' L U r2 U2 x U2 2L 2R U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%202R%27%20U2%20x%27%20U%20L%27%20U%20R2%20U%27%20L%20U%20r2%20U2%20

I Permutation

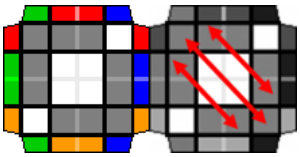


		L2 u2 L2 U' L2 D' B2 R2 2D2 U' R2 D B2 2U2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20u2%20L2%20U%27%20L2%20D%27%20B2%20R2%202D2%20U%27%20R2%20D%20B2%202U2
	CG08	L2 u2 L2 U L2 3u L2 F2 U z 2L2 F2 L' U2 l2 z' U y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L2%20u2%20L2%20U%20L2%203u%20L2%20F2%20U%20z%202L2%20F2%20L%27%20U2%20l2
	AO08	l2 U F2 L D' L D L' U L U' L' U 2L2 U2 F2 l2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%20U%20F2%20L%20D%27%20L%20D%20L%27%20U%20L%20U%27%20L%27%20U%202L2%

Theta (θ) Permutation

		R2 U B2 u2 R2 U' B2 u2 U B2 U2 R2 u2 U' R2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20U%20B2%20u2%20R2%20U%27%20B2%20u2%20U%20B2%20U2%20R2%20u2%20U%27%20R2
	CG12	z F2 r2 R' F2 R2 U2 r2 R U2 R' F2 r2 U2 R F2 z' U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%20F2%20r2%20R%27%20F2%20R2%20U2%20r2%20R%20U2%20R%27%20F2%20r2%20U2%2
		2U2 D F2 U R2 U2 2U2 F2 D' F2 U L2 D2 B2 U' 2U2 R2 y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%20D%20F2%20U%20R2%20U2%202U2%20F2%20D%27%20F2%20U%20L2%20D2%20B2%20U%2
		R' B' R F D' R' D B R f' 2F' R2 2F2 r2 2F2 r2 U R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%27%20B%27%20R%20F%20D%27%20R%27%20D%20B%20R%20f%27%202F%27%20R2%202F2%
	PKF12	F U F' R2 F U' F' U' R2 U 2F2 R2 (2F2 r2)2 U R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F%20U%20F%27%20R2%20F%20U%27%20F%27%20U%27%20R2%20U%202F2%20R2%20%282
		F R U' R' U' R U R' F' (2R2 U2 2R2 u2 2R2 2U2) R U R' U' R' F R F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F%20R%20U%27%20R%27%20U%27%20R%20U%20R%27%20F%27%20%282R2%20U2%202R2%20u

Xi (Ξ) Permutation



		u 2D B2 D m2 U L2 B2 U B2 u2 R2 D F2 u2 3l2 y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u%202D%20B2%20D%20m2%20U%20L2%20B2%20U%20B2%20u2%20R2%20D%20F2%20u2%203l2%
		R2 u2 U' m2 U R2 F2 u2 U' F2 U2 3r2 u2 U' F2 U2 R2 U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20u2%20U%27%20m2%20U%20R2%20F2%20u2%20U%27%20F2%20U2%203r2%20u2%20U%27%
	FB13	u2 l2 U' B' U B U2 F U' F' U F' L2 F l2 U2 l2 u2 U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u2%20l2%20U%27%20B%27%20U%20B%20U2%20F%20U%27%20F%27%20U%20F%27%20L2%2
		U L2 U2 F2 D B2 2U2 D' F2 L2 F2 D B2 D 2U2 R2 D2 F2 2D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%20L2%20U2%20F2%20D%20B2%202U2%20D%27%20F2%20L2%20F2%20D%20B2%20D%202U2%2
		d2 2L' 2R' F' L' B' L F L' R' F' R B R' F' 2L2 F2 l2 b2 F' x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d2%202L%27%202R%27%20F%27%20L%27%20B%27%20L%20F%20L%27%20R%27%20F%27%20R%

The Shortest PLL Parity Fixes in SQTM

- Note that these are the only PLL parity algorithms on this page which only use two inner layer slice quarter turns.
  - This alg set is for theoretical purposes only, as they scramble the pseudo 3x3x3 state of the 4x4x4.

		r U D L2 U D s2 r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20D%20L2%20U%20D%20s2%20r)	(10,8)	Christopher Mowla	[X]
		r' U D L2 U D s2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20D%20L2%20U%20D%20s2%20r%27)	(10,8)	Christopher Mowla	[X]
		r U' D' L2 U' D' s2 r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20D%27%20L2%20U%27%20D%27%20s2%20r)	(10,8)	Christopher Mowla	[X]
		r' U' D' L2 U' D' s2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20D%27%20L2%20U%27%20D%27%20s2%20r%27)	(10,8)	Christopher Mowla	
		r U D R2 U D s2 r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20D%20R2%20U%20D%20s2%20r)	(10,8)	Christopher Mowla	[X]
		r' U D R2 U D s2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20D%20R2%20U%20D%20s2%20r%27)	(10,8)	Christopher Mowla	[X]
		r U' D' R2 U' D' s2 r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20D%27%20R2%20U%27%20D%27%20s2%20r)	(10,8)	Christopher Mowla	[X]
		r' U' D' R2 U' D' s2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20D%27%20R2%20U%27%20D%27%20s2%20r%27)	(10,8)	Christopher Mowla	

- Taking the first algorithm, for example, and solving back the outer layers, we see that these short parity fixes were made from a supercube safe unoriented 4-cycle of dedges in M:

		2R U D L2 U D s2 2R s2 D' U' L2 D' U' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20U%20D%20L2%20U%20D%20s2%202R%20s2%20D%27%20U%27%20L2%20D%27

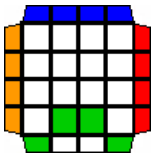
- However, note that this is not the shortest solution to this 4x4x4 position, as the following is a shorter supercube safe algorithm.

		(2L e2 2R' e2)3 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282L%20e2%202R%27%20e2%293)	(18,12)	Christopher Mowla	[X]

Pure Flips

- OLL parity algorithms in this section preserve more than any other OLL parity algorithm form, escpecially algorithms marked as "Safe", which are also supercube safe.

One Dedge Flip



	l e r2 u 2R' u' r2 d R2 u 2R' u' r R d' e' l' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%20e%20r2%20u%202R%27%20u%27%20r2%20d%20R2%20u%202R%27%20u%27%20r%20R%20d%
	r' e' l2 u' 2L u l2 d' L2 u' 2L u l' L' d e r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20e%27%20l2%20u%27%202L%20u%20l2%20d%27%20L2%20u%27%202L%20u%20l%27%20l
	y' r u2 x' U D 2R y u2 r2 u 2R u' r2 d 2R' 2U D' x u2 r' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%20u2%20x%27%20U%20D%202R%20y%20u2%20r2%20u%202R%20u%27%20r2%20d%2
	r' 3u' 2U' l' 2R' u' 2R' u 3l 2R' u l' u' 2R' u l e' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%203u%27%202U%27%20l%27%202R%27%20u%27%202R%27%20u%203l%202R%27%20u%20
Challenger	y' r u' L u' y R u' 2R u r' d r2 u' 2R u r2 L' u r' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%20u%27%20L%20u%27%20y%20R%20u%27%202R%20u%20r%27%20d%20r2%
Reverter	y' r' u L' u y' R' u 2R' u' r d' r2 u 2R' u' r2 L u' r y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20r%27%20u%20L%27%20u%20y%27%20R%27%20u%202R%27%20u%27%20r%20d
Holy Grail	z d' m D l' u' 2R' u l u' l2' b' 2R' b r' R' 2U y' m' u x2 z' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%20d%27%20m%20D%20l%27%20u%27%202R%27%20u%20l%20u%27%20l2%27%20b%27%2
	r' e u2 f u r' 2R' f' 2R f r u' f' u 2R u e' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20e%20u2%20f%20u%20r%27%202R%27%20f%27%202R%20f%20r%20u%27%20f%27%20u%
	l' s b2 d 2R d' b d 2R' d' 2R' b' 2R b 2R b s' l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20s%20b2%20d%202R%20d%27%20b%20d%202R%27%20d%27%202R%27%20b%27%202R%
	l' F' 2B' r' b' r 2U r' b r 2U2 b' 2U b 2U 2B F l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20F%27%202B%27%20r%27%20b%27%20r%202U%20r%27%20b%20r%202U2%20b%27%202
	r2 B 2R' U R' U 2R U' R U' 2R B U2 2R U2 2R' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20B%202R%27%20U%20R%27%20U%202R%20U%27%20R%20U%27%202R%20B%20U2%202R%
	z r f2 3u U y' 2R' u2 y' l2 u' 2R' u l2 u' 2R 3u' 2u' U' x' u2 r' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%20r%20f2%203u%20U%20y%27%202R%27%20u2%20y%27%20l2%20u%27%202R%27%20u%20l2
	2R2 U2 2R2 U2 2R U2 2R U2 2R' U2 B2 U' 2R' U B2 U' 2R U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R2%20U2%202R%20U2%202R%20U2%202R%27%20U2%20B2%20U%27%202R%27%
	2R2 U2 2R2 U2 2R U2 2R U2 2R' U2 B2 U 2R' U' B2 U 2R U (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R2%20U2%202R%20U2%202R%20U2%202R%27%20U2%20B2%20U%202R%27%20U%
	r' e u 2B' u 2R u 2R' u' 2B u 2R' u' 2R u 2R u e' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20e%20u%202B%27%20u%202R%20u%202R%27%20u%27%202B%20u%202R%27%20u%27%
	r' e u' 2R' u l' u' f r' f' 2R' f 2R r f' u l e' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20e%20u%27%202R%27%20u%20l%27%20u%27%20f%20r%27%20f%27%202R%27%20f%202
	r' D' 2U' u' r 2F r' u r 2F' r' 2F' u' 2F u 2F 2U D r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20D%27%202U%27%20u%27%20r%202F%20r%27%20u%20r%202F%27%20r%27%202F%27%
	d' F' z r2 B2 x' 2L' d u r2 d' 2L' d r2 d' 2L 2U' U r2 D r z' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d%27%20F%27%20z%20r2%20B2%20x%27%202L%27%20d%20u%20r2%20d%27%202L%27%20d%2
	u f' D 2R' d 2B d 2B' d' 2R d 2B' d' 2B d 2B d2 D' f u' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u%20f%27%20D%202R%27%20d%202B%20d%202B%27%20d%27%202R%20d%202B%27%20d%27%
	f' U' 2L 2U2 l b' l' 2U l u b 2U' b' u' b l' 2U 2L' U f (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=f%27%20U%27%202L%202U2%20l%20b%27%20l%27%202U%20l%20u%20b%202U%27%20b%27%20
	r U L F' U 2L' d u r2 d' 2L' d r2 d' 2L u' U' F L' U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%20L%20F%27%20U%202L%27%20d%20u%20r2%20d%27%202L%27%20d%20r2%20d%27%2
	b' R' 2U r' 2R' u b' u' 2R u r b 2R' b' r' b u' r 2U' R b (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=b%27%20R%27%202U%20r%27%202R%27%20u%20b%27%20u%27%202R%20u%20r%20b%202R%2
	b' R' 2U r' 2L' d b' d' 2L d l b 2L' b' l' b d' r 2U' R b (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=b%27%20R%27%202U%20r%27%202L%27%20d%20b%27%20d%27%202L%20d%20l%20b%202L%27
	z' f' u 2R' u' f u 2R' f' U L 2U 2L u' 2R' u 2L' 2U' L' U' f 2R2 u' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20u%202R%27%20u%27%20f%20u%202R%27%20f%27%20U%20L%202U%202L%20
	z' f' u 2R' u' f u 2R' f' 2F' U L U' 2F 2R' 2F' U L' U' 2F f 2R2 u' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20u%202R%27%20u%27%20f%20u%202R%27%20f%27%202F%27%20U%20L%20U%
	z' f' u 2R' u' f u 2R' f' 2F' L f R' F' 2R' F R f' L' 2F f 2R2 u' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20u%202R%27%20u%27%20f%20u%202R%27%20f%27%202F%27%20L%20f%20R%
	2R U2 2R' U2 2R U2 2R U 2R U 2R U2 2R2 U2 2R U2 2R U 2R' U' 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%27%20U2%202R%20U2%202R%20U%202R%20U%202R%20U2%202R2%20U2%202R
	2R U2 2R' U2 2R U2 2R U' 2R U' 2R U2 2R2 U2 2R U2 2R U' 2R' U 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%27%20U2%202R%20U2%202R%20U%27%202R%20U%27%202R%20U2%202R2%20
	2R2 U 2R' U' 2R U2 2R U2 2R2 U2 2R U' 2R U' 2R U2 2R U2 2R' U2 2R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U%202R%27%20U%27%202R%20U2%202R%20U2%202R2%20U2%202R%20U%27%202R%20
	2R2 U' 2R' U 2R U2 2R U2 2R2 U2 2R U 2R U 2R U2 2R U2 2R' U2 2R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U%27%202R%27%20U%202R%20U2%202R%20U2%202R2%20U2%202R%20U%202R%20U%2
	2R' U2 2R' U' 2R U 2R U 2R' D' 2F2 2R 2F2 2R' D U2 2R' U 2R U 2R U 2R//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%27%20U%27%202R%20U%202R%20U%202R%27%20D%27%202F2%202R%202
	r U2 r2 U L' U 2R U' L U2 L' U 2R' U' L U r' U2 2R U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r2%20U%20L%27%20U%202R%20U%27%20L%20U2%20L%27%20U%202R%27%20U%27

	r2 U2 2R' U2 2R' U' 2L 2R 2U2 2L' 2R' U 2L 2R 2U2 x U2 2L' U2 2R U2 2R' U2 r2 x'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%202R%27%20U2%202R%27%20U%27%202L%202R%202U2%202L%27%202R%27%20U%20
	z' 2F' u r' f' 2R' f r u' 2F 2R' u r' f' U L U' 2R' U L' U' f r u' 2R2 z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%202F%27%20u%20r%27%20f%27%202R%27%20f%20r%20u%27%202F%202R%27%20u%20r%
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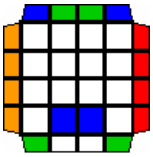
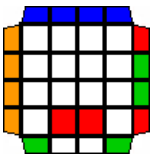
	r U2 r U r U2 r U2 r' U2 r' U 2R' U' r U2 r U2 r' U2 r' U 2R2 U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U%20r%20U2%20r%20U2%20r%27%20U2%20r%27%20U%202R%27%20U%27%20r
	r U2 r U' r U2 r U2 r' U2 r' U' 2R' U r U2 r U2 r' U2 r' U' 2R2 U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U%27%20r%20U2%20r%20U2%20r%27%20U%27%202R%27%20U%
	y r U r2' U' r U' r' U r U' r2' U2' r' U2' r U2' r' U r2' U' r U r' U' r U2' r U2' r2' U r' U' r' y' (http://alg.cubing.net/?puzzle=5x5x5&type=alg&alg=y%20r%20U%20r2%27%20U%27%20r%20U%27%20r%27%20U%20r%20U%27%20r2%27%20U2%27%

One Dedge Flip + PLL Parity (Double Parity)



		x 2R F2 l' F 2R' F' U2 F 2R F' U2 l x' e2 2L' U2 2L y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202R%20F2%20l%27%20F%202R%27%20F%27%20U2%20F%202R%20F%27%20U2%20l%20x%27
		r2 B2 2L F2 2R' F2 U2 2R' U2 2R U2 m' 2R U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20B2%202L%20F2%202R%27%20F2%20U2%202R%27%20U2%202R%20U2%20m%27%202R%20U
	Alg(v1)	r2 U B2 U' 2R' U B2 U' r 2R U B2 U 2R' U' B2 U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%20B2%20U%27%202R%27%20U%20B2%20U%27%20r%202R%20U%20B2%20U%202
	Alg(v2)	r2 3d L2 3d' 2R' 3d L2 3d' r 2R 3d L2 3d 2L' 3d' L2 3d' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%203d%20L2%203d%27%202R%27%203d%20L2%203d%27%20r%202R%203d%20L2%203d%
	Alg(v1)	2R2 U' B2 U 2R' U' B2 U 2R2 U' B2 U' 2R' U B2 U 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U%27%20B2%20U%202R%27%20U%27%20B2%20U%202R2%20U%27%20B2%20U%27
	Alg(v2)	2R2 3d' R2 3d 2R' 3d' R2 3d 2R2 3d' R2 3d' 2L' 3d R2 3d 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%203d%27%20R2%203d%202R%27%203d%27%20R2%203d%202R2%203d%27%20R2%203
		(F 2D' s 2R F r2 2F2 2U' 2R2 u2 s') 2R (s u2 2R2 2U 2F2 r2 F' 2R' s' 2D F') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F%202D%27%20s%202R%20F%20r2%202F2%202U%27%202R2%20u2%20s%27%29%202R%20%
		(B l2 U' L' U 2R 2U2 2B' 2R2 b2 e) 2R' (e' b2 2R2 2B 2U2 2R' U' L U l2 B') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28B%20l2%20U%27%20L%27%20U%202R%202U2%202B%27%202R2%20b2%20e%29%202R%27%2
		2R' U' R' U' 2R' U R U 2R U2 2R' U' R' U' 2R2 U R U 2R U2 2R U2 2R' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%27%20R%27%20U%27%202R%27%20U%20R%20U%202R%20U2%202R%27%20U%27%
		(z' l u2 U' r L2 U2 l' U' l R F2 U' R' U) 2R' (U' R U F2 R' l' U l U2 L2 r' U u2 l' z) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28z%27%20l%20u2%20U%27%20r%20L2%20U2%20l%27%20U%27%20l%20R%20F2%20U%27%20
		(z' l u2 U' r L2 U2 l' U' r R U2 3l U' R2 U) 2R' (U' R2 U 3l' U2 R' r' U l U2 L2 r' U u2 l' z) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28z%27%20l%20u2%20U%27%20r%20L2%20U2%20l%27%20U%27%20r%20R%20U2%203l%20U%2

One Dedge Flip + Adjacent PLL Parity (Adjacent Double Parity)

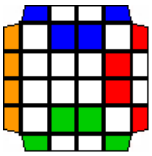


	(y' 2R2 F r' F') 2R2 U2 2R' U2 2R' U2 2R' U2 (F r F' 2R2 y) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%27%202R2%20F%20r%27%20F%27%29%202R2%20U2%202R%27%20U2%202R%27%20U2%2
	(y r' z' L' U 2R F) 2R2 U2 2R' U2 2R' U2 2R' U2 (F' 2R' U' L z r y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20r%27%20z%27%20L%27%20U%202R%20F%29%202R2%20U2%202R%27%20U2%202R%27
	d2 D F2 U 2L' F2 2L F2 U 2L D' U2 2R' D F2 D' 2R d2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d2%20D%20F2%20U%202L%27%20F2%202L%20F2%20U%202L%20D%27%20U2%202R%27%20D%2
	d2 D F2 U 2L' F2 2L F2 U 2L D U2 2R' D' F2 D 2R 2D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d2%20D%20F2%20U%202L%27%20F2%202L%20F2%20U%202L%20D%20U2%202R%27%20D%27%2
	(x' 2R2 U' r U) m' U2 2R' U2 2R' U2 2R' U2 2L 2R (U' r' U 2R2 x) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28x%27%202R2%20U%27%20r%20U%29%20m%27%20U2%202R%27%20U2%202R%27%20U2%20
	2U2 D' F2 U 2L' F2 2L F2 U 2L D U2 2R' D' F2 D 2R 2U2 (http://alg.cubing.net/?

	puzzle=4x4x4&type=alg&alg=2U2%20D%27%20F2%20U%202L%27%20F2%202L%20F2%20U%202L%20D%20U2%202R%27%20D%2
	R B y2 2R U2 2R' e2 F2 2L F2 2L' F2 2R F2 2R' D2 2L B' R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20B%20y2%202R%20U2%202R%27%20e2%20F2%202L%20F2%202L%27%20F2%202R%20F2%202
	2L2 U' B2 U 2L' U' 2L' B2 2L U F2 U' B2 2L B2 U F2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U%27%20B2%20U%202L%27%20U%27%202L%27%20B2%202L%20U%20F2%20U%27%20B2
	2L2 U' B2 U 2L' F2 U' 2L' B2 2L B2 2L U F2 U' B2 U 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U%27%20B2%20U%202L%27%20F2%20U%27%202L%27%20B2%202L%20B2%202L%20U%20
	2L2 U' B2 U 2L' F2 U' 2R' U2 2L U2 2R U F2 U' B2 U 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U%27%20B2%20U%202L%27%20F2%20U%27%202R%27%20U2%202L%20U2%202R%20U%2
	R B' 2R2 B2 2R B2 2R' B2 2R B2 U2 2R U2 2R B2 2R2 B' R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20B%27%202R2%20B2%202R%20B2%202R%27%20B2%202R%20B2%20U2%202R%20U2%202R%2
	2L2 F2 U' B2 U F2 2L' F2 U' 2L' B2 2L B2 2L B2 U F2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20U%27%20B2%20U%20F2%202L%27%20F2%20U%27%202L%27%20B2%202L%20B2%2
	2L2 F2 U' B2 U F2 2L' F2 U' 2R' U2 2L U2 2R B2 U F2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20U%27%20B2%20U%20F2%202L%27%20F2%20U%27%202R%27%20U2%202L%20U2%2
	2R2 B2 2L2 U' 2R' B2 2R U 2L U' B2 U 2L B2 D2 2L' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L2%20U%27%202R%27%20B2%202R%20U%202L%20U%27%20B2%20U%202L%20B2
	x r F2 U' r R U' 2R U2 2R U2 2R U2 2R2 U' r' R' U F2 r' x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%20r%20F2%20U%27%20r%20R%20U%27%202R%20U2%202R%20U2%202R%20U2%202R2%20U%2
	y r2 U x' 2L U' L' U' 2L' U L U F2 2L' F2 2R U2 2R' U2 x U' r2 y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r2%20U%20x%27%202L%20U%27%20L%27%20U%27%202L%27%20U%20L%20U%20F2%202L%
	2R2 F' r' F' U2 F 2R F 2L D2 2R' D2 F2 2L' U2 F R F 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F%27%20r%27%20F%27%20U2%20F%202R%20F%202L%20D2%202R%27%20D2%20F2%202
	2R' B L' B 2L' B' L B' 2L U 2L B2 2L' F2 2L' F2 2L B2 U' m' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20B%20L%27%20B%202L%27%20B%27%20L%20B%27%202L%20U%202L%20B2%202L%27
	(y r2 U x') 2L U' L' U' 2L' U L U m' U2 2L' U2 2L U2 2R' U2 (x U' r2 y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20r2%20U%20x%27%29%202L%20U%27%20L%27%20U%27%202L%27%20U%20L%20U%20m
	(y r2 F L) F U2 2L F2 D2 2R D2 2L' F 2R' F U2 F' 2R (L' F' r2 y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20r2%20F%20L%29%20F%20U2%202L%20F2%20D2%202R%20D2%202L%27%20F%202R%27
	(z' r' U' r' 2L' U L') U' 2R2 U2 2R' U2 2R' U2 2R' U' (L U' 2L r U r z) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28z%27%20r%27%20U%27%20r%27%202L%27%20U%20L%27%29%20U%27%202R2%20U2%202R
	(l2 B' R B 2L 2B2 2U' 2L2 u2 s) 2L' (s' u2 2L2 2U 2B2 2L' B' R' B l2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28l2%20B%27%20R%20B%202L%202B2%202U%27%202L2%20u2%20s%29%202L%27%20%28s%2
	(y x' l2 F' L2 F 2R 2F2 2U' 2R2 u2 s') 2R' (s u2 2R2 2U 2F2 2R' F' L2 F l2 x y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20x%27%20l2%20F%27%20L2%20F%202R%202F2%202U%27%202R2%20u2%20s%27%29%20
	x u F U 2R s' L2 s 2R s' L2 s 2R U R' U 2R U' R U' 2R U' F' u' x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%20u%20F%20U%202R%20s%27%20L2%20s%202R%20s%27%20L2%20s%202R%20U%20R%27%20
	x2 2R U2 2L U2 2R' F R F' U 2L' F2 2L U B2 2L B2 2L' U' F2 U' F R' F' x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x2%202R%20U2%202L%20U2%202R%27%20F%20R%20F%27%20U%202L%27%20F2%202L%20U%20
	(y b' R U 2B' R' b' u2 r' 2U2 2L2 s') 2U (s 2L2 2U2 r u2 b R 2B U' R' b y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20b%27%20R%20U%202B%27%20R%27%20b%27%20u2%20r%27%202U2%202L2%20s%27%
	(2R2 z B' u R u m' u2 2L' 2U2 r2 s) 2U (s' r2 2U2 2L u2 m u' R' u' B z' 2R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R2%20z%20B%27%20u%20R%20u%20m%27%20u2%202L%27%202U2%20r2%20s%29%202U%
	(z r' u2 U l' R2 U2 r U l' U2 F' R2 F) 2L' (F' R2 F U2 l U' r' U2 R2 l U' u2 r z') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28z%20r%27%20u2%20U%20l%27%20R2%20U2%20r%20U%20l%27%20U2%20F%27%20R2%20F%
	(l U r2 F r U' r U' F2 U r2 U' R' U') 2R (U R U r2 U' F2 U r' U r' F' r2 U' l') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28l%20U%20r2%20F%20r%20U%27%20r%20U%27%20F2%20U%20r2%20U%27%20R%27%20U%27
	u b' 2L b u' b' 2L u2 R' u' L' B' L B U' L U 2L U' L' U B' L' B L u R u2 2L2 b (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u%20b%27%202L%20b%20u%27%20b%27%202L%20u2%20R%27%20u%27%20L%27%20B%27%20L
	u b' 2L b u' b' 2L u2 R' u' L' U' B' L B L U 2L U' L' B' L' B U L u R u2 2L2 b (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u%20b%27%202L%20b%20u%27%20b%27%202L%20u2%20R%27%20u%27%20L%27%20U%27%20B
	(l' u2 U l' U2 r U l' U' L U B' U' R' B U') 2L (U B' R U B U' L' U l U' r' U2 l U' u2 l) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28l%27%20u2%20U%20l%27%20U2%20r%20U%20l%27%20U%27%20L%20U%20B%27%20U%27%
	(r u2 l r u2 r2 U2 r U' l U2 F L2 U F' U') 2L' (U F U' L2 F' U2 l' U r' U2 r2 u2 l' r' u2 r') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r%20u2%20l%20r%20u2%20r2%20U2%20r%20U%27%20l%20U2%20F%20L2%20U%20F%27%20U

Three Dedge Flip

OLL Parity (Only)



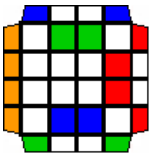
	2U2 2F' U 2F2 l2 U2 2F U2 B2 l2 2F2 U 2F 2U2 l2 B2 l2 (http://alg.cubing.net/?

		puzzle=4x4x4&type=alg&alg=2U2%202F%27%20U%202F2%20l2%20U2%202F%20U2%20B2%20l2%202F2%20U%202F%202U2%20l2
		R2 2B' U' L2 2F2 L2 2F2 U 2B U 2F' U2 2F m2 2F m2 U R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%202B%27%20U%27%20L2%202F2%20L2%202F2%20U%202B%20U%202F%27%20U2%202F%20m
		R2 D' 2L D2 2R' B2 2R' D2 2L2 D2 F2 2R' B2 2R F2 2R2 D' R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R2%20D%27%202L%20D2%202R%27%20B2%202R%27%20D2%202L2%20D2%20F2%202R%27%20B2
		y m U 2R B2 2L' D2 2L' B2 2R2 B2 U2 2L' D2 2L U2 2L2 B2 U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20m%20U%202R%20B2%202L%27%20D2%202L%27%20B2%202R2%20B2%20U2%202L%27%20D2
		y m U 2R2 D2 2R' U2 2R D2 B2 2L2 B2 2R U2 2R B2 2L' B2 U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20m%20U%202R2%20D2%202R%27%20U2%202R%20D2%20B2%202L2%20B2%202R%20U2%202R
		m2' U' x' 2R2 U2 m 2R' U2 2R F2 U2 2R2 U2 m' 2R x U2 2R U2 2R' U' m2' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=m2%27%20U%27%20x%27%202R2%20U2%20m%202R%27%20U2%202R%20F2%20U2%
		y m U 2L 2R F2 2L B 2U' B D2 B' 2U B 2R' D2 B2 2L2 F2 2R' U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202L%202R%20F2%202L%20B%202U%27%20B%20D2%20B%27%202U%2
		y m U 2L 2R F2 2L B' 2D' B' D2 B 2D B' 2R' D2 B2 2L2 F2 2R' U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202L%202R%20F2%202L%20B%27%202D%27%20B%27%20D2%20B%202
		y m U 2R' D2 2L' 2R' B2 D2 2L' B 2U B' D2 B 2U' B 2L D2 2R2 U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202R%27%20D2%202L%27%202R%27%20B2%20D2%202L%27%20B%202
		y m U 2R' D2 2L' 2R' B2 D2 2L' B' 2D B D2 B' 2D' B' 2L D2 2R2 U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202R%27%20D2%202L%27%202R%27%20B2%20D2%202L%27%20B%27
		y m U 2L' 2R' U2 2L' D' 2F D' B2 D 2F' D' 2R B2 D2 2L2 U2 2R U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202L%27%202R%27%20U2%202L%27%20D%27%202F%20D%27%20B2%
		y m U 2L' 2R' U2 2L' D 2B D B2 D' 2B' D 2R B2 D2 2L2 U2 2R U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=y%20m%20U%202L%27%202R%27%20U2%202L%27%20D%202B%20D%20B2%20D%27
	Alg(v1)	r U r U2 r U2 r U r' U2 2R' U2 r' U r U2 r U2 r U r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%20r%20U2%20r%20U2%20r%20U%20r%27%20U2%202R%27%20U2%20r%27%20U%2
	Alg(v2)	r' U' r' U2 r' U2 r' U' r U2 2R U2 r U' r' U2 r' U2 r' U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%27%20r%27%20U2%20r%27%20U2%20r%27%20U%27%20r%20U2%202R%20U2%
		u2 F2 l' U' L U l U2 l' U' L' U' 2L' U2 l' F2 2L F2 l' U2 l' 2L' F2 u2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u2%20F2%20l%27%20U%27%20L%20U%20l%20U2%20l%27%20U%27%20L%27%20U%27%202L%27
		u2 B2 l U L' U' l' U2 l U L U 2L U2 l B2 2L' B2 l U2 l 2L B2 u2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=u2%20B2%20l%20U%20L%27%20U%27%20l%27%20U2%20l%20U%20L%20U%202L%20U2%20l%20B
		m2' U' 2L U2 2R' F2 2R D2 F2 2R F2 2R' d2 2L 2R U' 2L' 2R' 2D2 2L 2R U 2L m F2 2L U' m2'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%27%20U%27%202L%20U2%202R%27%20F2%202R%20D2%20F2%202R%20F2%202R%27%20d2%
		m2' U' 2R' U2 2L F2 2L' D2 F2 2L' F2 2L d2 2L' 2R' U 2L 2R 2D2 2L' 2R' U' 2R' m F2 2R' U' m2'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m2%27%20U%27%202R%27%20U2%202L%20F2%202L%27%20D2%20F2%202L%27%20F2%202L%20
		L R U2 L' R' U' L R U2 L2 x' U B2 2R2 U2 2R D2 2R' U2 x' U2 2L2 U2 2R' B2 2R' U2 x 2L U' m' U'//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L%20R%20U2%20L%27%20R%27%20U%27%20L%20R%20U2%20L2%20x%27%20U%20B2%202R2%2

Other Cases

		(r' U' F' R' F R2 U') 2R (U R2 F' R F U r)(D' F2 D)(2R' F2 2R F2)(F2 2R2 F2 2R2 F2 2R2 F2)(D' F2 D) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%28r%27%20U%27%20F%27%20R%27%20F%20R2%20U%27%29%202R%20%28U%20F
		r U2 r U2 r U R U r U2 r' U' R' U' r' R' U R U r U2 r' U' R' U' r U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20r%20U%20R%20U%20r%20U2%20r%27%20U%27%20R%27%20U%27%20r%2

OLL Parity + PLL Parity (Double Parity)



		2U2 2F' U' 2F2 l2 U2 2F' U2 B2 l2 2F2 U' 2F 2U2 l2 B2 l2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2U2%202F%27%20U%27%202F2%20l2%20U2%202F%27%20U2%20B2%20l2%202F2%20U%27%202F%
		r' U2 2R U2 r' x' U2 2R' U' R' U' r' U2 r U R U' r R U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%202R%20U2%20r%27%20x%27%20U2%202R%27%20U%27%20R%27%20U%27%20r%2
		y m U 2R U2 2R2 U2 2R' U2 F2 2R' F2 2R2 U2 2L F2 2L' F2 2R2 U' m' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20m%20U%202R%20U2%202R2%20U2%202R%27%20U2%20F2%202R%27%20F2%202R2%20U2%
		(y' 2R' U2 m 2L U) (2R' U' F' R' F R2 U') 2R' (U R2 F' R F U 2R) 2R U2 2R' U2 (U' m' 2L' U2 2R y) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%28y%27%202R%27%20U2%20m%202L%20U%29%20%282R%27%20U%27%20F%27%

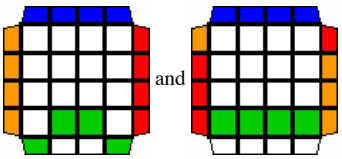
11 Dedge Flip (OLL Parity Only)

	r2 F2 2L U2 x' 2L U2 2L2 x' U2 2R' U2 2L D2 F2 2L U2 L R e m s x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F2%202L%20U2%20x%27%202L%20U2%202L2%20x%27%20U2%202R%27%20U2%202L%20D2
	2R D2 x U2 2L D2 2R' D2 2L2 F2 2L U2 2L x' U2 2R2 F2 R2 e L' R U' D y x R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20D2%20x%20U2%202L%20D2%202R%27%20D2%202L2%20F2%202L%20U2%202L%20x%27%20
	l2 F2 m 2R' F2 2R' U2 2R2 B2 2R D2 2L' B2 D2 2R' F2 L2 e' m s' x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%20F2%20m%202R%27%20F2%202R%27%20U2%202R2%20B2%202R%20D2%202L%27%20B2%20
	r2 F2 2L U2 2R' x' U2 2L2 F2 2R D2 m 2L x U2 B2 2R F2 R2 e m s x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F2%202L%20U2%202R%27%20x%27%20U2%202L2%20F2%202R%20D2%20m%202L%20x%20
	y 2D e m R D R' b 2F m 2D' m' f 2B m' F u m' R' s L F' U R D' R' e s2 R F' z' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%202D%20e%20m%20R%20D%20R%27%20b%202F%20m%202D%27%20m%27%20f%202B%20m%

Pure Flips/OLL Parity Algorithms which Don't Preserve the Last Layer

- If all inner slice turns of the algorithms in this section are converted to wide turns, the algorithms will simply affect more pieces in the last layer.
- The maximum number of wide turns are used in each algorithm to do pure flips to allow the easiest execution possible (with the exception of the 15 STM solutions), but no extra outer face turns are included as to make any algorithm longer (in STM or SQTM) than what it is without any inserted face turns at all.
- Of course, all wide turns may be converted into inner slice turns to achieve the same pure flip result.

OLL Parity (Only)



15 STM Solutions

- All possible 288 algorithms which flip the upper front dedge are listed and rigorously categorized below.
  - For the sake of conciseness, note that, for example, Alg.1(v1) is a transformation of Alg.1(v2), Alg.1(v3), Alg.1(v4), and Alg.1(v5).
  - In general, any given algorithm in any subgroup is a transformation of any given algorithm in another subgroup which is in the same group.
  - This was proved directly (in WCA notation) by Christopher Mowla in 2012 (https://www.speedsolving.com/forum/threads/methods-for-forming-2-cycle-odd-parity-algorithms-for-big-cubes.22969/page-2#post-774938).

Group 1 (Non-Symmetrical Algorithms)

	Alg.1(v1)	2R' U2 2L F2 2L' F2 2R2 U2 2R U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202L%27%20F2%202R2%20U2%202R%20U2%202R%27%20U2%
	Mirror[Alg.1(v1)]	2L U2 2R' F2 2R F2 2L2 U2 2L' U2 2L U2 F2 2L2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U2%202R%27%20F2%202R%20F2%202L2%20U2%202L%27%20U2%202L%20U2
	Inverse[Alg.1(v1)]	F2 2R2 F2 U2 2R U2 2R' U2 2R2 F2 2L F2 2L' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R2%20F2%20U2%202R%20U2%202R%27%20U2%202R2%20F2%202L%20F2%
	Rotation[Alg.1(v1)]	2L' F2 2R U2 2R' U2 2L2 F2 2L F2 2L' F2 U2 2L2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20F2%202R%20U2%202R%27%20U2%202L2%20F2%202L%20F2%202L%27
	Mirror[Inverse[Alg.1(v1)]]	F2 2L2 F2 U2 2L' U2 2L U2 2L2 F2 2R' F2 2R U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L2%20F2%20U2%202L%27%20U2%202L%20U2%202L2%20F2%202R%
	Mirror[Rotation[Alg.1(v1)]]	2R F2 2L' U2 2L U2 2R2 F2 2R' F2 2R F2 U2 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20F2%202L%27%20U2%202L%20U2%202R2%20F2%202R%27%20F2%20

	Inverse[Rotation[Alg.1(v1)]]	U2 2L2 U2 F2 2L F2 2L' F2 2L2 U2 2R U2 2R' F2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L2%20U2%20F2%202L%20F2%202L%27%20F2%202L2%20U2%202
	Mirror[Inverse[Rotation[Alg.1(v1)]]]	U2 2R2 U2 F2 2R' F2 2R F2 2R2 U2 2L' U2 2L F2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R2%20U2%20F2%202R%27%20F2%202R%20F2%202R2%20

	Alg.1(v2)	2R' U2 2R U2 2L' U2 2L2 F2 2R F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202L%27%20U2%202L2%20F2%202R%20F2%202L%27%20U2%
	Mirror[Alg.1(v2)]	2L U2 2L' U2 2R U2 2R2 F2 2L' F2 2R U2 F2 2L2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U2%202L%27%20U2%202R%20U2%202R2%20F2%202L%27%20F2%202R%20U
	Inverse[Alg.1(v2)]	F2 2R2 F2 U2 2L F2 2R' F2 2L2 U2 2L U2 2R' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R2%20F2%20U2%202L%20F2%202R%27%20F2%202L2%20U2%202L%20U2%
	Rotation[Alg.1(v2)]	2L' F2 2L F2 2R' F2 2R2 U2 2L U2 2R' F2 U2 2L2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20F2%202L%20F2%202R%27%20F2%202R2%20U2%202L%20U2%202R%27
	Mirror[Inverse[Alg.1(v2)]]	F2 2L2 F2 U2 2R' F2 2L F2 2R2 U2 2R' U2 2L U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L2%20F2%20U2%202R%27%20F2%202L%20F2%202R2%20U2%202R%
	Mirror[Rotation[Alg.1(v2)]]	2R F2 2R' F2 2L F2 2L2 U2 2R' U2 2L F2 U2 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20F2%202R%27%20F2%202L%20F2%202L2%20U2%202R%27%20U2%20
	Inverse[Rotation[Alg.1(v2)]]	U2 2L2 U2 F2 2R U2 2L' U2 2R2 F2 2R F2 2L' F2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L2%20U2%20F2%202R%20U2%202L%27%20U2%202R2%20F2%202
	Mirror[Inverse[Rotation[Alg.1(v2)]]]	U2 2R2 U2 F2 2L' U2 2R U2 2L2 F2 2L' F2 2R F2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R2%20U2%20F2%202L%27%20U2%202R%20U2%202L2%20

	Alg.1(v3)	2R B2 2R' U2 2R U2 2R2 F2 2R' D2 2L D2 B2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202R%20U2%202R2%20F2%202R%27%20D2%202L%20D2%20B
	Mirror[Alg.1(v3)]	2L' B2 2L U2 2L' U2 2L2 F2 2L D2 2R' D2 B2 2L2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20U2%202L%27%20U2%202L2%20F2%202L%20D2%202R%27%
	Inverse[Alg.1(v3)]	F2 2R2 B2 D2 2L' D2 2R F2 2R2 U2 2R' U2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R2%20B2%20D2%202L%27%20D2%202R%20F2%202R2%20U2%202R%27%2
	Rotation[Alg.1(v3)]	2L D2 2L' F2 2L F2 2L2 U2 2L' B2 2R B2 D2 2L2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202L%27%20F2%202L%20F2%202L2%20U2%202L%27%20B2%202R%20
	Mirror[Inverse[Alg.1(v3)]]	F2 2L2 B2 D2 2R D2 2L' F2 2L2 U2 2L U2 2L' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L2%20B2%20D2%202R%20D2%202L%27%20F2%202L2%20U2%202L%
	Mirror[Rotation[Alg.1(v3)]]	2R' D2 2R F2 2R' F2 2R2 U2 2R B2 2L' B2 D2 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202R%20F2%202R%27%20F2%202R2%20U2%202R%20B2%2
	Inverse[Rotation[Alg.1(v3)]]	U2 2L2 D2 B2 2R' B2 2L U2 2L2 F2 2L' F2 2L D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L2%20D2%20B2%202R%27%20B2%202L%20U2%202L2%20F2%202
	Mirror[Inverse[Rotation[Alg.1(v3)]]]	U2 2R2 D2 B2 2L B2 2R' U2 2R2 F2 2R F2 2R' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R2%20D2%20B2%202L%20B2%202R%27%20U2%202R2%20

	Alg.1(v4)	2R B2 2R' U2 2R U2 2L2 B2 2R' U2 2L U2 F2 2L2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202R%20U2%202L2%20B2%202R%27%20U2%202L%20U2%20F
	Mirror[Alg.1(v4)]	2L' B2 2L U2 2L' U2 2R2 B2 2L U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20U2%202L%27%20U2%202R2%20B2%202L%20U2%202R%27%
	Inverse[Alg.1(v4)]	F2 2L2 F2 U2 2L' U2 2R B2 2L2 U2 2R' U2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L2%20F2%20U2%202L%27%20U2%202R%20B2%202L2%20U2%202R%27%20
	Rotation[Alg.1(v4)]	2L D2 2L' F2 2L F2 2R2 D2 2L' F2 2R F2 U2 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202L%27%20F2%202L%20F2%202R2%20D2%202L%27%20F2%202R%20
	Mirror[Inverse[Alg.1(v4)]]	F2 2R2 F2 U2 2R U2 2L' B2 2R2 U2 2L U2 2L' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R2%20F2%20U2%202R%20U2%202L%27%20B2%202R2%20U2%202L
	Mirror[Rotation[Alg.1(v4)]]	2R' D2 2R F2 2R' F2 2L2 D2 2R F2 2L' F2 U2 2L2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202R%20F2%202R%27%20F2%202L2%20D2%202R%20F2%2
	Inverse[Rotation[Alg.1(v4)]]	U2 2R2 U2 F2 2R' F2 2L D2 2R2 F2 2L' F2 2L D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R2%20U2%20F2%202R%27%20F2%202L%20D2%202R2%20F2%202
	Mirror[Inverse[Rotation[Alg.1(v4)]]]	U2 2L2 U2 F2 2L F2 2R' D2 2L2 F2 2R F2 2R' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L2%20U2%20F2%202L%20F2%202R%27%20D2%202L2%20F

	Alg.1(v5)	2R B2 2L' B2 2L U2 2R2 F2 2L' F2 2R U2 F2 2L2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202L%27%20B2%202L%20U2%202R2%20F2%202L%27%20F2%202R%20U2%20F2
	Mirror[Alg.1(v5)]	2L' B2 2R B2 2R' U2 2L2 F2 2R F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202R%20B2%202R%27%20U2%202L2%20F2%202R%20F2%202L%27%
	Inverse[Alg.1(v5)]	F2 2L2 F2 U2 2R' F2 2L F2 2R2 U2 2L' B2 2L B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L2%20F2%20U2%202R%27%20F2%202L%20F2%202R2%20U2%202L%27%20
	Rotation[Alg.1(v5)]	2L D2 2R' D2 2R F2 2L2 U2 2R' U2 2L F2 U2 2R2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202R%27%20D2%202R%20F2%202L2%20U2%202R%27%20U2%202L%20
	Mirror[Inverse[Alg.1(v5)]]	F2 2R2 F2 U2 2L F2 2R' F2 2L2 U2 2R B2 2R' B2 2L (http://alg.cubing.net/?

		puzzle=4x4x4&type=alg&alg=F2%202R2%20F2%20U2%202L%20F2%202R%27%20F2%202L2%20U2%202R%
	Mirror[Rotation[Alg.1(v5)]]	2R' D2 2L D2 2L' F2 2R2 U2 2L U2 2R' F2 U2 2L2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202L%20D2%202L%27%20F2%202R2%20U2%202L%20U2%2
	Inverse[Rotation[Alg.1(v5)]]	U2 2R2 U2 F2 2L' U2 2R U2 2L2 F2 2R' D2 2R D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R2%20U2%20F2%202L%27%20U2%202R%20U2%202L2%20F2%202
	Mirror[Inverse[Rotation[Alg.1(v5)]]]	U2 2L2 U2 F2 2R U2 2L' U2 2R2 F2 2L D2 2L' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L2%20U2%20F2%202R%20U2%202L%27%20U2%202R2%20

Group 2 (Non-Symmetrical Algorithms): F2 Move Conjugation + Rotation of Group 1

	Alg.2(v1)	2R2 U2 B2 2R B2 2R' B2 2R2 U2 2L U2 2L' B2 2R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%20B2%202R%27%20B2%202R2%20U2%202L%20U2%202L%27%20
	Mirror[Alg.2(v1)]	2L2 U2 B2 2L' B2 2L B2 2L2 U2 2R' U2 2R B2 2L' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%27%20B2%202L%20B2%202L2%20U2%202R%27%20U2%202
	Inverse[Alg.2(v1)]	U2 2R' B2 2L U2 2L' U2 2R2 B2 2R B2 2R' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%27%20B2%202L%20U2%202L%27%20U2%202R2%20B2%202R%20B2%20
	Rotation[Alg.2(v1)]	2L2 F2 D2 2L D2 2L' D2 2L2 F2 2R F2 2R' D2 2L F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%20D2%202L%27%20D2%202L2%20F2%202R%20F2%202R
	Mirror[Inverse[Alg.2(v1)]]	U2 2L B2 2R' U2 2R U2 2L2 B2 2L' B2 2L B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%20B2%202R%27%20U2%202R%20U2%202L2%20B2%202L%27%20
	Mirror[Rotation[Alg.2(v1)]]	2R2 F2 D2 2R' D2 2R D2 2R2 F2 2L' F2 2L D2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20D2%202R%20D2%202R2%20F2%202L%27%
	Inverse[Rotation[Alg.2(v1)]]	F2 2L' D2 2R F2 2R' F2 2L2 D2 2L D2 2L' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%27%20D2%202R%20F2%202R%27%20F2%202L2%20D2%202L%
	Mirror[Inverse[Rotation[Alg.2(v1)]]]	F2 2R D2 2L' F2 2L F2 2R2 D2 2R' D2 2R D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R%20D2%202L%27%20F2%202L%20F2%202R2%20D2%202

	Alg.2(v2)	2R2 U2 B2 2L U2 2R' U2 2L2 B2 2L B2 2R' B2 2R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%20U2%202R%27%20U2%202L2%20B2%202L%20B2%202R%27%20
	Mirror[Alg.2(v2)]	2L2 U2 B2 2R' U2 2L U2 2R2 B2 2R' B2 2L B2 2L' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%27%20U2%202L%20U2%202R2%20B2%202R%27%20B2%20
	Inverse[Alg.2(v2)]	U2 2R' B2 2R B2 2L' B2 2L2 U2 2R U2 2L' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%27%20B2%202R%20B2%202L%27%20B2%202L2%20U2%202R%20U2%20
	Rotation[Alg.2(v2)]	2L2 F2 D2 2R F2 2L' F2 2R2 D2 2R D2 2L' D2 2L F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%20F2%202L%27%20F2%202R2%20D2%202R%20D2%202L
	Mirror[Inverse[Alg.2(v2)]]	U2 2L B2 2L' B2 2R B2 2R2 U2 2L' U2 2R B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%20B2%202L%27%20B2%202R%20B2%202R2%20U2%202L%27%20
	Mirror[Rotation[Alg.2(v2)]]	2R2 F2 D2 2L' F2 2R F2 2L2 D2 2L' D2 2R D2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%27%20F2%202R%20F2%202L2%20D2%202L%27%2
	Inverse[Rotation[Alg.2(v2)]]	F2 2L' D2 2L D2 2R' D2 2R2 F2 2L F2 2R' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%27%20D2%202L%20D2%202R%27%20D2%202R2%20F2%202L%
	Mirror[Inverse[Rotation[Alg.2(v2)]]]	F2 2R D2 2R' D2 2L D2 2L2 F2 2R' F2 2L D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R%20D2%202R%27%20D2%202L%20D2%202L2%20F2%202

	Alg.2(v3)	2R2 D2 F2 2L' F2 2R U2 2R2 B2 2R' B2 2R D2 2R' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202L%27%20F2%202R%20U2%202R2%20B2%202R%27%20B2%202R%20
	Mirror[Alg.2(v3)]	2L2 D2 F2 2R F2 2L' U2 2L2 B2 2L B2 2L' D2 2L U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202R%20F2%202L%27%20U2%202L2%20B2%202L%20B2%202L%2
	Inverse[Alg.2(v3)]	U2 2R D2 2R' B2 2R B2 2R2 U2 2R' F2 2L F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%20D2%202R%27%20B2%202R%20B2%202R2%20U2%202R%27%20F2%2
	Rotation[Alg.2(v3)]	2L2 B2 U2 2R' U2 2L F2 2L2 D2 2L' D2 2L B2 2L' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%27%20U2%202L%20F2%202L2%20D2%202L%27%20D2%2
	Mirror[Inverse[Alg.2(v3)]]	U2 2L' D2 2L B2 2L' B2 2L2 U2 2L F2 2R' F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%27%20D2%202L%20B2%202L%27%20B2%202L2%20U2%202L%20
	Mirror[Rotation[Alg.2(v3)]]	2R2 B2 U2 2L U2 2R' F2 2R2 D2 2R D2 2R' B2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%20U2%202R%27%20F2%202R2%20D2%202R%20D2
	Inverse[Rotation[Alg.2(v3)]]	F2 2L B2 2L' D2 2L D2 2L2 F2 2L' U2 2R U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%20B2%202L%27%20D2%202L%20D2%202L2%20F2%202L%27%2
	Mirror[Inverse[Rotation[Alg.2(v3)]]]	F2 2R' B2 2R D2 2R' D2 2R2 F2 2R U2 2L' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R%27%20B2%202R%20D2%202R%27%20D2%202R2%20F2%

	Alg.2(v4)	2R2 U2 B2 2R B2 2L' D2 2R2 B2 2L B2 2L' D2 2L U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%20B2%202L%27%20D2%202R2%20B2%202L%20B2%202L%27%20

	Mirror[Alg.2(v4)]	2L2 U2 B2 2L' B2 2R D2 2L2 B2 2R' B2 2R D2 2R' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%27%20B2%202R%20D2%202L2%20B2%202R%27%20B2%202
	Inverse[Alg.2(v4)]	U2 2L' D2 2L B2 2L' B2 2R2 D2 2L B2 2R' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%27%20D2%202L%20B2%202L%27%20B2%202R2%20D2%202L%20B2%202
	Rotation[Alg.2(v4)]	2L2 F2 D2 2L D2 2R' B2 2L2 D2 2R D2 2R' B2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%20D2%202R%27%20B2%202L2%20D2%202R%20D2%202R
	Mirror[Inverse[Alg.2(v4)]]	U2 2R D2 2R' B2 2R B2 2L2 D2 2R' B2 2L B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%20D2%202R%27%20B2%202R%20B2%202L2%20D2%202R%27%2
	Mirror[Rotation[Alg.2(v4)]]	2R2 F2 D2 2R' D2 2L B2 2R2 D2 2L' D2 2L B2 2L' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20D2%202L%20B2%202R2%20D2%202L%27%
	Inverse[Rotation[Alg.2(v4)]]	F2 2R' B2 2R D2 2R' D2 2L2 B2 2R D2 2L' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R%27%20B2%202R%20D2%202R%27%20D2%202L2%20B2%202R%
	Mirror[Inverse[Rotation[Alg.2(v4)]]]	F2 2L B2 2L' D2 2L D2 2R2 B2 2L' D2 2R D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%20B2%202L%27%20D2%202L%20D2%202R2%20B2%202L

	Alg.2(v5)	2R2 U2 B2 2L U2 2R' U2 2L2 B2 2R D2 2R' D2 2L U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%20U2%202R%27%20U2%202L2%20B2%202R%20D2%202R%27%20
	Mirror[Alg.2(v5)]	2L2 U2 B2 2R' U2 2L U2 2R2 B2 2L' D2 2L D2 2R' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%27%20U2%202L%20U2%202R2%20B2%202L%27%20D2%20
	Inverse[Alg.2(v5)]	U2 2L' D2 2R D2 2R' B2 2L2 U2 2R U2 2L' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%27%20D2%202R%20D2%202R%27%20B2%202L2%20U2%202R%20U2%2
	Rotation[Alg.2(v5)]	2L2 F2 D2 2R F2 2L' F2 2R2 D2 2L B2 2L' B2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%20F2%202L%27%20F2%202R2%20D2%202L%20B2%202L
	Mirror[Inverse[Alg.2(v5)]]	U2 2R D2 2L' D2 2L B2 2R2 U2 2L' U2 2R B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%20D2%202L%27%20D2%202L%20B2%202R2%20U2%202L%27%2
	Mirror[Rotation[Alg.2(v5)]]	2R2 F2 D2 2L' F2 2R F2 2L2 D2 2R' B2 2R B2 2L' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%27%20F2%202R%20F2%202L2%20D2%202R%27%
	Inverse[Rotation[Alg.2(v5)]]	F2 2R' B2 2L B2 2L' D2 2R2 F2 2L F2 2R' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202R%27%20B2%202L%20B2%202L%27%20D2%202R2%20F2%202L%
	Mirror[Inverse[Rotation[Alg.2(v5)]]]	F2 2L B2 2R' B2 2R D2 2L2 F2 2R' F2 2L D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%202L%20B2%202R%27%20B2%202R%20D2%202L2%20F2%202

Group 3 (Non-Symmetrical Algorithms): Cyclic Shift of Group 1

	Alg.3(v1)	2R B2 2R' U2 2L B2 2L2 B2 U2 2L U2 2L' U2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202L%20B2%202L2%20B2%20U2%202L%20U2%202L%27%20U2
	Mirror[Alg.3(v1)]	2L' B2 2L U2 2R' B2 2R2 B2 U2 2R' U2 2R U2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20U2%202R%27%20B2%202R2%20B2%20U2%202R%27%20U2%
	Inverse[Alg.3(v1)]	B2 2L2 U2 2L U2 2L' U2 B2 2L2 B2 2L' U2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L2%20U2%202L%20U2%202L%27%20U2%20B2%202L2%20B2%202L%27%20
	Rotation[Alg.3(v1)]	2L D2 2L' F2 2R D2 2R2 D2 F2 2R F2 2R' F2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202L%27%20F2%202R%20D2%202R2%20D2%20F2%202R%20F2%202R%
	Mirror[Inverse[Alg.3(v1)]]	B2 2R2 U2 2R' U2 2R U2 B2 2R2 B2 2R U2 2L' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R2%20U2%202R%27%20U2%202R%20U2%20B2%202R2%20B2%202R
	Mirror[Rotation[Alg.3(v1)]]	2R' D2 2R F2 2L' D2 2L2 D2 F2 2L' F2 2L F2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202R%20F2%202L%27%20D2%202L2%20D2%20F2%202L%2
	Inverse[Rotation[Alg.3(v1)]]	D2 2R2 F2 2R F2 2R' F2 D2 2R2 D2 2R' F2 2L D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R2%20F2%202R%20F2%202R%27%20F2%20D2%202R2%20D2%20
	Mirror[Inverse[Rotation[Alg.3(v1)]]]	D2 2L2 F2 2L' F2 2L F2 D2 2L2 D2 2L F2 2R' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L2%20F2%202L%27%20F2%202L%20F2%20D2%202L2%20D

	Alg.3(v2)	2R B2 2R' U2 2R D2 2R2 U2 F2 2L F2 2R' D2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202R%20D2%202R2%20U2%20F2%202L%20F2%202R%27%20D
	Mirror[Alg.3(v2)]	2L' B2 2L U2 2L' D2 2L2 U2 F2 2R' F2 2L D2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20U2%202L%27%20D2%202L2%20U2%20F2%202R%27%20F2%
	Inverse[Alg.3(v2)]	B2 2R2 D2 2R F2 2L' F2 U2 2R2 D2 2R' U2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R2%20D2%202R%20F2%202L%27%20F2%20U2%202R2%20D2%202R%27%2
	Rotation[Alg.3(v2)]	2L D2 2L' F2 2L B2 2L2 F2 U2 2R U2 2L' B2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202L%27%20F2%202L%20B2%202L2%20F2%20U2%202R%20U2%202L%
	Mirror[Inverse[Alg.3(v2)]]	B2 2L2 D2 2L' F2 2R F2 U2 2L2 D2 2L U2 2L' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L2%20D2%202L%27%20F2%202R%20F2%20U2%202L2%20D2%202L%
	Mirror[Rotation[Alg.3(v2)]]	2R' D2 2R F2 2R' B2 2R2 F2 U2 2L' U2 2R B2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202R%20F2%202R%27%20B2%202R2%20F2%20U2%202L%2
		D2 2L2 B2 2L U2 2R' U2 F2 2L2 B2 2L' F2 2L D2 2L' (http://alg.cubing.net/?

	Inverse[Rotation[Alg.3(v2)]]	puzzle=4x4x4&type=alg&alg=D2%202L2%20B2%202L%20U2%202R%27%20U2%20F2%202L2%20B2%202
	Mirror[Inverse[Rotation[Alg.3(v2)]]]	D2 2R2 B2 2R' U2 2L U2 F2 2R2 B2 2R F2 2R' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R2%20B2%202R%27%20U2%202L%20U2%20F2%202R2%20

	Alg.3(v3)	2R B2 2R' U2 2R D2 2L2 D2 B2 2L B2 2R' U2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202R%20D2%202L2%20D2%20B2%202L%20B2%202R%27%20U
	Mirror[Alg.3(v3)]	2L' B2 2L U2 2L' D2 2R2 D2 B2 2R' B2 2L U2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20U2%202L%27%20D2%202R2%20D2%20B2%202R%27%20B2%
	Inverse[Alg.3(v3)]	B2 2L2 U2 2R B2 2L' B2 D2 2L2 D2 2R' U2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L2%20U2%202R%20B2%202L%27%20B2%20D2%202L2%20D2%202R%27%2
	Rotation[Alg.3(v3)]	2L D2 2L' F2 2L B2 2R2 B2 D2 2R D2 2L' F2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202L%27%20F2%202L%20B2%202R2%20B2%20D2%202R%20D2%202L%
	Mirror[Inverse[Alg.3(v3)]]	B2 2R2 U2 2L' B2 2R B2 D2 2R2 D2 2L U2 2L' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R2%20U2%202L%27%20B2%202R%20B2%20D2%202R2%20D2%202L
	Mirror[Rotation[Alg.3(v3)]]	2R' D2 2R F2 2R' B2 2L2 B2 D2 2L' D2 2R F2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202R%20F2%202R%27%20B2%202L2%20B2%20D2%202L%2
	Inverse[Rotation[Alg.3(v3)]]	D2 2R2 F2 2L D2 2R' D2 B2 2R2 B2 2L' F2 2L D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R2%20F2%202L%20D2%202R%27%20D2%20B2%202R2%20B2%20
	Mirror[Inverse[Rotation[Alg.3(v3)]]]	D2 2L2 F2 2R' D2 2L D2 B2 2L2 B2 2R F2 2R' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L2%20F2%202R%27%20D2%202L%20D2%20B2%202L2%20

	Alg.3(v4)	2R B2 2L' B2 2L D2 2L2 D2 B2 2R D2 2L' D2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202L%27%20B2%202L%20D2%202L2%20D2%20B2%202R%20D2%202L%27%20D
	Mirror[Alg.3(v4)]	2L' B2 2R B2 2R' D2 2R2 D2 B2 2L' D2 2R D2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202R%20B2%202R%27%20D2%202R2%20D2%20B2%202L%27%20D2%
	Inverse[Alg.3(v4)]	B2 2R2 D2 2L D2 2R' B2 D2 2L2 D2 2L' B2 2L B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R2%20D2%202L%20D2%202R%27%20B2%20D2%202L2%20D2%202L%27%2
	Rotation[Alg.3(v4)]	2L D2 2R' D2 2R B2 2R2 B2 D2 2L B2 2R' B2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20D2%202R%27%20D2%202R%20B2%202R2%20B2%20D2%202L%20B2%202R%
	Mirror[Inverse[Alg.3(v4)]]	B2 2L2 D2 2R' D2 2L B2 D2 2R2 D2 2R B2 2R' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L2%20D2%202R%27%20D2%202L%20B2%20D2%202R2%20D2%202R
	Mirror[Rotation[Alg.3(v4)]]	2R' D2 2L D2 2L' B2 2L2 B2 D2 2R' B2 2L B2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20D2%202L%20D2%202L%27%20B2%202L2%20B2%20D2%202R%2
	Inverse[Rotation[Alg.3(v4)]]	D2 2L2 B2 2R B2 2L' D2 B2 2R2 B2 2R' D2 2R D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L2%20B2%202R%20B2%202L%27%20D2%20B2%202R2%20B2%202
	Mirror[Inverse[Rotation[Alg.3(v4)]]]	D2 2R2 B2 2L' B2 2R D2 B2 2L2 B2 2L D2 2L' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R2%20B2%202L%27%20B2%202R%20D2%20B2%202L2%20

	Alg.3(v5)	2R' U2 2R U2 2L' D2 2R2 D2 B2 2L' D2 2R D2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202L%27%20D2%202R2%20D2%20B2%202L%27%20D2%202R%
	Mirror[Alg.3(v5)]	2L U2 2L' U2 2R D2 2L2 D2 B2 2R D2 2L' D2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U2%202L%27%20U2%202R%20D2%202L2%20D2%20B2%202R%20D2%202L%2
	Inverse[Alg.3(v5)]	B2 2L2 D2 2R' D2 2L B2 D2 2R2 D2 2L U2 2R' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L2%20D2%202R%27%20D2%202L%20B2%20D2%202R2%20D2%202L%20U2
	Rotation[Alg.3(v5)]	2L' F2 2L F2 2R' B2 2L2 B2 D2 2R' B2 2L B2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20F2%202L%20F2%202R%27%20B2%202L2%20B2%20D2%202R%27%20B2
	Mirror[Inverse[Alg.3(v5)]]	B2 2R2 D2 2L D2 2R' B2 D2 2L2 D2 2R' U2 2L U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R2%20D2%202L%20D2%202R%27%20B2%20D2%202L2%20D2%202R
	Mirror[Rotation[Alg.3(v5)]]	2R F2 2R' F2 2L B2 2R2 B2 D2 2L B2 2R' B2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20F2%202R%27%20F2%202L%20B2%202R2%20B2%20D2%202L%20B2%
	Inverse[Rotation[Alg.3(v5)]]	D2 2R2 B2 2L' B2 2R D2 B2 2L2 B2 2R F2 2L' F2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R2%20B2%202L%27%20B2%202R%20D2%20B2%202L2%20B2%202
	Mirror[Inverse[Rotation[Alg.3(v5)]]]	D2 2L2 B2 2R B2 2L' D2 B2 2R2 B2 2L' F2 2R F2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L2%20B2%202R%20B2%202L%27%20D2%20B2%202R2%20

Group 4 (Non-Symmetrical Algorithms): B2 Move Conjugation of Group 3

	Alg.4(v1)	2R2 U2 2R' U2 2R U2 B2 2R2 B2 2R U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202R%20U2%20B2%202R2%20B2%202R%20U2%202L%27%20
	Mirror[Alg.4(v1)]	2L2 U2 2L U2 2L' U2 B2 2L2 B2 2L' U2 2R B2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%20U2%202L%27%20U2%20B2%202L2%20B2%202L%27%20U2%202
		B2 2L' B2 2L U2 2R' B2 2R2 B2 U2 2R' U2 2R U2 2R2 (http://alg.cubing.net/?

Inverse[Alg.4(v1)]	puzzle=4x4x4&type=alg&alg=B2%202L%27%20B2%202L%20U2%202R%27%20B2%202R2%20B2%20U2%202R%27	
Rotation[Alg.4(v1)]	2L2 F2 2L' F2 2L F2 D2 2L2 D2 2L F2 2R' D2 2R D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202L%27%20F2%202L%20F2%20D2%202L2%20D2%202L%20F2%202R%	
Mirror[Inverse[Alg.4(v1)]]	B2 2R B2 2R' U2 2L B2 2L2 B2 U2 2L U2 2L' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R%20B2%202R%27%20U2%202L%20B2%202L2%20B2%20U2%202L%	
Mirror[Rotation[Alg.4(v1)]]	2R2 F2 2R F2 2R' F2 D2 2R2 D2 2R' F2 2L D2 2L' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%20F2%202R%27%20F2%20D2%202R2%20D2%202R%27%	
Inverse[Rotation[Alg.4(v1)]]	D2 2R' D2 2R F2 2L' D2 2L2 D2 F2 2L' F2 2L F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R%27%20D2%202R%20F2%202L%27%20D2%202L2%20D2%20F2%	
Mirror[Inverse[Rotation[Alg.4(v1)]]]	D2 2L D2 2L' F2 2R D2 2R2 D2 F2 2R F2 2R' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L%20D2%202L%27%20F2%202R%20D2%202R2%20D2%20F	

Alg.4(v2)	2R2 D2 2R F2 2L' F2 U2 2R2 D2 2R' U2 2R B2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20F2%202L%27%20F2%20U2%202R2%20D2%202R%27%20U2%202R%20	
Mirror[Alg.4(v2)]	2L2 D2 2L' F2 2R F2 U2 2L2 D2 2L U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%27%20F2%202R%20F2%20U2%202L2%20D2%202L%20U2%202L%2	
Inverse[Alg.4(v2)]	B2 2R B2 2R' U2 2R D2 2R2 U2 F2 2L F2 2R' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R%20B2%202R%27%20U2%202R%20D2%202R2%20U2%20F2%202L%20F2%	
Rotation[Alg.4(v2)]	2L2 B2 2L U2 2R' U2 F2 2L2 B2 2L' F2 2L D2 2L' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202L%20U2%202R%27%20U2%20F2%202L2%20B2%202L%27%20F2%2	
Mirror[Inverse[Alg.4(v2)]]	B2 2L' B2 2L U2 2L' D2 2L2 U2 F2 2R' F2 2L D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L%27%20B2%202L%20U2%202L%27%20D2%202L2%20U2%20F2%20	
Mirror[Rotation[Alg.4(v2)]]	2R2 B2 2R' U2 2L U2 F2 2R2 B2 2R F2 2R' D2 2R D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%27%20U2%202L%20U2%20F2%202R2%20B2%202R%20F2	
Inverse[Rotation[Alg.4(v2)]]	D2 2L D2 2L' F2 2L B2 2L2 F2 U2 2R U2 2L' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L%20D2%202L%27%20F2%202L%20B2%202L2%20F2%20U2%202R	
Mirror[Inverse[Rotation[Alg.4(v2)]]]	D2 2R' D2 2R F2 2R' B2 2R2 F2 U2 2L' U2 2R B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R%27%20D2%202R%20F2%202R%27%20B2%202R2%20F2%	

Alg.4(v3)	2R2 U2 2L' B2 2R B2 D2 2R2 D2 2L U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202R%20B2%20D2%202R2%20D2%202L%20U2%202L%27%20	
Mirror[Alg.4(v3)]	2L2 U2 2R B2 2L' B2 D2 2L2 D2 2R' U2 2R B2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%20B2%202L%27%20B2%20D2%202L2%20D2%202R%27%20U2%20	
Inverse[Alg.4(v3)]	B2 2L' B2 2L U2 2L' D2 2R2 D2 B2 2R' B2 2L U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L%27%20B2%202L%20U2%202L%27%20D2%202R2%20D2%20B2%202R%27	
Rotation[Alg.4(v3)]	2L2 F2 2R' D2 2L D2 B2 2L2 B2 2R F2 2R' D2 2R D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202R%27%20D2%202L%20D2%20B2%202L2%20B2%202R%20F2%202R	
Mirror[Inverse[Alg.4(v3)]]	B2 2R B2 2R' U2 2R D2 2L2 D2 B2 2L B2 2R' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R%20B2%202R%27%20U2%202R%20D2%202L2%20D2%20B2%202L%	
Mirror[Rotation[Alg.4(v3)]]	2R2 F2 2L D2 2R' D2 B2 2R2 B2 2L' F2 2L D2 2L' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%20D2%202R%27%20D2%20B2%202R2%20B2%202L%27%	
Inverse[Rotation[Alg.4(v3)]]	D2 2R' D2 2R F2 2R' B2 2L2 B2 D2 2L' D2 2R F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R%27%20D2%202R%20F2%202R%27%20B2%202L2%20B2%20D2%	
Mirror[Inverse[Rotation[Alg.4(v3)]]]	D2 2L D2 2L' F2 2L B2 2R2 B2 D2 2R D2 2L' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L%20D2%202L%27%20F2%202L%20B2%202R2%20B2%20D	

Alg.4(v4)	2R2 D2 2L D2 2R' B2 D2 2L2 D2 2L' B2 2L B2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%20D2%202R%27%20B2%20D2%202L2%20D2%202L%27%20B2%202L%20	
Mirror[Alg.4(v4)]	2L2 D2 2R' D2 2L B2 D2 2R2 D2 2R B2 2R' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%27%20D2%202L%20B2%20D2%202R2%20D2%202R%20B2%202R%	
Inverse[Alg.4(v4)]	B2 2R B2 2L' B2 2L D2 2L2 D2 B2 2R D2 2L' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R%20B2%202L%27%20B2%202L%20D2%202L2%20D2%20B2%202R%20D2%	
Rotation[Alg.4(v4)]	2L2 B2 2R B2 2L' D2 B2 2R2 B2 2R' D2 2R D2 2L' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%20B2%202L%27%20D2%20B2%202R2%20B2%202R%27%20D2%	
Mirror[Inverse[Alg.4(v4)]]	B2 2L' B2 2R B2 2R' D2 2R2 D2 B2 2L' D2 2R D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L%27%20B2%202R%20B2%202R%27%20D2%202R2%20D2%20B2%2	
Mirror[Rotation[Alg.4(v4)]]	2R2 B2 2L' B2 2R D2 B2 2L2 B2 2L D2 2L' D2 2R D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%27%20B2%202R%20D2%20B2%202L2%20B2%202L%20D2	
Inverse[Rotation[Alg.4(v4)]]	D2 2L D2 2R' D2 2R B2 2R2 B2 D2 2L B2 2R' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L%20D2%202R%27%20D2%202R%20B2%202R2%20B2%20D2%202	
Mirror[Inverse[Rotation[Alg.4(v4)]]]	D2 2R' D2 2L D2 2L' B2 2L2 B2 D2 2R' B2 2L B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R%27%20D2%202L%20D2%202L%27%20B2%202L2%20B2%	

Alg.4(v5)	2R2 D2 2L D2 2R' B2 D2 2L2 D2 2R' U2 2L U2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%20D2%202R%27%20B2%20D2%202L2%20D2%202R%27%20U2%202L%20	

	Mirror[Alg.4(v5)]	2L2 D2 2R' D2 2L B2 D2 2R2 D2 2L U2 2R' U2 2R B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%27%20D2%202L%20B2%20D2%202R2%20D2%202L%20U2%202R%
	Inverse[Alg.4(v5)]	B2 2L U2 2L' U2 2R D2 2L2 D2 B2 2R D2 2L' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202L%20U2%202L%27%20U2%202R%20D2%202L2%20D2%20B2%202R%20D2%
	Rotation[Alg.4(v5)]	2L2 B2 2R B2 2L' D2 B2 2R2 B2 2L' F2 2R F2 2R' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%20B2%202L%27%20D2%20B2%202R2%20B2%202L%27%20F2%2
	Mirror[Inverse[Alg.4(v5)]]	B2 2R' U2 2R U2 2L' D2 2R2 D2 B2 2L' D2 2R D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=B2%202R%27%20U2%202R%20U2%202L%27%20D2%202R2%20D2%20B2%2
	Mirror[Rotation[Alg.4(v5)]]	2R2 B2 2L' B2 2R D2 B2 2L2 B2 2R F2 2L' F2 2L D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%27%20B2%202R%20D2%20B2%202L2%20B2%202R%20F2
	Inverse[Rotation[Alg.4(v5)]]	D2 2R F2 2R' F2 2L B2 2R2 B2 D2 2L B2 2R' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202R%20F2%202R%27%20F2%202L%20B2%202R2%20B2%20D2%202L
	Mirror[Inverse[Rotation[Alg.4(v5)]]]	D2 2L' F2 2L F2 2R' B2 2L2 B2 D2 2R' B2 2L B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=D2%202L%27%20F2%202L%20F2%202R%27%20B2%202L2%20B2%

Group 5 (Symmetrical Algorithms)

- The first and last turns of each of these algorithms can be made wide turns to still achieve a single dedge flip.

	Alg.5(v1)	2R2 B2 U2 2L U2 2R' U2 2R U2 F2 2R F2 2L' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%20U2%202R%27%20U2%202R%20U2%20F2%202R%20F2%202L%2
	Mirror[Alg.5(v1)]	2L2 B2 U2 2R' U2 2L U2 2L' U2 F2 2L' F2 2R B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%27%20U2%202L%20U2%202L%27%20U2%20F2%202L%27%
	Inverse[Alg.5(v1)]	2R2 B2 2L F2 2R' F2 U2 2R' U2 2R U2 2L' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%20F2%202R%27%20F2%20U2%202R%27%20U2%202R%20U2%20
	Rotation[Alg.5(v1)]	2L2 D2 F2 2R F2 2L' F2 2L F2 U2 2L U2 2R' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202R%20F2%202L%27%20F2%202L%20F2%20U2%202L%20U2%
	Mirror[Inverse[Alg.5(v1)]]	2L2 B2 2R' F2 2L F2 U2 2L U2 2L' U2 2R U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%27%20F2%202L%20F2%20U2%202L%20U2%202L%27%20
	Mirror[Rotation[Alg.5(v1)]]	2R2 D2 F2 2L' F2 2R F2 2R' F2 U2 2R' U2 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202L%27%20F2%202R%20F2%202R%27%20F2%20U2%2
	Inverse[Rotation[Alg.5(v1)]]	2L2 D2 2R U2 2L' U2 F2 2L' F2 2L F2 2R' F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%20U2%202L%27%20U2%20F2%202L%27%20F2%202L%
	Mirror[Inverse[Rotation[Alg.5(v1)]]]	2R2 D2 2L' U2 2R U2 F2 2R F2 2R' F2 2L F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%27%20U2%202R%20U2%20F2%202R%20F2%202

	Alg.5(v2)	2R2 B2 U2 2L U2 2L' B2 2R B2 U2 2R U2 2R' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%20U2%202L%27%20B2%202R%20B2%20U2%202R%20U2%202R%2
	Mirror[Alg.5(v2)]	2L2 B2 U2 2R' U2 2R B2 2L' B2 U2 2L' U2 2L B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%27%20U2%202R%20B2%202L%27%20B2%20U2%202L%27%
	Inverse[Alg.5(v2)]	2R2 B2 2R U2 2R' U2 B2 2R' B2 2L U2 2L' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202R%27%20U2%20B2%202R%27%20B2%202L%20U2%20
	Rotation[Alg.5(v2)]	2L2 D2 F2 2R F2 2R' D2 2L D2 F2 2L F2 2L' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202R%20F2%202R%27%20D2%202L%20D2%20F2%202L%20F2%
	Mirror[Inverse[Alg.5(v2)]]	2L2 B2 2L' U2 2L U2 B2 2L B2 2R' U2 2R U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202L%27%20U2%202L%20U2%20B2%202L%20B2%202R%27%20
	Mirror[Rotation[Alg.5(v2)]]	2R2 D2 F2 2L' F2 2L D2 2R' D2 F2 2R' F2 2R D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202L%27%20F2%202L%20D2%202R%27%20D2%20F2%2
	Inverse[Rotation[Alg.5(v2)]]	2L2 D2 2L F2 2L' F2 D2 2L' D2 2R F2 2R' F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%20F2%202L%27%20F2%20D2%202L%27%20D2%202R%
	Mirror[Inverse[Rotation[Alg.5(v2)]]]	2R2 D2 2R' F2 2R F2 D2 2R D2 2L' F2 2L F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%27%20F2%202R%20F2%20D2%202R%20D2%202

	Alg.5(v3)	2R2 F2 D2 2R' D2 2R F2 2L' F2 D2 2L' D2 2L F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20D2%202R%20F2%202L%27%20F2%20D2%202L%27%20D2%
	Mirror[Alg.5(v3)]	2L2 F2 D2 2L D2 2L' F2 2R F2 D2 2R D2 2R' F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%20D2%202L%27%20F2%202R%20F2%20D2%202R%20D2%20
	Inverse[Alg.5(v3)]	2R2 F2 2L' D2 2L D2 F2 2L F2 2R' D2 2R D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%27%20D2%202L%20D2%20F2%202L%20F2%202R%27%20D2%202
	Rotation[Alg.5(v3)]	2L2 U2 B2 2L' B2 2L U2 2R' U2 B2 2R' B2 2R U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%27%20B2%202L%20U2%202R%27%20U2%20B2%202R%27
	Mirror[Inverse[Alg.5(v3)]]	2L2 F2 2R D2 2R' D2 F2 2R' F2 2L D2 2L' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202R%20D2%202R%27%20D2%20F2%202R%27%20F2%202L%20
	Mirror[Rotation[Alg.5(v3)]]	2R2 U2 B2 2R B2 2R' U2 2L U2 B2 2L B2 2L' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%20B2%202R%27%20U2%202L%20U2%20B2%202L

Inverse[Rotation[Alg.5(v3)]]	2L2 U2 2R' B2 2R B2 U2 2R U2 2L' B2 2L B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%27%20B2%202R%20B2%20U2%202R%20U2%202L%27%
Mirror[Inverse[Rotation[Alg.5(v3)]]]	2R2 U2 2L B2 2L' B2 U2 2L' U2 2R B2 2R' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%20B2%202L%27%20B2%20U2%202L%27%20U2%

Alg.5(v4)	2R2 F2 D2 2R' D2 2L D2 2L' D2 B2 2L' B2 2R F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20D2%202L%20D2%202L%27%20D2%20B2%202L%27%20B2%
Mirror[Alg.5(v4)]	2L2 F2 D2 2L D2 2R' D2 2R D2 B2 2R B2 2L' F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%20D2%202R%27%20D2%202R%20D2%20B2%202R%20B2%2
Inverse[Alg.5(v4)]	2R2 F2 2R' B2 2L B2 D2 2L D2 2L' D2 2R D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20B2%202L%20B2%20D2%202L%20D2%202L%27%20D2%20
Rotation[Alg.5(v4)]	2L2 U2 B2 2L' B2 2R B2 2R' B2 D2 2R' D2 2L U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%27%20B2%202R%20B2%202R%27%20B2%20D2%202R%2
Mirror[Inverse[Alg.5(v4)]]	2L2 F2 2L B2 2R' B2 D2 2R' D2 2R D2 2L' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202L%20B2%202R%27%20B2%20D2%202R%27%20D2%202R%20
Mirror[Rotation[Alg.5(v4)]]	2R2 U2 B2 2R B2 2L' B2 2L B2 D2 2L D2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%20B2%202L%27%20B2%202L%20B2%20D2%202L%
Inverse[Rotation[Alg.5(v4)]]	2L2 U2 2L' D2 2R D2 B2 2R B2 2R' B2 2L B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%27%20D2%202R%20D2%20B2%202R%20B2%202R%27%
Mirror[Inverse[Rotation[Alg.5(v4)]]]	2R2 U2 2R D2 2L' D2 B2 2L' B2 2L B2 2R' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20D2%202L%27%20D2%20B2%202L%27%20B2%

Alg.5(v5)	2R2 B2 U2 2R B2 2R' B2 2L U2 F2 2R F2 2L' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202R%20B2%202R%27%20B2%202L%20U2%20F2%202R%20F2%202L%27
Mirror[Alg.5(v5)]	2L2 B2 U2 2L' B2 2L B2 2R' U2 F2 2L' F2 2R B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202L%27%20B2%202L%20B2%202R%27%20U2%20F2%202L%27%
Inverse[Alg.5(v5)]	2R2 B2 2L F2 2R' F2 U2 2L' B2 2R B2 2R' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%20F2%202R%27%20F2%20U2%202L%27%20B2%202R%20B2%202
Rotation[Alg.5(v5)]	2L2 D2 F2 2L D2 2L' D2 2R F2 U2 2L U2 2R' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202L%20D2%202L%27%20D2%202R%20F2%20U2%202L%20U2%
Mirror[Inverse[Alg.5(v5)]]	2L2 B2 2R' F2 2L F2 U2 2R B2 2L' B2 2L U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%27%20F2%202L%20F2%20U2%202R%20B2%202L%27%20
Mirror[Rotation[Alg.5(v5)]]	2R2 D2 F2 2R' D2 2R D2 2L' F2 U2 2R' U2 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202R%27%20D2%202R%20D2%202L%27%20F2%20U2%2
Inverse[Rotation[Alg.5(v5)]]	2L2 D2 2R U2 2L' U2 F2 2R' D2 2L D2 2L' F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%20U2%202L%27%20U2%20F2%202R%27%20D2%202L%
Mirror[Inverse[Rotation[Alg.5(v5)]]]	2R2 D2 2L' U2 2R U2 F2 2L D2 2R' D2 2R F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%27%20U2%202R%20U2%20F2%202L%20D2%202

Alg.5(v6)	2R2 F2 D2 2L' F2 2L F2 2R' D2 B2 2L' B2 2R F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%27%20F2%202L%20F2%202R%27%20D2%20B2%202L%27%20B2%
Mirror[Alg.5(v6)]	2L2 F2 D2 2R F2 2R' F2 2L D2 B2 2R B2 2L' F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%20F2%202R%27%20F2%202L%20D2%20B2%202R%20B2%2
Inverse[Alg.5(v6)]	2R2 F2 2R' B2 2L B2 D2 2R F2 2L' F2 2L D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20B2%202L%20B2%20D2%202R%20F2%202L%27%20F2%202
Rotation[Alg.5(v6)]	2L2 U2 B2 2R' U2 2R U2 2L' B2 D2 2R' D2 2L U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%27%20U2%202R%20U2%202L%27%20B2%20D2%202R%2
Mirror[Inverse[Alg.5(v6)]]	2L2 F2 2L B2 2R' B2 D2 2L' F2 2R F2 2R' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202L%20B2%202R%27%20B2%20D2%202L%27%20F2%202R%20
Mirror[Rotation[Alg.5(v6)]]	2R2 U2 B2 2L U2 2L' U2 2R B2 D2 2L D2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%20U2%202L%27%20U2%202R%20B2%20D2%202L%
Inverse[Rotation[Alg.5(v6)]]	2L2 U2 2L' D2 2R D2 B2 2L U2 2R' U2 2R B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%27%20D2%202R%20D2%20B2%202L%20U2%202R%27%
Mirror[Inverse[Rotation[Alg.5(v6)]]]	2R2 U2 2R D2 2L' D2 B2 2R' U2 2L U2 2L' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20D2%202L%27%20D2%20B2%202R%27%20U2%

Alg.5(v7)	2R2 B2 U2 2R B2 2L' D2 2R D2 B2 2L U2 2R' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202R%20B2%202L%27%20D2%202R%20D2%20B2%202L%20U2%202R%2
Mirror[Alg.5(v7)]	2L2 B2 U2 2L' B2 2R D2 2L' D2 B2 2R' U2 2L B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202L%27%20B2%202R%20D2%202L%27%20D2%20B2%202R%27%
Inverse[Alg.5(v7)]	2R2 B2 2R U2 2L' B2 D2 2R' D2 2L B2 2R' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202L%27%20B2%20D2%202R%27%20D2%202L%20B2%20
Rotation[Alg.5(v7)]	2L2 D2 F2 2L D2 2R' B2 2L B2 D2 2R F2 2L' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202L%20D2%202R%27%20B2%202L%20B2%20D2%202R%20F2%
Mirror[Inverse[Alg.5(v7)]]	2L2 B2 2L' U2 2R B2 D2 2L D2 2R' B2 2L U2 B2 2L2 (http://alg.cubing.net/?

		puzzle=4x4x4&type=alg&alg=2L2%20B2%202L%27%20U2%202R%20B2%20D2%202L%20D2%202R%27%20
	Mirror[Rotation[Alg.5(v7)]]	2R2 D2 F2 2R' D2 2L B2 2R' B2 D2 2L' F2 2R D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202R%27%20D2%202L%20B2%202R%27%20B2%20D2%2
	Inverse[Rotation[Alg.5(v7)]]	2L2 D2 2L F2 2R' D2 B2 2L' B2 2R D2 2L' F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%20F2%202R%27%20D2%20B2%202L%27%20B2%202R%
	Mirror[Inverse[Rotation[Alg.5(v7)]]]	2R2 D2 2R' F2 2L D2 B2 2R B2 2L' D2 2R F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%27%20F2%202L%20D2%20B2%202R%20B2%202

	Alg.5(v8)	2R2 F2 D2 2L' F2 2R U2 2L' U2 F2 2R' D2 2L F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%27%20F2%202R%20U2%202L%27%20U2%20F2%202R%27%20D2%
	Mirror[Alg.5(v8)]	2L2 F2 D2 2R F2 2L' U2 2R U2 F2 2L D2 2R' F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%20F2%202L%27%20U2%202R%20U2%20F2%202L%20D2%2
	Inverse[Alg.5(v8)]	2R2 F2 2L' D2 2R F2 U2 2L U2 2R' F2 2L D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%27%20D2%202R%20F2%20U2%202L%20U2%202R%27%20F2%20
	Rotation[Alg.5(v8)]	2L2 U2 B2 2R' U2 2L F2 2R' F2 U2 2L' B2 2R U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%27%20U2%202L%20F2%202R%27%20F2%20U2%202L%27
	Mirror[Inverse[Alg.5(v8)]]	2L2 F2 2R D2 2L' F2 U2 2R' U2 2L F2 2R' D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202R%20D2%202L%27%20F2%20U2%202R%27%20U2%202L%20
	Mirror[Rotation[Alg.5(v8)]]	2R2 U2 B2 2L U2 2R' F2 2L F2 U2 2R B2 2L' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%20U2%202R%27%20F2%202L%20F2%20U2%202R%
	Inverse[Rotation[Alg.5(v8)]]	2L2 U2 2R' B2 2L U2 F2 2R F2 2L' U2 2R B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%27%20B2%202L%20U2%20F2%202R%20F2%202L%27%
	Mirror[Inverse[Rotation[Alg.5(v8)]]]	2R2 U2 2L B2 2R' U2 F2 2L' F2 2R U2 2L' B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%20B2%202R%27%20U2%20F2%202L%27%20F2%

Group 6 (Symmetrical Algorithms): Cyclic Shift and Re-conjugation of Group 5

- The first and last turns of each of these algorithms can be made wide turns to still achieve a single dedge flip.

	Alg.6(v1)	2R2 B2 U2 2L' U2 2R U2 2R' U2 B2 2R' B2 2L B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%20B2%202R%27%20B2%
	Mirror[Alg.6(v1)]	2L2 B2 U2 2R U2 2L' U2 2L U2 B2 2L B2 2R' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%20U2%202L%27%20U2%202L%20U2%20B2%202L%20B2%2
	Inverse[Alg.6(v1)]	2R2 B2 2L' B2 2R B2 U2 2R' U2 2L U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%27%20B2%202R%20B2%20U2%202R%20U2%202R%27%20U2%2
	Rotation[Alg.6(v1)]	2L2 D2 F2 2R' F2 2L F2 2L' F2 D2 2L' D2 2R D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202R%27%20F2%202L%20F2%202L%27%20F2%20D2%202L%27
	Mirror[Inverse[Alg.6(v1)]]	2L2 B2 2R B2 2L' B2 U2 2L' U2 2L U2 2R' U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%20B2%202L%27%20B2%20U2%202L%27%20U2%202L%20
	Mirror[Rotation[Alg.6(v1)]]	2R2 D2 F2 2L F2 2R' F2 2R F2 D2 2R D2 2L' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202L%20F2%202R%27%20F2%202R%20F2%20D2%202R%
	Inverse[Rotation[Alg.6(v1)]]	2L2 D2 2R' D2 2L D2 F2 2L F2 2L' F2 2R F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%27%20D2%202L%20D2%20F2%202L%20F2%202L%27%
	Mirror[Inverse[Rotation[Alg.6(v1)]]]	2R2 D2 2L D2 2R' D2 F2 2R' F2 2R F2 2L' F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%20D2%202R%27%20D2%20F2%202R%27%20F2%

	Alg.6(v2)	2R2 B2 U2 2L' U2 2L F2 2R' F2 U2 2R' U2 2R B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%27%20U2%202L%20F2%202R%27%20F2%20U2%202R%27%20U2%
	Mirror[Alg.6(v2)]	2L2 B2 U2 2R U2 2R' F2 2L F2 U2 2L U2 2L' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%20U2%202R%27%20F2%202L%20F2%20U2%202L%20U2%2
	Inverse[Alg.6(v2)]	2R2 B2 2R' U2 2R U2 F2 2R F2 2L' U2 2L U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%27%20U2%202R%20U2%20F2%202R%20F2%202L%27%20U2%20
	Rotation[Alg.6(v2)]	2L2 D2 F2 2R' F2 2R U2 2L' U2 F2 2L' F2 2L D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202R%27%20F2%202R%20U2%202L%27%20U2%20F2%202L%27
	Mirror[Inverse[Alg.6(v2)]]	2L2 B2 2L U2 2L' U2 F2 2L' F2 2R U2 2R' U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202L%20U2%202L%27%20U2%20F2%202L%27%20F2%202R%20
	Mirror[Rotation[Alg.6(v2)]]	2R2 D2 F2 2L F2 2L' U2 2R U2 F2 2R F2 2R' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202L%20F2%202L%27%20U2%202R%20U2%20F2%202R%
	Inverse[Rotation[Alg.6(v2)]]	2L2 D2 2L' F2 2L F2 U2 2L U2 2R' F2 2R F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%27%20F2%202L%20F2%20U2%202L%20U2%202R%27%
	Mirror[Inverse[Rotation[Alg.6(v2)]]]	2R2 D2 2R F2 2R' F2 U2 2R' U2 2L F2 2L' F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20F2%202R%27%20F2%20U2%202R%27%20U2%

	Alg.6(v3)	2R2 F2 D2 2R D2 2R' B2 2L B2 D2 2L D2 2L' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%20D2%202R%27%20B2%202L%20B2%20D2%202L%20D2%202L%2
	Mirror[Alg.6(v3)]	2L2 F2 D2 2L' D2 2L B2 2R' B2 D2 2R' D2 2R F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%27%20D2%202L%20B2%202R%27%20B2%20D2%202R%27%
	Inverse[Alg.6(v3)]	2R2 F2 2L D2 2L' D2 B2 2L' B2 2R D2 2R' D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%20D2%202L%27%20D2%20B2%202L%27%20B2%202R%20D2%20
	Rotation[Alg.6(v3)]	2L2 U2 B2 2L B2 2L' D2 2R D2 B2 2R B2 2R' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%20B2%202L%27%20D2%202R%20D2%20B2%202R%20B2%
	Mirror[Inverse[Alg.6(v3)]]	2L2 F2 2R' D2 2R D2 B2 2R B2 2L' D2 2L D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202R%27%20D2%202R%20D2%20B2%202R%20B2%202L%27%20
	Mirror[Rotation[Alg.6(v3)]]	2R2 U2 B2 2R' B2 2R D2 2L' D2 B2 2L' B2 2L U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%27%20B2%202R%20D2%202L%27%20D2%20B2%2
	Inverse[Rotation[Alg.6(v3)]]	2L2 U2 2R B2 2R' B2 D2 2R' D2 2L B2 2L' B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%20B2%202R%27%20B2%20D2%202R%27%20D2%202L%
	Mirror[Inverse[Rotation[Alg.6(v3)]]]	2R2 U2 2L' B2 2L B2 D2 2L D2 2R' B2 2R B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202L%20B2%20D2%202L%20D2%202

	Alg.6(v4)	2R2 F2 D2 2R D2 2L' D2 2L D2 F2 2L F2 2R' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%20D2%202L%27%20D2%202L%20D2%20F2%202L%20F2%202R%27
	Mirror[Alg.6(v4)]	2L2 F2 D2 2L' D2 2R D2 2R' D2 F2 2R' F2 2L F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%27%20D2%202R%20D2%202R%27%20D2%20F2%202R%27%
	Inverse[Alg.6(v4)]	2R2 F2 2R F2 2L' F2 D2 2L' D2 2L D2 2R' D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%20F2%202L%27%20F2%20D2%202L%27%20D2%202L%20D2%20
	Rotation[Alg.6(v4)]	2L2 U2 B2 2L B2 2R' B2 2R B2 U2 2R U2 2L' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202L%20B2%202R%27%20B2%202R%20B2%20U2%202R%20U2%
	Mirror[Inverse[Alg.6(v4)]]	2L2 F2 2L' F2 2R F2 D2 2R D2 2R' D2 2L D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202L%27%20F2%202R%20F2%20D2%202R%20D2%202R%27%20
	Mirror[Rotation[Alg.6(v4)]]	2R2 U2 B2 2R' B2 2L B2 2L' B2 U2 2L' U2 2R U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202R%27%20B2%202L%20B2%202L%27%20B2%20U2%2
	Inverse[Rotation[Alg.6(v4)]]	2L2 U2 2L U2 2R' U2 B2 2R' B2 2R B2 2L' B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%20U2%20B2%202R%27%20B2%202R%
	Mirror[Inverse[Rotation[Alg.6(v4)]]]	2R2 U2 2R' U2 2L U2 B2 2L B2 2L' B2 2R B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202L%20U2%20B2%202L%20B2%202

	Alg.6(v5)	2R2 B2 U2 2R' F2 2R F2 2L' U2 B2 2R' B2 2L B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202R%27%20F2%202R%20F2%202L%27%20U2%20B2%202R%27%20B2%
	Mirror[Alg.6(v5)]	2L2 B2 U2 2L F2 2L' F2 2R U2 B2 2L B2 2R' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202L%20F2%202L%27%20F2%202R%20U2%20B2%202L%20B2%20
	Inverse[Alg.6(v5)]	2R2 B2 2L' B2 2R B2 U2 2L F2 2R' F2 2R U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202L%27%20B2%202R%20B2%20U2%202L%20F2%202R%27%20F2%20
	Rotation[Alg.6(v5)]	2L2 D2 F2 2L' U2 2L U2 2R' F2 D2 2L' D2 2R D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202L%27%20U2%202L%20U2%202R%27%20F2%20D2%202L%27
	Mirror[Inverse[Alg.6(v5)]]	2L2 B2 2R B2 2L' B2 U2 2R' F2 2L F2 2L' U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202R%20B2%202L%27%20B2%20U2%202R%27%20F2%202L%20
	Mirror[Rotation[Alg.6(v5)]]	2R2 D2 F2 2R U2 2R' U2 2L F2 D2 2R D2 2L' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202R%20U2%202R%27%20U2%202L%20F2%20D2%202R
	Inverse[Rotation[Alg.6(v5)]]	2L2 D2 2R' D2 2L D2 F2 2R U2 2L' U2 2L F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202R%27%20D2%202L%20D2%20F2%202R%20U2%202L%27%
	Mirror[Inverse[Rotation[Alg.6(v5)]]]	2R2 D2 2L D2 2R' D2 F2 2L' U2 2R U2 2R' F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202L%20D2%202R%27%20D2%20F2%202L%27%20U2%

	Alg.6(v6)	2R2 B2 U2 2R' F2 2L D2 2R' D2 F2 2L' U2 2R B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202R%27%20F2%202L%20D2%202R%27%20D2%20F2%202L%27%20U2%
	Mirror[Alg.6(v6)]	2L2 B2 U2 2L F2 2R' D2 2L D2 F2 2R U2 2L' B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202L%20F2%202R%27%20D2%202L%20D2%20F2%202R%20U2%2
	Inverse[Alg.6(v6)]	2R2 B2 2R' U2 2L F2 D2 2R D2 2L' F2 2R U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%27%20U2%202L%20F2%20D2%202R%20D2%202L%27%20F2%20
	Rotation[Alg.6(v6)]	2L2 D2 F2 2L' U2 2R B2 2L' B2 U2 2R' F2 2L D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%20F2%202L%27%20U2%202R%20B2%202L%27%20B2%20U2%202R%27
	Mirror[Inverse[Alg.6(v6)]]	2L2 B2 2L U2 2R' F2 D2 2L' D2 2R F2 2L' U2 B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%202L%20U2%202R%27%20F2%20D2%202L%27%20D2%202R%20
	Mirror[Rotation[Alg.6(v6)]]	2R2 D2 F2 2R U2 2L' B2 2R B2 U2 2L F2 2R' D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%20F2%202R%20U2%202L%27%20B2%202R%20B2%20U2%202L%
	Inverse[Rotation[Alg.6(v6)]]	2L2 D2 2L' F2 2R U2 B2 2L B2 2R' U2 2L F2 D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%27%20F2%202R%20U2%20B2%202L%20B2%202R%27%
	Mirror[Inverse[Rotation[Alg.6(v6)]]]	2R2 D2 2R F2 2L' U2 B2 2R' B2 2L U2 2R' F2 D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20F2%202L%27%20U2%20B2%202R%27%20B2%

Alg.6(v7)	2R2 F2 D2 2L B2 2R' U2 2L U2 B2 2R D2 2L' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%20B2%202R%27%20U2%202L%20U2%20B2%202R%20D2%202L%2
Mirror[Alg.6(v7)]	2L2 F2 D2 2R' B2 2L U2 2R' U2 B2 2L' D2 2R F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%27%20B2%202L%20U2%202R%27%20U2%20B2%202L%27%
Inverse[Alg.6(v7)]	2R2 F2 2L D2 2R' B2 U2 2L' U2 2R B2 2L' D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%20D2%202R%27%20B2%20U2%202L%27%20U2%202R%20B2%20
Rotation[Alg.6(v7)]	2L2 U2 B2 2R D2 2L' F2 2R F2 D2 2L B2 2R' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%20D2%202L%27%20F2%202R%20F2%20D2%202L%20B2%
Mirror[Inverse[Alg.6(v7)]]	2L2 F2 2R' D2 2L B2 U2 2R U2 2L' B2 2R D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202R%27%20D2%202L%20B2%20U2%202R%20U2%202L%27%20
Mirror[Rotation[Alg.6(v7)]]	2R2 U2 B2 2L' D2 2R F2 2L' F2 D2 2R' B2 2L U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%27%20D2%202R%20F2%202L%27%20F2%20D2%2
Inverse[Rotation[Alg.6(v7)]]	2L2 U2 2R B2 2L' D2 F2 2R' F2 2L D2 2R' B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%20B2%202L%27%20D2%20F2%202R%27%20F2%202L%
Mirror[Inverse[Rotation[Alg.6(v7)]]]	2R2 U2 2L' B2 2R D2 F2 2L F2 2R' D2 2L B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202R%20D2%20F2%202L%20F2%202

Alg.6(v8)	2R2 F2 D2 2L B2 2L' B2 2R D2 F2 2L F2 2R' F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%20B2%202L%27%20B2%202R%20D2%20F2%202L%20F2%202R%27
Mirror[Alg.6(v8)]	2L2 F2 D2 2R' B2 2R B2 2L' D2 F2 2R' F2 2L F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%27%20B2%202R%20B2%202L%27%20D2%20F2%202R%27%
Inverse[Alg.6(v8)]	2R2 F2 2R F2 2L' F2 D2 2R' B2 2L B2 2L' D2 F2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%20F2%202L%27%20F2%20D2%202R%27%20B2%202L%20B2%202
Rotation[Alg.6(v8)]	2L2 U2 B2 2R D2 2R' D2 2L B2 U2 2R U2 2L' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%20B2%202R%20D2%202R%27%20D2%202L%20B2%20U2%202R%20U2
Mirror[Inverse[Alg.6(v8)]]	2L2 F2 2L' F2 2R F2 D2 2L B2 2R' B2 2R D2 F2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%202L%27%20F2%202R%20F2%20D2%202L%20B2%202R%27%20
Mirror[Rotation[Alg.6(v8)]]	2R2 U2 B2 2L' D2 2L D2 2R' B2 U2 2L' U2 2R U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%20B2%202L%27%20D2%202L%20D2%202R%27%20B2%20U2%2
Inverse[Rotation[Alg.6(v8)]]	2L2 U2 2L U2 2R' U2 B2 2L' D2 2R D2 2R' B2 U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%20U2%202R%27%20U2%20B2%202L%27%20D2%202R%
Mirror[Inverse[Rotation[Alg.6(v8)]]]	2R2 U2 2R' U2 2L U2 B2 2R D2 2L' D2 2L B2 U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202L%20U2%20B2%202R%20D2%202

23 Single Slice Quarter Turn Solutions

- The 53 23 single slice quarter turn solutions listed below contain at least some quarter face turns as opposed to the (25,15) solutions above.
- Additional unique 23 single slice quarter turn pure one dedge flip solutions can be created from all these by doing one of the following, but note that no additional inner slice turns may be used in the resulting algorithms more than what is already used in these solutions.
  - If the algorithm contains face quarter turns with inner l and r slices in between them, invert all face quarter turns in the algorithm.
  - If the algorithm contains face quarter turns with u, d, f, or b slices in between them,
    - Invert all face quarter turns in the algorithm
    - Convert u inner slice turns to d inner slice turns (and vice versa) OR convert f inner slice turns to b inner slice turns (and vice versa). Do not invert these turns, just substitute.

- Like the (25,15) solutions, these solutions have been grouped next to their transformations. To save space, we label each group's algorithm as Alg(v1),Alg(v2),Alg(v3), and so forth.

- These are most likely not all of the possible 23 single slice quarter turn solutions. Perhaps in the future, we will have efficient optimal solvers in the single slice quarter turn metric for which we can use to extract all possible solutions.
  - Since there is currently one 23 single slice quarter turn algorithm listed in the previous category, and since we can create an additional pure dedge flip algorithm from each of the following 53 solutions, we effectively show 107 unique 23 single slice quarter turn solutions on this page.
- Lastly, it's worthy to note that using the classic setup through depth 18 of single slice half turns, the following 21 slice quarter turn algorithm was the only 21 slice quarter turn 3x3x3 algorithm which was closest to being a single dedge flip algorithm. Perhaps if the classic setup is used up to depth 21, some 21 slice quarter turn solutions may be found, but, as of yet, 23 is the current upperbound.

	2R' F 2L' F2 2R F 2R' F2 D F' D 2L D' F D' 2L F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20F%202L%27%20F2%202R%20F%202R%27%20F2%20D%20F%27%20D%202L%20D%27%2

cmowlaparity	x' r2 U2 l' U2 2R U2 l F2 U 2R U' F2 U 2R' U r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20r2%20U2%20l%27%20U2%202R%20U2%20l%20F2%20U%202R%20U%27%20F2
cmowlaparity(v2)	x' r2 U2 r' F2 2R F2 r F2 U 2R U' F2 U 2R' U r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20r2%20U2%20r%27%20F2%202R%20F2%20r%20F2%20U%202R%20U%27%2
Alg(v1)	x r2 U2 r U2 2L' U2 r' F2 U' 2L' U F2 U' 2L U' r2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%20r2%20U2%20r%20U2%202L%27%20U2%20r%27%20F2%20U%27%202L%27%20U%20F2%
Alg(v2)	x r2 U2 l F2 2L' F2 l' F2 U' 2L' U F2 U' 2L U' r2 x' (http://alg.cubing.net/?

		puzzle=4x4x4&type=alg&alg=x%20r2%20U2%20l%20F2%202L%27%20F2%20l%27%20F2%20U%27%202L%27%20U%20F2%
	Alg(v1)	r' U2 B 2R' B' U2 F2 l' B2 2R' B2 l B 2R F2 B' r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20U2%20B%202R%27%20B%27%20U2%20F2%20l%27%20B2%202R%27%20B2%20l%2
	Alg(v2)	r' U2 B 2R' B' U2 F2 r' U2 2R' U2 r B 2R F2 B' r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20U2%20B%202R%27%20B%27%20U2%20F2%20r%27%20U2%202R%27%20U2%20r%2
		2R' U' 2R' U B2 U' 2R U' 2R' U2 2R' B2 2L U2 2L' U2 2R2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R%27%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20U2%202R%27%20
	Alg(v1)	2R B 2L B' D2 B 2L' B 2L B2 2R F2 2L' F2 2L D2 2R2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R%20B%202L%20B%27%20D2%20B%202L%27%20B%202L%20B2%202R%20F2%202L%27%2
	Alg(v2)	2R B 2L B' D2 B 2L' B 2L B2 2L D2 2L' D2 2R D2 2R2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R%20B%202L%20B%27%20D2%20B%202L%27%20B%202L%20B2%202L%20D2%202L%27%2
	Alg(v1)	r D B2 D' 2L D B2 U2 r D2 2L D2 r' D' 2L' U2 r' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%20D%20B2%20D%27%202L%20D%20B2%20U2%20r%20D2%202L%20D2%20r%27%20D%27
	Alg(v2)	r D B2 D' 2L D B2 U2 l B2 2L B2 l' D' 2L' U2 r' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%20D%20B2%20D%27%202L%20D%20B2%20U2%20l%20B2%202L%20B2%20l%27%20D%27%
	Alg(v1)	r' F2 D2 B 2L B' D2 B 2L' B' r' B2 2L B2 r F2 r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20F2%20D2%20B%202L%20B%27%20D2%20B%202L%27%20B%27%20r%27%20B2%20
	Alg(v2)	r' F2 D2 B 2L B' D2 B 2L' B' l' D2 2L D2 l F2 r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20F2%20D2%20B%202L%20B%27%20D2%20B%202L%27%20B%27%20l%27%20D2%20
		2R2 D2 2R D2 2L' D 2L D' F2 D 2L' D 2L D2 2L F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20D2%202L%27%20D%202L%20D%27%20F2%20D%202L%27%20D%202L%20D2%
	Alg(v1)	r' B' U2 B 2R' B' U2 F2 l' B2 2R' B2 l B 2R F2 r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20B%27%20U2%20B%202R%27%20B%27%20U2%20F2%20l%27%20B2%202R%27%20E
	Alg(v2)	r' B' U2 B 2R' B' U2 F2 r' U2 2R' U2 r B 2R F2 r (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20B%27%20U2%20B%202R%27%20B%27%20U2%20F2%20r%27%20U2%202R%27%20U
	Alg(v1)	2L' 2R' D' 2R D' B2 D 2R' D' B2 2L' D2 2L' F2 2L F2 2L2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2L%27%202R%27%20D%27%202R%20D%27%20B2%20D%202R%27%20D%27%20B2%202L%2
	Alg(v2)	2L 2R U' 2R U' F2 U 2R' U' F2 2L' U2 2L' B2 2L B2 2R2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2L%202R%20U%27%202R%20U%27%20F2%20U%202R%27%20U%27%20F2%202L%27%20U2
	Alg(v1)	r U2 F2 D' 2R' D F2 D' 2R D l D2 2R' D2 l' U2 r' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%20U2%20F2%20D%27%202R%27%20D%20F2%20D%27%202R%20D%20l%20D2%202R%27%
	Alg(v2)	r U2 F2 D' 2R' D F2 D' 2R D r F2 2R' F2 r' U2 r' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%20U2%20F2%20D%27%202R%27%20D%20F2%20D%27%202R%20D%20r%20F2%202R%27%
	Alg(v1)	2R2 B' 2R B' U2 B 2R' B' U2 2L' B2 l' D2 2L D2 l 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B%27%202R%20B%27%20U2%20B%202R%27%20B%27%20U2%202L%27%20B2%20l%
	Alg(v2)	2L2 F' 2R F' D2 F 2R' F' D2 2L' F2 2L' U2 2L U2 2L' 2R' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2L2%20F%27%202R%20F%27%20D2%20F%202R%27%20F%27%20D2%202L%27%20F2%202L
	Alg(v1)	2R2 U2 2L' U2 2L F' 2R' F U2 F' 2R F' 2R' F2 2R' U2 2R' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20U2%202L%20F%27%202R%27%20F%20U2%20F%27%202R%20F%27
	Alg(v2)	2R2 U2 2R' F2 2L D' 2R' D F2 D' 2R D' 2R' D2 2L' U2 2R' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20F2%202L%20D%27%202R%27%20D%20F2%20D%27%202R%20D%2
		2R2 B2 D2 2R D 2B' D F2 D' 2B D 2R' B2 2L 2R F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B2%20D2%202R%20D%202B%27%20D%20F2%20D%27%202B%20D%202R%27%20B2%202L
		2R2 F2 U2 2L' U' 2F U' B2 U 2F' U' 2R' B2 2R 2L F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%20U2%202L%27%20U%27%202F%20U%27%20B2%20U%202F%27%20U%27%202R%27%
		2R2 D 2F D' B2 D 2F' D 2R D2 F2 2R' B2 2L 2R F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20D%202F%20D%27%20B2%20D%202F%27%20D%202R%20D2%20F2%202R%27%20B2%202L
		2R2 U' 2B' U F2 U' 2B U' 2L' U2 B2 2R' B2 2R 2L F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20U%27%202B%27%20U%20F2%20U%27%202B%20U%27%202L%27%20U2%20B2%202R%27%
	Alg(v1)	2R2 D2 2R D 2B' D F2 D' 2B D 2R' B2 2L B2 2R F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20D%202B%27%20D%20F2%20D%27%202B%20D%202R%27%20B2%202L
	Alg(v2)	2R2 D2 2R D 2B' D F2 D' 2B D 2L' D2 2L D2 2L F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20D%202B%27%20D%20F2%20D%27%202B%20D%202L%27%20D2%202L
	Alg(v1)	2R2 F2 2R' B2 2L D 2F D' B2 D 2F' D 2R D2 2R F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20B2%202L%20D%202F%20D%27%20B2%20D%202F%27%20D%202R%
	Alg(v2)	2R2 F2 2L' D2 2L F 2U F' D2 F 2U' F 2R F2 2L F2 2R (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%202L%27%20D2%202L%20F%202U%20F%27%20D2%20F%202U%27%20F%202R%
	Alg(v3)	2R2 B2 2R U2 2R' B' 2D' B U2 B' 2D B' 2R' U2 2R' U2 2R' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202R%27%20B%27%202D%27%20B%20U2%20B%27%202D%20B%2
		l' B' 2R' B D2 B' 2R B' 2R' B2 2R' D2 2L B2 2L' B2 2R l (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=l%27%20B%27%202R%27%20B%20D2%20B%27%202R%20B%27%202R%27%20B2%202R%27%20D2
	Alg(v1)	2R l F2 2L' F2 2L D' 2R' D F2 D' 2R D' 2R' D2 2R' F2 l' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R%20l%20F2%202L%27%20F2%202L%20D%27%202R%27%20D%20F2%20D%27%202R%20D
	Alg(v2)	r 2L F2 2L' F2 2R F' 2R' F U2 F' 2R F' 2R' F2 2R' U2 r' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%202L%20F2%202L%27%20F2%202R%20F%27%202R%27%20F%20U2%20F%27%202R%20F%
	Alg(v3)	2R l F2 2R' D2 2L B' 2R' B D2 B' 2R B' 2R' B2 2L' F2 l' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R%20l%20F2%202R%27%20D2%202L%20B%27%202R%27%20B%20D2%20B%27%202R%20B
	Alg(v1)	r' U' 2R' U B2 U' 2R' U2 2L' D2 2R D2 2R' B2 r 2L (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20U2%202L%27
	Alg(v2)	r' U' 2R' U B2 U' 2R U' 2R' U2 2R' B2 2R B2 2L' B2 r 2L (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=r%27%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20U2%202R%27
		r' F2 D 2B' D 2L D2 2L' D' 2B D r' B2 2L B2 r F2 r (http://alg.cubing.net/?

	Alg(v1)	puzzle=4x4x4&type=alg&alg=r%27%20F2%20D%202B%27%20D%202L%20D2%202L%27%20D%27%202B%20D%20r%27%2
	Alg(v2)	r' F2 D 2B' D 2L D2 2L' D' 2B D l' D2 2L D2 l F2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20F2%20D%202B%27%20D%202L%20D2%202L%27%20D%27%202B%20D%20l%27%2
		2R2 B' D2 2R D 2B' D F2 D' 2B D 2R' B2 2L B' 2R F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B%27%20D2%202R%20D%202B%27%20D%20F2%20D%27%202B%20D%202R%27%20B2%2
		2R2 B D2 2R D 2B' D F2 D' 2B D 2R' B2 2L B 2R F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B%20D2%202R%20D%202B%27%20D%20F2%20D%27%202B%20D%202R%27%20B2%202L%
		2R' l' B' 2D' B U2 B' 2D B' 2L' B2 D2 2R' D2 2R 2L U2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20l%27%20B%27%202D%27%20B%20U2%20B%27%202D%20B%27%202L%27%20B2%20D2
		r 2L D2 F2 2L' F' 2D F' U2 F 2D' F' 2L D2 2R' 2L' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%202L%20D2%20F2%202L%27%20F%27%202D%20F%27%20U2%20F%202D%27%20F%27%202L%2
		r 2L F' 2U' F D2 F' 2U F' 2L' F2 U2 2L D2 2R' 2L' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%202L%20F%27%202U%27%20F%20D2%20F%27%202U%20F%27%202L%27%20F2%20U2%202L%2
	Alg(v1)	r 2L F2 2L' F' 2D F' U2 F 2D' F' l D2 2R' D2 l' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%202L%20F2%202L%27%20F%27%202D%20F%27%20U2%20F%202D%27%20F%27%20l%20
	Alg(v2)	r 2L F2 2L' F' 2D F' U2 F 2D' F' r F2 2R' F2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%202L%20F2%202L%27%20F%27%202D%20F%27%20U2%20F%202D%27%20F%27%20r%20
		2R' l' U2 B2 2L' B' 2U B' D2 B 2U' B' 2R' D2 2R 2L U2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20l%27%20U2%20B2%202L%27%20B%27%202U%20B%27%20D2%20B%202U%27%20B%27
	Alg(v1)	r 2L U2 2R F2 2R' U' 2B' U F2 U' 2B U' 2L' U2 2R' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%202L%20U2%202R%20F2%202R%27%20U%27%202B%27%20U%20F2%20U%27%202B%20U
	Alg(v2)	2R l U2 2R F2 2R' U' 2B' U F2 U' 2B U' 2R' F2 2R' F2 l' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20l%20U2%202R%20F2%202R%27%20U%27%202B%27%20U%20F2%20U%27%202B%20U
	Alg(v1)	r U2 F' 2D F' 2R' F2 2R F 2D' F' l D2 2R' D2 l' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20F%27%202D%20F%27%202R%27%20F2%202R%20F%202D%27%20F%27%20l%20
	Alg(v2)	r U2 F' 2D F' 2R' F2 2R F 2D' F' r F2 2R' F2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20F%27%202D%20F%27%202R%27%20F2%202R%20F%202D%27%20F%27%20r%20

Algorithms of this category which are not optimal (in either single slice metric)

- The following list of algorithms are all unique solutions generated with the classic setup which use only 2 different face turns which are at most 27 single slice quarter turns and 18 single slice half turns.
  - There is only one algorithm which just uses the face turn, U2.
- Like the (25,15) solutions, all solutions ending in B2 may be conjugated with B2 to create a handful more "unique" algorithms.
  - All other algorithms can be modified by inverses, mirrors, cube rotations, or a combination of any of these to create every possible algorithm which uses 2 faces which are generated from the classic setup.
- Since this is a large set of algorithms,
  - None of these algorithms have any wide turns in them (despite that some algorithms can have some).
  - Even though it is very likely that algorithms related by transformations are listed next to each other, no official sorting by transformations was done.
- Since these algorithms use either U and F faces or U and B faces, all algorithms which affect one or the other have been grouped together for convenience of personal preference.

	2R' U2 2R U2 2L F2 2L' 2R' F2 2R' U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202L%20F2%202L%27%202R%27%20F2%202R%27%20U2%202R%27%2
	2R' U2 2R U2 2L' U2 2L 2R U2 2R U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202L%27%20U2%202L%202R%20U2%202R%20U2%202R%27%20U2%2
	2R' U2 2L F2 2L' F2 2L 2R F2 2R F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202L%27%20F2%202L%202R%20F2%202R%20F2%202L%27%20U2%20F

	2R B2 2R' U2 2L B2 2L2 B2 U2 2R B2 2L' B2 2L' 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202L%20B2%202L2%20B2%20U2%202R%20B2%202L%27%20B2%202L%
	2L' 2R' B2 2R' B2 2L U2 B2 2R2 B2 2R U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%202R%27%20B2%202R%27%20B2%202L%20U2%20B2%202R2%20B2%202R%20U2%202L%27

	2R' U2 2R U2 2R U2 2R2 F2 2L 2R2 F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202R%20U2%202R2%20F2%202L%202R2%20F2%202L%27%20U2%20F2
	2R' U2 2L F2 2R F2 2L2 U2 2L 2R2 U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202R%20F2%202L2%20U2%202L%202R2%20U2%202R%27%20U2%20F2

	2R' U2 2R' U2 2R2 U2 2R U2 2R2 B2 2R U2 2R U2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%27%20U2%202R2%20U2%202R%20U2%202R2%20B2%202R%20U2%202R%20U
	2R' U2 2L' B2 2R2 B2 2L U2 2R2 B2 2R U2 2R U2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%27%20B2%202R2%20B2%202L%20U2%202R2%20B2%202R%20U2%202R%20U2

	2R U2 2R U2 2R' U2 2L F2 2L' F2 2R F2 2R' F2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%202R%27%20U2%202L%20F2%202L%27%20F2%202R%20F2%202R%27%20
	2R U2 2R U2 2R' U2 2R U2 2L' U2 2L F2 2R' F2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%202R%27%20U2%202R%20U2%202L%27%20U2%202L%20F2%202R%27%20
	2R U2 2L F2 2L' U2 2R U2 2R' F2 2R F2 2R' F2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202L%20F2%202L%27%20U2%202R%20U2%202R%27%20F2%202R%20F2%202R%27%20
	2R U2 2L F2 2R' F2 2R F2 2L' F2 2R F2 2R' F2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202L%20F2%202R%27%20F2%202R%20F2%202L%27%20F2%202R%20F2%202R%27%20F
	2R' F2 2L' F2 2R U2 2R' F2 2R F2 2L' F2 2L F2 2L U2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20F2%202L%27%20F2%202R%20U2%202R%27%20F2%202R%20F2%202L%27%20F2%202L%
	2R' F2 2L' F2 2R U2 2L' U2 2R U2 2R' F2 2L F2 2L U2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20F2%202L%27%20F2%202R%20U2%202L%27%20U2%202R%20U2%202R%27%20F2%202L%
	2L 2R U2 F2 2L' F2 2R F2 2R' F2 U2 2R' U2 2L U2 2L' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R%20U2%20F2%202L%27%20F2%202R%20F2%202R%27%20F2%20U2%202R%27%20U2%202
	2L 2R U2 2R F2 2R' F2 U2 2R' U2 2L F2 2L' F2 U2 2L' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R%20U2%202R%20F2%202R%27%20F2%20U2%202R%27%20U2%202L%20F2%202L%27%20F

	2R' U2 2R' U2 2L F2 2R' U2 2R' U2 2R2 F2 2R' U2 2L' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%27%20U2%202L%20F2%202R%27%20U2%202R%27%20U2%202R2%20F2%202
	2R' U2 2R U2 2R' F2 2L 2R F2 2L' 2R2 U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202R%27%20F2%202L%202R%20F2%202L%27%202R2%20U2%202R%2
	2R' U2 2R U2 2R U2 2L' 2R' U2 2L 2R2 U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202R%20U2%202L%27%202R%27%20U2%202L%202R2%20U2%202R%2
	2R' U2 2L F2 2L' F2 2R2 U2 2L F2 2R' F2 2L' 2R F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202L%27%20F2%202R2%20U2%202L%20F2%202R%27%20F2%202L%27
	2R' U2 2L F2 2R F2 2L' 2R' F2 2L 2R2 F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202R%20F2%202L%27%202R%27%20F2%202L%202R2%20F2%202L%27
	2R' U2 2L F2 2L2 2R U2 2L 2R U2 2L F2 2L' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202L2%202R%20U2%202L%202R%20U2%202L%20F2%202L%27%20U2%
	2R' U2 2L F2 2R' U2 2R2 U2 F2 2R' F2 2R F2 2R2 U2 2L' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20F2%202R%27%20U2%202R2%20U2%20F2%202R%27%20F2%202R%20F2%20
	2R2 U2 2R' U2 2L F2 U2 2R2 U2 2R F2 2L' U2 2L U2 2L' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202L%20F2%20U2%202R2%20U2%202R%20F2%202L%27%20U2%202L
	2R2 U2 2R' F2 2R F2 2L' U2 2L F2 2R' U2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20F2%202R%20F2%202L%27%20U2%202L%20F2%202R%27%20U2%202R%27
	2R2 U2 2L' U2 2L F2 2R' F2 2R F2 2R' U2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20U2%202L%20F2%202R%27%20F2%202R%20F2%202R%27%20U2%202R%27
	2R2 U2 2L' U2 2R U2 2R' U2 2L F2 2R' U2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%202L%20F2%202R%27%20U2%202R%2
	2R2 F2 2R F2 2L2 2R U2 F2 2L' F2 2L F2 2R' F2 U2 2L 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%20F2%202L2%202R%20U2%20F2%202L%27%20F2%202L%20F2%202R%27%20F2%
	2R2 F2 2R' U2 2L F2 2L' U2 2R U2 2R' F2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20U2%202L%20F2%202L%27%20U2%202R%20U2%202R%27%20F2%202R%27
	2R2 F2 2R' U2 2L F2 2R' F2 2R F2 2L' F2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20U2%202L%20F2%202R%27%20F2%202R%20F2%202L%27%20F2%202R%27
	2R2 F2 2R' U2 2R U2 2R' U2 2L F2 2L' F2 2R' U2 2R2 F2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20U2%202R%20U2%202R%27%20U2%202L%20F2%202L%27%20F2%202R%27
	2R2 F2 2R' U2 2R U2 2R' U2 2R U2 2L' U2 2R U2 2L2 F2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%202R%27%20U2%202R%20U2%202R%27%20U2%202R%20U2%202L%27%20U2%202R%2
	2L 2R2 F2 2R F2 2R F2 2L' 2R' F2 2R' U2 2R' U2 F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R2%20F2%202R%20F2%202R%20F2%202L%27%202R%27%20F2%202R%27%20U2%202R%27

	2R B2 2R' U2 2R U2 2L2 B2 2L' B2 2L B2 U2 2L2 U2 2L 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202R%27%20U2%202R%20U2%202L2%20B2%202L%27%20B2%202L%20B2%20U2%202L2
	2R B2 2L' B2 2R B2 2R2 U2 2L' U2 2R B2 U2 2L2 U2 2L 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20B2%202L%27%20B2%202R%20B2%202R2%20U2%202L%27%20U2%202R%20B2%20U2%202L2
	2R' U2 2R U2 2R' B2 2R2 B2 U2 2R' U2 2L' 2R2 B2 2L 2R B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202R%27%20B2%202R2%20B2%20U2%202R%27%20U2%202L%27%202
	2R' U2 2R U2 2R' B2 2R2 B2 U2 2L' B2 2R B2 2L2 U2 2L' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202R%27%20B2%202R2%20B2%20U2%202L%27%20B2%202R%20B2%2
	2R2 U2 2R B2 2R U2 2R2 B2 2R B2 2R U2 2L' B2 2L U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20B2%202R%20U2%202R2%20B2%202R%20B2%202R%20U2%202L%27%20B2%20
	2R2 U2 2R' U2 2R U2 B2 2R2 B2 2R U2 2R' U2 2L U2 2L' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202R%20U2%20B2%202R2%20B2%202R%20U2%202R%27%20U2%202
	2R2 U2 2R' U2 2R' B2 2R2 U2 2R' U2 2L' 2R' B2 2R B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202R%27%20B2%202R2%20U2%202R%27%20U2%202L%27%202R%27

2R2 U2 2R' U2 2R' B2 2L' 2R' B2 2R' B2 2R2 B2 2R B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%202R%27%20B2%202L%27%202R%27%20B2%202R%27%20B2%202R2

2R2 U2 2L' U2 2R U2 2R' U2 2R U2 2R' B2 2R' B2 2R2 U2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%202R%20U2%202R%27%20B2%202R%2

2R2 U2 2L' B2 2R B2 2L 2R' B2 2R2 B2 2R U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202R%20B2%202L%202R%27%20B2%202R2%20B2%202R%20U2%202L

2R2 B2 U2 2L' U2 2R U2 2R' U2 B2 2L 2R2 U2 2L U2 2L' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%20B2%202L%202R2%20U2%202L

2R2 B2 U2 2L' U2 2R U2 2R' U2 2L 2R' U2 2R' U2 2R B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%202L%202R%27%20U2%202R%2

2R2 B2 2R U2 2L' B2 2L 2R' B2 2R' B2 2R B2 2R' U2 B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202L%27%20B2%202L%202R%27%20B2%202R%27%20B2%202R%20B2%2

2R2 B2 2R U2 2R' B2 2L' B2 2L U2 2L' B2 2L U2 2R2 U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202R%27%20B2%202L%27%20B2%202L%20U2%202L%27%20B2%202L%2

2R2 B2 2R U2 2R' U2 B2 2R' B2 2R B2 2L' B2 2L 2R' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202R%27%20U2%20B2%202R%27%20B2%202R%20B2%202L%27%20B2%2

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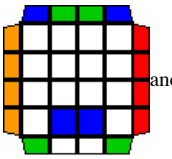
	2R2 U2 2L' B2 2L U2 2L 2R' U2 2L' 2R' B2 2R U2 2L' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202L%20U2%202L%202R%27%20U2%202L%27%202R%27%20B2%202
	2R2 B2 2R U2 2R' U2 B2 2R' B2 2R B2 2R' U2 2L 2R' U2 2L' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%20U2%202R%27%20U2%20B2%202R%27%20B2%202R%20B2%202R%27%20U2%2

	r U2 r2 U L U 2R U' L' U2 L U 2R' U' L' U r' U2 2R U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r2%20U%20L%20U%202R%20U%27%20L%27%20U2%20L%20U%202R%27%20U%27%20

OLL Parity + PLL Parity (Double Parity)


and


	2R U2 2R' e2 F2 2L F2 2L' F2 2R F2 2R' D2 2L y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%27%20e2%20F2%202L%20F2%202L%27%20F2%202R%20F2%202R%27%20D2%202
	2R2 B2 2R' U2 2R' U2 x' U2 2R' U2 2R U2 2R' U2 2R2 U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%202R%27%20U2%202R%27%20U2%20x%27%20U2%202R%27%20U2%202R%20U2%202F
	x 2R F2 l' F' 2R' F U2 F' 2R F U2 l x' e2 2L' U2 2L y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202R%20F2%20l%27%20F%27%202R%27%20F%20U2%20F%27%202R%20F%20U2%20l%20x%27
	r' U2 2R' U2 2L U2 r' U2 2R U2 3r U2 2R2 U2 2R' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%202R%27%20U2%202L%20U2%20r%27%20U2%202R%20U2%203r%20U2%202R2%20U2
	2R2 U2 3r' U2 2R' U2 r U2 2L' U2 r U2 2R U2 r' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%203r%27%20U2%202R%27%20U2%20r%20U2%202L%27%20U2%20r%20U2%202R%20U2
	r U2 l' U2 2L U2 l U2 r' U2 2L U2 2L' U2 x U2 2L2 U2 x' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20l%27%20U2%202L%20U2%20l%20U2%20r%27%20U2%202L%20U2%202L%27%20U2%20

OLL Parity algorithms Which Don't Preserve the Last Layer

OLL Parity (Only)

- Note that, unlike the previous section, none of these are pure flips if wide turns are converted to inner slice turns.

1 Flip

- With the exception of Kåre Krig's 2 gen algorithms, all algorithms listed in this section were derived from algorithms in the previous section by using 4x4x4 wide turn equivalencies such as r = (l x), l2 = (r2 x2), etc.
  - Specifically, these algorithms were derived from the classic setup's solutions which are at most 18 single slice half turns. They only involve 2 face turns and thus they are additional transformations which are "legal" in wide turns, but "illegal" transformations to keep these algorithms pure dedge flips.
    - Therefore we have more 15 STM solutions which preserve F3L in wide turns than we have for pure dedge flips, for example.
    - Most of these algorithms need to be adjusted to work on 5x5x5.
- Lastly, it's interesting to note that the following algorithm cannot even be used to solve OLL parity if all of its wide turns are converted into single slice turns.

	r2 F2 U2 r' F' u L' U2 L u' F' r' U2 r2 F2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F2%20U2%20r%27%20F%27%20u%20L%27%20U2%20L%20u%27%20F%27%20r%27%20U2%2

	r' U2 r U2 r U2 r2 F2 r' U2 r' U2 F2 r2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%20U2%20r2%20F2%20r%27%20U2%20r%27%20U2%20F2%20r2%20F2
	r' U2 r U2 r' F2 r2 U2 r U2 r' U2 F2 r2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%27%20F2%20r2%20U2%20r%20U2%20r%27%20U2%20F2%20r2%20F2
	r' U2 l F2 r' U2 r2 U2 F2 l' U2 l F2 r2 U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20l%20F2%20r%27%20U2%20r2%20U2%20F2%20l%27%20U2%20l%20F2%20r2%20U2%
	r' U2 r U2 r' B2 r2 B2 U2 l' B2 l U2 r2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%27%20B2%20r2%20B2%20U2%20l%27%20B2%20l%20U2%20r2%20B2
	r' U2 r U2 r' B2 r2 B2 U2 r' U2 r U2 r2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%27%20B2%20r2%20B2%20U2%20r%27%20U2%20r%20U2%20r2%20B2
	r' U2 r U2 l' U2 r2 B2 l U2 l' B2 U2 r2 U2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20l%27%20U2%20r2%20B2%20l%20U2%20l%27%20B2%20U2%20r2%20U2
	r2 U2 r' U2 r U2 B2 r2 B2 r U2 r' U2 r B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20r%27%20U2%20r%20U2%20B2%20r2%20B2%20r%20U2%20r%27%20U2%20r%20B2) (2
	x' r2 B2 l B2 r' U2 B2 l2 B2 l' U2 l U2 l' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20r2%20B2%20l%20B2%20r%27%20U2%20B2%20l2%20B2%20l%27%20U2%20l%20U2%20l%

	l r U2 F2 l' F2 r F2 r' F2 U2 r' U2 l U2 l2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%20r%20U2%20F2%20l%27%20F2%20r%20F2%20r%27%20F2%20U2%20r%27%20U2%20l%20U2%2
	l r U2 F2 l' F2 r F2 r' F2 U2 r' U2 l U2 r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%20r%20U2%20F2%20l%27%20F2%20r%20F2%20r%27%20F2%20U2%20r%27%20U2%20l%20U2%2
	r' U2 r U2 r' B2 r2 B2 U2 r' U2 r U2 l r U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%27%20B2%20r2%20B2%20U2%20r%27%20U2%20r%20U2%20l%20r%2
	r' U2 r U2 r U2 l' r' U2 r' B2 r' B2 U2 r2 U2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%20U2%20l%27%20r%27%20U2%20r%27%20B2%20r%27%20B2%20U2

	r' U2 r U2 l r2 U2 r2 U2 F2 l' U2 l F2 r2 U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20l%20r2%20U2%20r2%20U2%20F2%20l%27%20U2%20l%20F2%20r2%20U
	r' U2 r U2 l r2 U2 r2 U2 F2 l' U2 r U2 l2 F2 x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20l%20r2%20U2%20r2%20U2%20F2%20l%27%20U2%20r%20U2%20l2%20F
	r' U2 r U2 l2 r B2 l2 U2 r U2 l' B2 U2 r2 U2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20l2%20r%20B2%20l2%20U2%20r%20U2%20l%27%20B2%20U2%20r2%20U
	r' U2 r U2 r' B2 r2 B2 U2 r' U2 r' B2 r2 U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%27%20B2%20r2%20B2%20U2%20r%27%20U2%20r%27%20B2%20r2%
	r' U2 r U2 r U2 l2 B2 l r2 B2 r' B2 U2 r2 U2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%20U2%20l2%20B2%20l%20r2%20B2%20r%27%20B2%20U2%20r2%20U
	r' U2 r' U2 r2 U2 r' B2 r2 U2 l' B2 l U2 r2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r2%20U2%20r%27%20B2%20r2%20U2%20l%27%20B2%20l%20U2%2
	r' U2 r' U2 r2 U2 r' B2 r2 U2 r' U2 r U2 r2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r2%20U2%20r%27%20B2%20r2%20U2%20r%27%20U2%20r%20U2%
	r2 U2 B2 r B2 r B2 U2 r U2 r' U2 r' U2 r2 U2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20B2%20r%20B2%20r%20B2%20U2%20r%20U2%20r%27%20U2%20r%27%20U2%20r2%20
	r2 U2 r' U2 r' B2 r2 U2 r' U2 r2 U2 r U2 l U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20r%27%20U2%20r%27%20B2%20r2%20U2%20r%27%20U2%20r2%20U2%20r%20U2%20l
	x' r2 B2 l2 r' U2 l' U2 B2 l2 B2 l' U2 l U2 l' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20r2%20B2%20l2%20r%27%20U2%20l%27%20U2%20B2%20l2%20B2%20l%27%20U2%20l%20

	r' U' r' U B2 U' r U' r' U2 r' x' U2 r U2 l' U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%27%20r%27%20U%20B2%20U%27%20r%20U%27%20r%27%20U2%20r%27%20x%27%2
	r2 U2 l' U2 r U' r' U B2 U' r U' r' U2 r' x' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20l%27%20U2%20r%20U%27%20r%27%20U%20B2%20U%27%20r%20U%27%20r%27%20
	l r U' r U' F2 U r' U' x U2 r' U2 r' U2 l U2 r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%20r%20U%27%20r%20U%27%20F2%20U%20r%27%20U%27%20x%20U2%20r%27%20U2%20r%27

	lucasparity	r U2 x r U2 r U2 r' U2 l U2 r' U2 r U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20x%20r%20U2%20r%20U2%20r%27%20U2%20l%20U2%20r%27%20U2%20r%20
	lucasparity	r U2 r U2 r' U2 r U2 l' U2 r U2 r' U2 x' r' U2 r' (http://alg.cubing.net/?

	puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20r%27%20U2%20r%20U2%20l%27%20U2%20r%20U2%20r%27%20U
	r U2 r U2 l' B2 l U2 l' U2 r U2 r' U2 r' x' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20l%27%20B2%20l%20U2%20l%27%20U2%20r%20U2%20r%27%20U2%20r%27
	r U2 r U2 r' U2 r U2 r' F2 r F2 r' F2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20r%27%20U2%20r%20U2%20r%27%20F2%20r%20F2%20r%27%20F2%20r%27

	r' U2 r U2 r U2 l' r' U2 l2 r F2 l' U2 F2 r2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%20U2%20r%20U2%20l%27%20r%27%20U2%20l2%20r%20F2%20l%27%20U2%20F
	r' U2 r' U2 r2 U2 r U2 l r U2 r F2 r F2 r2 U2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r2%20U2%20r%20U2%20l%20r%20U2%20r%20F2%20r%20F2%20r2%
	r' U2 r' U2 r U2 r' B2 r' B2 r2 U2 r' B2 l' B2 l2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20U2%20r%27%20B2%20r%27%20B2%20r2%20U2%20r%27%20B
	r' U2 r' U2 r U2 r' B2 r' B2 r2 U2 r' B2 r' U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20U2%20r%27%20B2%20r%27%20B2%20r2%20U2%20r%27%20B
	r2 U2 l' U2 r U2 l' B2 l U2 r' B2 r' B2 r2 U2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20l%27%20U2%20r%20U2%20l%27%20B2%20l%20U2%20r%27%20B2%20r%27%20B2%20
	l r U2 l' r2 U2 r' U2 B2 r' B2 l U2 l' U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%20r%20U2%20l%27%20r2%20U2%20r%27%20U2%20B2%20r%27%20B2%20l%20U2%20l%27%20U

	r U2 r U2 r' U2 l U r U' F2 U r' U' x U2 r2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20r%27%20U2%20l%20U%20r%20U%27%20F2%20U%20r%27%20U%27%20x%

	r' U' r2 U' r' U r' U' r' U2 r U r U' r U r2 U r2 U2 r U2 r2 U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%27%20r2%20U%27%20r%27%20U%20r%27%20U%27%20r%27%20U2%20r%20U%20r%
	r' U2 r' U2 r U r' U r' U2 r2 U r2 U' r2 U' r' U' r U r' U2 r2 U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20U%20r%27%20U%20r%27%20U2%20r2%20U%20r2%20U%27%
	r' U2 r' U2 r U r' U r U' r2 U' r2 U2 r2 U' r U' r U r' U2 r2 U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20U%20r%27%20U%20r%20U%27%20r2%20U%27%20r2%20U2%
	r' U2 r' U2 r U r' U r U r2 U2 r2 U' r2 U r U' r U r' U2 r2 U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20U%20r%27%20U%20r%20U%20r2%20U2%20r2%20U%27%20r2
	r' U r' U' r' U2 r2 U2 r2 U' r U2 r U2 r' U2 r' U' r2 U r2 U r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%27%20U2%20r2%20U2%20r2%20U%27%20r%20U2%20r%20U2%
	r' U r' U' r' U2 r2 U2 r2 U r U2 r U2 r' U2 r' U r2 U r2 U r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%27%20U2%20r2%20U2%20r2%20U%20r%20U2%20r%20U2%20r
	r' U r' U' r' U2 r2 U2 r2 U r U2 r U2 r' U2 r U' r2 U' r2 U' r U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%27%20U2%20r2%20U2%20r2%20U%20r%20U2%20r%20U2%20r
	r' U r' U' r U' r2 U2 r2 U2 r' U2 r U2 r' U2 r' U r2 U r2 U r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%20U%27%20r2%20U2%20r2%20U2%20r%27%20U2%20r%20U2%
	r' U r' U' r U r2 U2 r2 U2 r' U2 r U2 r' U2 r' U r2 U r2 U r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%20U%20r2%20U2%20r2%20U2%20r%27%20U2%20r%20U2%20r
	r' U r' U' r U r2 U2 r2 U2 r' U2 r U2 r' U2 r' U r2 U r2 U r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%27%20U%27%20r%20U%20r2%20U2%20r2%20U2%20r%27%20U2%20r%20U2%20r

3 Flip

	r F U2 F' r U2 r U2 r U' L' U2 L F 3l' U' R U' x' U F r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20F%20U2%20F%27%20r%20U2%20r%20U2%20r%20U%27%20L%27%20U2%20L%20F%203l%27%
	r U' R U2 R' U2 R' U' r U2 r R U2 r U' R' U2 R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U2%20R%27%20U%27%20r%20U2%20r%20R%20U2%20r%20U
	r U' R U2 R' U2 R' U' r U2 r R U2 r U' r' U2 R' U2 r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U2%20R%27%20U%27%20r%20U2%20r%20R%20U2%20r%20U
	r U' r U2 R' U2 r' U' r U2 r R U2 r U' r' U2 R' U2 r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%27%20r%20U2%20R%27%20U2%20r%27%20U%27%20r%20U2%20r%20R%20U2%20r%20U%

OLL Parity + PLL Parity (Double Parity)

1 Flip

Alg(v1)	r' U2 r' U2 l U2 r' U2 r U2 x U2 r2 U2 r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20l%20U2%20r%27%20U2%20r%20U2%20x%20U2%20r2%20U2
Alg(v2)	l U2 l U2 r' U2 l U2 l' U2 x U2 l2 U2 l U2 l' (http://alg.cubing.net/?

		puzzle=4x4x4&type=alg&alg=l%20U2%20l%20U2%20r%27%20U2%20l%20U2%20l%27%20U2%20x%20U2%20l2%20U2%20l%
	Alg(v1)	r U2 r' U2 r U2 r U2 l' U2 r U2 r' U2 x' U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%27%20U2%20r%20U2%20r%20U2%20l%27%20U2%20r%20U2%20r%27%20U2%
	Alg(v2)	l' U2 l U2 l' U2 l' U2 r U2 l' U2 l U2 x' U2 l2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U2%20l%20U2%20l%27%20U2%20l%27%20U2%20r%20U2%20l%27%20U2%20l%20U
	Alg(v1)	r2 U2 x' U2 r' U2 r U2 l' U2 r U2 r U2 r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%20x%27%20U2%20r%27%20U2%20r%20U2%20l%27%20U2%20r%20U2%20r%20U2
	Alg(v2)	l2 U2 x' U2 l U2 l' U2 r U2 l' U2 l' U2 l U2 l' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%20U2%20x%27%20U2%20l%20U2%20l%27%20U2%20r%20U2%20l%27%20U2%20l%27%20
	Alg(v1)	r U2 r' U2 r2 U2 x U2 r U2 r' U2 l U2 r' U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%27%20U2%20r2%20U2%20x%20U2%20r%20U2%20r%27%20U2%20l%20U2%20r
	Alg(v2)	l' U2 l U2 l2 U2 x U2 l' U2 l U2 r' U2 l U2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U2%20l%20U2%20l2%20U2%20x%20U2%20l%27%20U2%20l%20U2%20r%27%20U2%
	Alg(v1)	r U2 r U2 r U R r U2 R2 U r U r2 R U r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%20r%20U2%20r%20U%20R%20r%20U2%20R2%20U%20r%20U%20r2%20R%20U%20r
	Alg(v2)	r' U2 r' U2 r' U' R' r' U2 R2 U' r' U' r2 R' U' r' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%27%20U%27%20R%27%20r%27%20U2%20R2%20U%27%2
		r' U2 r' U2 r R U r2 R' U2 r' R' U R U r' U2 r2 U' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%20r%27%20U2%20r%20R%20U%20r2%20R%27%20U2%20r%27%20R%27%20U%20R%
		z' U2 l' R2 x U' F2 U l' U2 2R' U2 r F' L2 F 2R2 U2 x' U' F2 U x U2 l' U2 z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20U2%20l%27%20R2%20x%20U%27%20F2%20U%20l%27%20U2%202R%27%20U2%20r%20F
		r' U' r' U' r U r U2 r2 U2 r U2 r U r' U r U r2 U2 r' U2 r U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%27%20r%27%20U%27%20r%20U%20r%20U2%20r2%20U2%20r%20U2%20r%20U%20r%
		r' U r2 U r2 U2 r U2 r' U2 r U r U r U2 r' U2 r' U2 r2 U' r2 U r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r2%20U%20r2%20U2%20r%20U2%20r%27%20U2%20r%20U%20r%20U%20r%20U2%2

3 Flip

	r U' r U' r2 U r' U2 r U2 r' U r' U' r U2 r U2 r U2 r U' r' U2 r' U2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%27%20r%20U%27%20r2%20U%20r%27%20U2%20r%20U2%20r%27%20U%20r%27%20U%27

- You can make a 3 flip from a one flip, for example, by conjugating a 1 flip with B' R'. For example,

	(B' R') r' U' r' U B2 U' r U' r' U2 r' x' U2 r U2 l' U2 r2 (R B) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28B%27%20R%27%29%20r%27%20U%27%20r%27%20U%20B2%20U%27%20r%20U%27%20r%27

- To see one previous discussion on this, see http://www.speedsolving.com/forum/showthread.php?22568-4x4-OLL-Parity-Idea
- For other algorithms for OLL + OLL Parity (that is, using outer layer turn setup moves to algorithms like those in this section (and algorithms in the previous with wide turns), see http://www.math.leidenuniv.nl/~mfung/speedcubing/algs/4x4x4/ and http://www.speedsolving.com/forum/showthread.php?24658-1LOLL-even-parity

OLL Parity Algorithms Which Don't Preserve F3L

- One advantage to having access to algorithms which don't preserve the first three layers of the 4x4x4 is that the shortest algorithms that this category of algorithms has to offer have fewer moves than algorithms which preserve the first three layers, which might be of interest to certain cubers.
- Unlike algorithms which preserve the first three layers, which are at minimum 14 block half turns (double parity) and 18 block quarter turns (one dedge flip), some algorithms in this section are just 13 block half turns and some are just 15 block quarter turns.

Just Corners are Permuted (Most are also Just FR F3L Slot Destroyers)

OLL Parity (Only)

	2R' U2 F' U2 F U2 2R' U2 2R' U2 2R' F' U2 F 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U2%20F%27%20U2%20F%20U2%202R%27%20U2%202R%27%20U2%202R%2
	2L U2 F' U2 F U2 2L U2 2L U2 2L F' U2 F 2L (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%20U2%20F%27%20U2%20F%20U2%202L%20U2%202L%20U2%202L%20F%27%20U2

	2R' U R U2 R' U' 2R' U2 2R' U2 2R' U' R U2 R' U 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%20R%20U2%20R%27%20U%27%202R%27%20U2%202R%27%20U2%202R
	2L' U' R U2 R' U 2L' U2 2L' U2 2L' U R U2 R' U' 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%27%20U%27%20R%20U2%20R%27%20U%202L%27%20U2%202L%27%20U2%202L%
	2R2 s' 2R U' R U' 2R U2 2R U2 2R U' R' U' 2R s 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20s%27%202R%20U%27%20R%20U%27%202R%20U2%202R%20U2%202R%20U%
	2R2 s 2R U' R U' 2R U2 2R U2 2R U' R' U' 2R s' 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20s%202R%20U%27%20R%20U%27%202R%20U2%202R%20U2%202R%20U%27%
	r U' R' U2 R U 2R U2 2R U2 2R U R' U2 R U' r R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%202R%20U2%202R%20U2%202R%20U%20R%2
	r U' R' U2 R U 2R U2 r R U2 2R U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%202R%20U2%20r%20R%20U2%202R%20U%20R
	r U' R U2 R' U 2R U2 r R U2 2R U R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U%202R%20U2%20r%20R%20U2%202R%20U%20R
	r R U' R2 U2 R2 U 2R U2 r U2 2R U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20R%20U%27%20R2%20U2%20R2%20U%202R%20U2%20r%20U2%202R%20U%20R%
	r U' R' U2 R U r R2 U2 2R U2 r U R' U2 R U' r R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%20r%20R2%20U2%202R%20U2%20r%20U%20R
	r U' R' U2 R U r U2 2R U2 r R2 U R' U2 R U' r R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%20r%20U2%202R%20U2%20r%20R2%20U%20R
	r U' R' U2 R U' R U2 2R U2 r U2 2R U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%27%20R%20U2%202R%20U2%20r%20U2%202R
	(2R' U' R U 2R)(2R U2 2R2 U2 2R' U2 2R U2 2R' U2 2R2 U2 2R)(2R U R' U' 2R') (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282R%27%20U%27%20R%20U%202R%29%282R%20U2%202R2%20U2%202R%27%20

FR F3L Slot Destroyers

OLL Parity (Only)

	2L U2 2L' F U R U' l' D2 2R D2 2R U2 r' U2 l F (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%20U2%202L%27%20F%20U%20R%20U%27%20l%27%20D2%202R%20D2%202R%20
	r U2 l' U2 2L D2 2L D2 r' U' L U F 2R' U2 2R F (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20l%27%20U2%202L%20D2%202L%20D2%20r%27%20U%27%20L%20U%20F%
	r U R' U' r2 R U2 r2 U r U2 r' U2 r U' r2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%27%20r2%20R%20U2%20r2%20U%20r%20U2%20r%27%20U2%
	r U R' U' r2 U2 r2 R U r U2 r' U2 r U' r2 U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%27%20r2%20U2%20r2%20R%20U%20r%20U2%20r%27%20U2%
	r U2 R U R' U2 R U 2R U2 r U2 r U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20R%20U%20R%27%20U2%20R%20U%202R%20U2%20r%20U2%20r%20U%20

OLL Parity + PLL Parity (Double Parity)

	r U2 r U2 r U r U2 R' U r U r2 R U r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r%20U2%20r%20U%20r%20U2%20R%27%20U%20r%20U%20r2%20R%20U%
	r U2 r U2 r' U' R' r2 U2 2R U' R' U' r U2 2R2 U r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r%20U2%20r%27%20U%27%20R%27%20r2%20U2%202R%20U%27%20R%2
	(2R' U' R U 2R)(2R2 F2 u2 2R u2 F2 2R2)(2R U R' U' 2R')(f2 2L' u2 2L 2R u2 2R' f2) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282R%27%20U%27%20R%20U%202R%29%282R2%20F2%20u2%202R%20u2%20F2%2

Petrus (They Destroy 2 Adjacent Faces)

OLL Parity (Only)

	Alg(v1)	r B' U2 B r B2 l B2 r B D2 B' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20B%27%20U2%20B%20r%20B2%20l%20B2%20r%20B%20D2%20B%27%20r)
	Alg(v2)	x' r' U F2 U' l' U2 r' U2 r' F' U2 F r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=x%27%20r%27%20U%20F2%20U%27%20l%27%20U2%20r%27%20U2%20r%27%
	Alg(v3)	x' r' U F2 U' l' U2 r' U2 l' U' B2 U r' x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=x%27%20r%27%20U%20F2%20U%27%20l%27%20U2%20r%27%20U2%20l%27%2
	Alg(v4)	x' r' U F2 U' l' U2 r' 3d2 r' U' F2 U l' x (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=x%27%20r%27%20U%20F2%20U%27%20l%27%20U2%20r%27%203d2%20r%27%
		r' s' L2 s r' U2 r' U2 r' F U2 F' U' L' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20s%27%20L2%20s%20r%27%20U2%20r%27%20U2%20r%27%20F%20U2%20F%
		r' s R2 s' r' U2 r' U2 r' F' U2 F U R U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20s%20R2%20s%27%20r%27%20U2%20r%27%20U2%20r%27%20F%27%20U2%2
		r U2 r' U2 r D2 2R D2 2L' U L' U' B' 2L' U2 2L x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r%27%20U2%20r%20D2%202R%20D2%202L%27%20U%20L%27%20U%27%
		r' U R' U2 R U' r' U2 r' U2 r' U' R U2 R' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%27%20U2%20R%20U%27%20r%27%20U2%20r%27%20U2%20r%27%2
		r U' R' U2 R U 2R U2 2R U2 2R U R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%202R%20U2%202R%20U2%202R%20U%20R%2
		r U' R' U2 R U r U2 r U2 2R U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%20r%20U2%20r%20U2%202R%20U%20R%20U2
		r' U' L' U2 L U r' U2 r' U2 r' U L' U2 L U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20L%27%20U2%20L%20U%20r%27%20U2%20r%27%20U2%20r%27%2
		r U2 l' U2 2L D2 2L D2 r' U' L U F r' U2 r F (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20l%27%20U2%202L%20D2%202L%20D2%20r%27%20U%27%20L%20U%20F%
		r U' R2 U2 R2 U 2R U2 r U2 2R U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R2%20U2%20R2%20U%202R%20U2%20r%20U2%202R%20U%20R%20U2
		r U2 r2 U' r' U2 r U2 r' U r2 U2 r2 U R2 U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r2%20U%27%20r%27%20U2%20r%20U2%20r%27%20U%20r2%20U2%20r2%
		r U2 r2 U r' U2 r U2 r' U' r2 U2 2R2 U R2 U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r2%20U%20r%27%20U2%20r%20U2%20r%27%20U%27%20r2%20U2%202R2
		r U' R2 U2 R2 U 2R U2 2R U2 2R U R2 U2 R2 U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R2%20U2%20R2%20U%202R%20U2%202R%20U2%202R%20U%20R2%20
		r' U R U2 R' U' 2R' U2 r' U2 r' F' U' R' U' R F r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%20U2%20R%27%20U%27%202R%27%20U2%20r%27%20U2%20r%27%
		r' U R U2 R' U' r' U2 r' U2 r' R' U' R U2 R' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%20U2%20R%27%20U%27%20r%27%20U2%20r%27%20U2%20r%27%2
		r U' R' U2 R U r U2 2R U2 r R2 U R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U%202R%20U2%20r%20R2%20U%20R
		r U' R U2 R' U r U2 2R U2 r R2 U R U2 R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U%20r%20U2%202R%20U2%20r%20R2%20U%20R
		r U' R U2 R' U r U2 r R2 U2 r U R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U2%20R%27%20U%20r%20U2%20r%20R2%20U2%20r%20U%20R%
		r U R U' r2 R U2 r2 U' r U2 r' U2 r U r2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%20U%27%20r2%20R%20U2%20r2%20U%27%20r%20U2%20r%27%20U2%2
		r' U R U2 R' U' r' U2 r' U2 r' R2 U' R2 U2 R2 U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%20U2%20R%27%20U%27%20r%27%20U2%20r%27%20U2%20r%27%2
		r U R' U' r2 U2 r2 R U r U2 r' U2 r U' r2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%27%20r2%20U2%20r2%20R%20U%20r%20U2%20r%27%20U2%2
		r U R' U r U2 2R U2 2R U' r' U R U R' U2 r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%20r%20U2%202R%20U2%202R%20U%27%20r%27%20U%20R%2
		r U R' U 2R U2 2R U2 r U' r' U R U R' U2 r U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%202R%20U2%202R%20U2%20r%20U%27%20r%27%20U%20R%2
		r' U r U2 R' U R U r' U' 2R U2 r U2 r U R' U r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20r%20U2%20R%27%20U%20R%20U%20r%27%20U%27%202R%20U2%20r
		r U' R' U2 R U r R U2 2R U2 r R U R' U2 R U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U2%20R%20U%20r%20R%20U2%202R%20U2%20r%20R%20U%
		r U' r U2 R' U R U r' U' r U2 2R U2 r U R2 U r (http://alg.cubing.net/?

	puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20r%20U2%20R%27%20U%20R%20U%20r%27%20U%27%20r%20U2%202R

OLL Parity + PLL Parity (Double Parity)

	Alg(v1)	l' U2 F2 l' U' F R' F l2 U2 r U2 l2 U' x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=l%27%20U2%20F2%20l%27%20U%27%20F%20R%27%20F%20l2%20U2%20r%20U
	Alg(v2)	l' U2 F2 l' U' F 3l' U l2 x' U2 r U2 l2 U' x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=l%27%20U2%20F2%20l%27%20U%27%20F%203l%27%20U%20l2%20x%27%20U2
	Alg(v1)	r U2 F2 r U' F R' F r2 U2 l' U2 r2 U' x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20F2%20r%20U%27%20F%20R%27%20F%20r2%20U2%20l%27%20U2%
	Alg(v2)	r U2 F2 r U' F 3l' U r2 x' U2 l' U2 r2 U' x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20F2%20r%20U%27%20F%203l%27%20U%20r2%20x%27%20U2%20l%2
		2R' U R U' 2R' U2 2R U R' U 2R U2 2R F2 l' U2 l (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%20R%20U%27%202R%27%20U2%202R%20U%20R%27%20U%202R%20U2
		r' U R U (r' U2)3 r2 U R' U' r2 U' R' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%20U%20%28r%27%20U2%293%20r2%20U%20R%27%20U%27%20r2%

More than 1 F3L Slot Destroyed (Not Petrus)

OLL Parity (Only)

	r' U2 F U2 F' U2 r' U2 r' U2 r' F U2 F' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U2%20F%20U2%20F%27%20U2%20r%27%20U2%20r%27%20U2%20r%27%20F
	r U D' R2 U' R2 D x' U2 l U2 l U2 l F' U2 F l (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20D%27%20R2%20U%27%20R2%20D%20x%27%20U2%20l%20U2%20l%20U2%
	r F U2 F' r U2 r U2 r R U2 F U2 F' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F%20U2%20F%27%20r%20U2%20r%20U2%20r%20R%20U2%20F%20U2%20F%27%
	r' U R U2 R' U' r' U2 r' U2 r' F U' B' U' s d' z' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%20U2%20R%27%20U%27%20r%27%20U2%20r%27%20U2%20r%27%2
	l U' L' R U2 L U l U2 l U2 l U' R' U2 R U 2R x' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=l%20U%27%20L%27%20R%20U2%20L%20U%20l%20U2%20l%20U2%20l%20U%27%20R
	l U' L' R' U2 L U l U2 l U2 l U' R U2 R' U l R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=l%20U%27%20L%27%20R%27%20U2%20L%20U%20l%20U2%20l%20U2%20l%20U%27%

Affect M Layer Only

OLL Parity (Only)

	Alg.1	2R B2 2L' D2 2L' B2 2R2 B2 U2 2L' D2 2L U2 2L2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20B2%202L%27%20D2%202L%27%20B2%202R2%20B2%20U2%202L%27%20D2
	Mirror[Alg.1]	2L' B2 2R D2 2R B2 2L2 B2 U2 2R D2 2R' U2 2R2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%27%20B2%202R%20D2%202R%20B2%202L2%20B2%20U2%202R%20D2%
	Inverse[Alg.1]	B2 2L2 U2 2L' D2 2L U2 B2 2R2 B2 2L D2 2L B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=B2%202L2%20U2%202L%27%20D2%202L%20U2%20B2%202R2%20B2%202
	Rotation[Alg.1]	2L D2 2R' B2 2R' D2 2L2 D2 F2 2R' B2 2R F2 2R2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%20D2%202R%27%20B2%202R%27%20D2%202L2%20D2%20F2%202R%
	Mirror[Inverse[Alg.1]]	B2 2R2 U2 2R D2 2R' U2 B2 2L2 B2 2R' D2 2R' B2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=B2%202R2%20U2%202R%20D2%202R%27%20U2%20B2%202L2%20
	Mirror[Rotation[Alg.1]]	2R' D2 2L B2 2L D2 2R2 D2 F2 2L B2 2L' F2 2L2 D2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20D2%202L%20B2%202L%20D2%202R2%20D2%20F2%202

	Inverse[Rotation[Alg.1]]	D2 2R2 F2 2R' B2 2R F2 D2 2L2 D2 2R B2 2R D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=D2%202R2%20F2%202R%27%20B2%202R%20F2%20D2%202L2%2
	Mirror[Inverse[Rotation[Alg.1]]]	D2 2L2 F2 2L B2 2L' F2 D2 2R2 D2 2L' B2 2L' D2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=D2%202L2%20F2%202L%20B2%202L%27%20F2%20D2%20

	Alg.2	2R2 D2 2R' U2 2R D2 B2 2L2 B2 2R U2 2R B2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20D2%202R%27%20U2%202R%20D2%20B2%202L2%20B2%202R%20U2%202
	Mirror[Alg.2]	2L2 D2 2L U2 2L' D2 B2 2R2 B2 2L' U2 2L' B2 2R B2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L2%20D2%202L%20U2%202L%27%20D2%20B2%202R2%20B2%202L%27%
	Inverse[Alg.2]	B2 2L B2 2R' U2 2R' B2 2L2 B2 D2 2R' U2 2R D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=B2%202L%20B2%202R%27%20U2%202R%27%20B2%202L2%20B2%20D2%
	Rotation[Alg.2]	2L2 B2 2L' F2 2L B2 D2 2R2 D2 2L F2 2L D2 2R' D2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L2%20B2%202L%27%20F2%202L%20B2%20D2%202R2%20D2%202L%20
	Mirror[Inverse[Alg.2]]	B2 2R' B2 2L U2 2L B2 2R2 B2 D2 2L U2 2L' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=B2%202R%27%20B2%202L%20U2%202L%20B2%202R2%20B2%20D
	Mirror[Rotation[Alg.2]]	2R2 B2 2R F2 2R' B2 D2 2L2 D2 2R' F2 2R' D2 2L D2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20B2%202R%20F2%202R%27%20B2%20D2%202L2%20D2%20
	Inverse[Rotation[Alg.2]]	D2 2R D2 2L' F2 2L' D2 2R2 D2 B2 2L' F2 2L B2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=D2%202R%20D2%202L%27%20F2%202L%27%20D2%202R2%20D
	Mirror[Inverse[Rotation[Alg.2]]]	D2 2L' D2 2R F2 2R D2 2L2 D2 B2 2R F2 2R' B2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=D2%202L%27%20D2%202R%20F2%202R%20D2%202L2%2

	2L 2R F2 2L B 2U' B D2 B' 2U B 2R' D2 B2 2L2 F2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%202R%20F2%202L%20B%202U%27%20B%20D2%20B%27%202U%20B%202R%27%2
	2L 2R F2 2L B' 2D' B' D2 B 2D B' 2R' D2 B2 2L2 F2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%202R%20F2%202L%20B%27%202D%27%20B%27%20D2%20B%202D%20B%27%202
	2R' D2 2L' 2R' B2 D2 2L' B 2U B' D2 B 2U' B 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20D2%202L%27%202R%27%20B2%20D2%202L%27%20B%202U%20B%27%20D
	2R' D2 2L' 2R' B2 D2 2L' B' 2D B D2 B' 2D' B' 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20D2%202L%27%202R%27%20B2%20D2%202L%27%20B%27%202D%20B%20D
	2L' 2R' U2 2L' D' 2F D' B2 D 2F' D' 2R B2 D2 2L2 U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%27%202R%27%20U2%202L%27%20D%27%202F%20D%27%20B2%20D%202F%27%
	2L' 2R' U2 2L' D 2B D B2 D' 2B' D 2R B2 D2 2L2 U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%27%202R%27%20U2%202L%27%20D%202B%20D%20B2%20D%27%202B%27%20D
	2R F2 2R2 F2 U2 D 2L D' F2 D 2L' D' 2R F2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20F2%202R2%20F2%20U2%20D%202L%20D%27%20F2%20D%202L%27%20D%27%
	2R F2 2R2 F2 U2 D' 2L D F2 D' 2L' D 2R F2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20F2%202R2%20F2%20U2%20D%27%202L%20D%20F2%20D%27%202L%27%20D%
	2R F2 2R2 F2 U2 D' 2L D F2 D' 2L' D 2R F2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20F2%202R2%20F2%20U2%20D%27%202L%20D%20F2%20D%27%202L%27%20D%
	2R F2 2R2 F2 U2 D 2L D' F2 D 2L' D' 2R F2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20F2%202R2%20F2%20U2%20D%202L%20D%27%20F2%20D%202L%27%20D%27%
	2R' D2 2L2 D2 F2 2L' D 2B D' F2 D 2B' D m 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20D2%202L2%20D2%20F2%202L%27%20D%202B%20D%27%20F2%20D%202B
	2R' D2 2L2 D2 F2 2L' D' 2F D F2 D' 2F' D' m 2L D2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20D2%202L2%20D2%20F2%202L%27%20D%27%202F%20D%20F2%20D%27%2
	2R2 U2 m' 2R U2 2R' B2 U2 2R2 U2 m 2R' B2 2R' B2 2R B2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20U2%20m%27%202R%20U2%202R%27%20B2%20U2%202R2%20U2%20m%202R%
	2R2 F2 2R U2 2R U2 F2 2R2 U2 F2 2R' U2 2R U2 F2 2R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20F2%202R%20U2%202R%20U2%20F2%202R2%20U2%20F2%202R%27%20U2%20
	2R2 U2 F2 2R U2 F2 2R U2 2R2 U2 F2 2R U2 2R F2 2R' U2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20U2%20F2%202R%20U2%20F2%202R%20U2%202R2%20U2%20F2%202R%20U2%
	(r' U' F' R' F R2 U' l' e' R2 e) 2R' (e' R2 e l U R2 F' R F U r) (2R U2 2R' U2) (U2 2R2 U2 2R2 U2 2R2 U2) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%28r%27%20U%27%20F%27%20R%27%20F%20R2%20U%27%20l%27%20e%27%20R2
	(r' U' F' R' F R2 U') 2R (U R2 F' R F U r) (D' U' F2 U D) (2R' F2 2R F2) (F2 2R2 F2 2R2 F2 2R2 F2) (D' U' F2 U D) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%28r%27%20U%27%20F%27%20R%27%20F%20R2%20U%27%29%202R%20%28U%20F

OLL Parity + PLL Parity (Double Parity)

		2R U2 2R' U2 2R' D2 2R D2 2R' B2 2R B2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20U2%202R%27%20U2%202R%27%20D2%202R%20D2%202R%27%20B2%202R%20
		2R U2 2R' U2 m' 2L' U2 2R U2 2L' U2 2R U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20U2%202R%27%20U2%20m%27%202L%27%20U2%202R%20U2%202L%27%20U2%
	reParity(v2)	2R U2 2L' U2 2L 2R2 U2 2L U2 2R' U2 2L U2 2L 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20U2%202L%27%20U2%202L%202R2%20U2%202L%20U2%202R%27%20
		(2R' U' F' R' F R2 U' l2 e L2 e') 2R' (e L2 e' l2 U R2 F' R F U 2R) (2R U2 2R' U2) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282R%27%20U%27%20F%27%20R%27%20F%20R2%20U%27%20l2%20e%20L2%20e%

Complete 3x3x3 Scrambles

OLL Parity (Only)

	r B U2 B' 2R B2 2L B2 2R B' D2 B r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20B%20U2%20B%27%202R%20B2%202L%20B2%202R%20B%27%20D2%20B%20r)	(1
	r U F2 U' l F2 2R U2 r U B2 U' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20F2%20U%27%20l%20F2%202R%20U2%20r%20U%20B2%20U%27%20r)	(17,1
	r U' F2 U l F2 2R U2 r U' B2 U r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20F2%20U%20l%20F2%202R%20U2%20r%20U%27%20B2%20U%20r)	(17,1
	u m R D R' b 2F m 2D' m' f 2B m' F u (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=u%20m%20R%20D%20R%27%20b%202F%20m%202D%27%20m%27%20f%202B%20m%	
	r' s' L2 s r' U2 r' U2 r' F' U2 F U R U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20s%27%20L2%20s%20r%27%20U2%20r%27%20U2%20r%27%20F%27%20U2%2	
	r' s R2 s' r' U2 r' U2 r' F U2 F' U' L' U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20s%20R2%20s%27%20r%27%20U2%20r%27%20U2%20r%27%20F%20U2%20F%	
	r U2 r' U2 r D2 r D2 r' F L' F' U' r' D2 r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r%27%20U2%20r%20D2%20r%20D2%20r%27%20F%20L%27%20F%27%20U	
	2R U' m' U m' U' m' U' m u2 2R u2 U' m' U2 m' U m U2 m U m' U m U m' U' 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%20U%27%20m%27%20U%20m%27%20U%27%20m%27%20U%27%20m%20u2%202	

OLL Parity + PLL Parity (Double Parity)

	r F2 U2 l F U' R U' r2 B2 r' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F2%20U2%20l%20F%20U%27%20R%20U%27%20r2%20B2%20r%27%20B2%20r2)	
	r F2 U2 l F' U L' U r2 B2 r' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F2%20U2%20l%20F%27%20U%20L%27%20U%20r2%20B2%20r%27%20B2%20r2)	
	r F2 U2 l F U' (L' R) U' r2 B2 r' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F2%20U2%20l%20F%20U%27%20%28L%27%20R%29%20U%27%20r2%20B2%20r%	
	r F2 U2 l F' U (L' R) U r2 B2 r' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F2%20U2%20l%20F%27%20U%20%28L%27%20R%29%20U%20r2%20B2%20r%27%	
	reParity	r U2 l' U2 x' (r' U2 l U2)2 l' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20l%27%20U2%20x%27%20%28r%27%20U2%20l%20U2%292%20l%27)
	r U' 2B m 2R' D' 2B D 2L' 2B2 l e' B' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%202B%20m%202R%27%20D%27%202B%20D%202L%27%202B2%20l%20e%	
	u m F R' B 2U 2D 2L' 2U 2D F R' B m u (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=u%20m%20F%20R%27%20B%202U%202D%202L%27%202U%202D%20F%20R%27%20B	
	u m F' L B' 2U 2D 2L' 2U 2D F' L B' m u (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=u%20m%20F%27%20L%20B%27%202U%202D%202L%27%202U%202D%20F%27%20L%	
	2R' U m' U' m' U m' U m u2 2L' u2 m' U m U' m' U m' U m U2 m' U2 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%20m%27%20U%27%20m%27%20U%20m%27%20U%20m%20u2%202L%2	

- It's interesting to note that the long (u,U,2R,2L,m) algorithms have the same structure as Bruce's (15,15) OLL parity (only) solution.

- To see more detailed information on how most of the short algorithms were found, see http://cubezzz.dyndns.org/drupal/?q=node/view/230

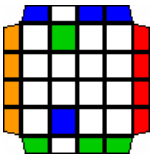
- To see Stefan Pochmann's explanation of his Petrus Parity Algorithm, see http://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/topics/13756 (message 4/30)
- To see a large list of (U,r,R) solutions (several of the algorithms in this list are listed in this section already) that have been found by Kåre Krig, see http://www.speedsolving.com/forum/showthread.php?30127-New-4x4-parity-algs-using-R-Rw-U&p=806576&viewfull=1#post806576

Non Dedge-Preserving Last Layer 2-Cycle Cases

- This section contains all of the 2-cycle cases that can occur in the last layer besides the one dedge flip.
- These are additional cases which arise in the K4 Method and other direct-solving methods.
- Algorithms marked as "Safe" are supercube safe.

In Opposite Dedges

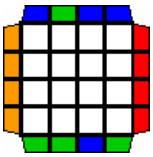
Adjacent 2-Swap



- All unique 8 (19,12) solutions are included.
  - To obtain all 16, also consider their inverses.

2R U2 2R U2 F2 2R F2 2L' U2 2L U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%20F2%202R%20F2%202L%27%20U2%202L%20U2%202R2)	(19,12)		[X]
2R U2 2L F2 D2 2R D2 2L' F2 2R U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202L%20F2%20D2%202R%20D2%202L%27%20F2%202R%20U2%202R2)	(19,12)		[X]
2R' U2 2L' B2 D2 2R' D2 2L B2 2R' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%27%20B2%20D2%202R%27%20D2%202L%20B2%202R%27%20U2%202R2)	(19,		
2R' U2 2R' U2 B2 2R' B2 2L U2 2L' U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%27%20U2%20B2%202R%27%20B2%202L%20U2%202L%27%20U2%202R2)	(19,		
2L F2 2R F2 D2 2L B2 2R' B2 2R D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20F2%202R%20F2%20D2%202L%20B2%202R%27%20B2%202R%20D2%202L2)	(19,12)		[X]
2L F2 2R F2 D2 2R D2 2R' D2 2L D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20F2%202R%20F2%20D2%202R%20D2%202R%27%20D2%202L%20D2%202L2)	(19,12)		[X]
2L' B2 2R' B2 D2 2L' F2 2R F2 2R' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202R%27%20B2%20D2%202L%27%20F2%202R%20F2%202R%27%20D2%202L2)	(19,		
2L' B2 2R' B2 D2 2R' D2 2R D2 2L' D2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202R%27%20B2%20D2%202R%27%20D2%202R%20D2%202L%27%20D2%202L2)	(19,		
2R U2 2R U2 m' U2 2R U2 2R' U2 2L U2 2R2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%20m%27%20U2%202R%20U2%202R%27%20U2%202L%20U2%202R2)	(20,13		
r' U2 2R' U2 3r' U2 2R' U2 2R U2 2L' U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%202R%27%20U2%203r%27%20U2%202R%27%20U2%202R%20U2%202L%27%20U2%20			
z r' U 2L' u' r u 2L' f' 2L' f 2L2 u' r' 2U r z' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%20r%27%20U%202L%27%20u%27%20r%20u%202L%27%20f%27%202L%27%20f%202L2%20u%27			
2L F2 2R F2 2L D 2F' D 2R D2 2R' D' 2F D 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20F2%202R%20F2%202L%20D%202F%27%20D%202R%20D2%202R%27%20D%27%202F%20D%			
2B 2U b' r' 2F' r b r' 2F2 u' 2F' u 2F' r 2U' 2B' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2B%202U%20b%27%20r%27%202F%27%20r%20b%20r%27%202F2%20u%27%202F%27%20u%202F%			
r U2 2R U2 r U2 r2 F 2R F' r2 U2 r2 F 2R' F' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%202R%20U2%20r%20U2%20r2%20F%202R%20F%27%20r2%20U2%20r2%20F%202R%27%2			
2L' B2 2L D2 2R' D2 2L' B2 2L' D2 2R' D2 2L2 D2 2R D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20D2%202R%27%20D2%202L%27%20B2%202L%27%20D2%202R%27%20D2%2			
2L' B2 2L D 2R' D' 2L' B2 2L D 2L 2R F2 2R' F2 2L' D' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20B2%202L%20D%202R%27%20D%27%202L%27%20B2%202L%20D%202L%202R%20F2%20			
2R' U2 2R D 2R' D' 2R' U2 2L' B2 2R' B2 2L 2R D 2R D' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20D%202R%27%20D%27%202R%27%20U2%202L%27%20B2%202R%27%20B2			
2R' U2 2L D2 2L' U2 2L D2 2L' U2 2R' U2 2R' U2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202L%20D2%202L%27%20U2%202L%20D2%202L%27%20U2%202R%27%20U2%202R			
d' f 2L' f' u f 2L' u' 2U' R 2U 2L' 2U' R' u 2U 2L2 f' y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=d%27%20f%202L%27%20f%27%20u%20f%202L%27%20u%27%202U%27%20R%202U%202L%27%20			
z' f' u 2R' u' f u 2R' f2 L 2F L F 2R' F' L' 2F' L' f2 2R2 u' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%20f%27%20u%202R%27%20u%27%20f%20u%202R%27%20f2%20L%202F%20L%20F%202R%			
2L U 2L U' 2L' U' 2L U 2L U 2L' D' 2B2 2L 2B2 2L' U2 D 2L' U//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U%202L%20U%27%202L%27%20U%27%202L%20U%202L%20U%202L%27%20D%27%202B2%			
2R' U' R U 2R' U R' U' 2R U R U2 R' U' 2R' U2 2R' U2 2R' U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%27%20R%20U%202R%27%20U%20R%27%20U%27%202R%20U%20R%20U2%20R%27%			
U2 2L' U2 2R U2 2R' U2 x' U2 2R' U2 2R' U' 2L 2R 2U2 2L' 2R' U 2L 2R 2U2 x//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202L%27%20U2%202R%20U2%202R%27%20U2%20x%27%20U2%202R%27%20U2%202R%27%2			
x' 2L u' r' u 2L2 f2 r f' U L' U' 2L U L U' f r' f2 2L u' r u x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%202L%20u%27%20r%27%20u%202L2%20f2%20r%20f%27%20U%20L%27%20U%27%202L%20			
r U' R U r U2 r' U' R' U' 2R U R U r U2 r' U' R' U' 2R2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U%27%20R%20U%20r%20U2%20r%27%20U%27%20R%27%20U%27%202R%20U%20R%20U%2			

Opposite/diagonal 2-Swap



- Note: All 36 unique (25,14) solutions are listed.
  - To obtain all possible (25,14) solutions for the top/last layer, also take y2 cube rotations of all 36 and then also consider their inverses. (This would give a total of 144 algorithms.)

	2L' s2 U2 2L U2 2L' U2 2R U2 2R' F2 2L B2 2R z2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20s2%20U2%202L%20U2%202L%27%20U2%202R%20U2%202R%27%20F2%202L%20B2%202	
	2L2 B2 U2 2L U2 2L2 B2 2L U2 2L2 U2 B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202L%20U2%202L2%20B2%202L%20U2%202L2%20U2%20B2%202L%20B2)	(25,14
	2R2 D2 2R D2 F2 2L2 F2 2L' F2 D2 2L2 D2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20D2%202R%20D2%20F2%202L2%20F2%202L%27%20F2%20D2%202L2%20D2%202R%20F2)	(2
	2R2 F2 U2 2L' U2 2L2 F2 2L' U2 2R2 U2 F2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20U2%202L%27%20U2%202L2%20F2%202L%27%20U2%202R2%20U2%20F2%202R%20F2	
	2R2 F2 U2 2L F2 D2 2R2 D2 2L' F2 2R2 U2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20U2%202L%20F2%20D2%202R2%20D2%202L%27%20F2%202R2%20U2%202R%27%20F	
	2R2 F2 U2 2L F2 D2 2R2 D2 2R F2 2L2 U2 2L F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20U2%202L%20F2%20D2%202R2%20D2%202R%20F2%202L2%20U2%202L%20F2)	(25,14
	2R2 F2 U2 2R U2 2R2 F2 2R U2 2R2 U2 F2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20F2%20U2%202R%20U2%202R2%20F2%202R%20U2%202R2%20U2%20F2%202R%20F2)	(25,1
	2R2 U2 2R U2 F2 2R2 F2 2R' F2 U2 2R2 U2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20U2%20F2%202R2%20F2%202R%27%20F2%20U2%202R2%20U2%202R%27%20F	
	2L2 B2 U2 2R' U2 2R2 B2 2R' U2 2L2 U2 B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%27%20U2%202R2%20B2%202R%27%20U2%202L2%20U2%20B2%202L%20B	
	2L2 B2 U2 2R B2 D2 2L2 D2 2L B2 2R2 U2 2R B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%20B2%20D2%202L2%20D2%202L%20B2%202R2%20U2%202R%20B2)	(25,1
	2L2 B2 U2 2R B2 D2 2L2 D2 2R' B2 2L2 U2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20B2%20U2%202R%20B2%20D2%202L2%20D2%202R%27%20B2%202L2%20U2%202L%27%20B	
	2L2 D2 2L D2 B2 2R2 B2 2R' B2 D2 2R2 D2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20D2%202L%20D2%20B2%202R2%20B2%202R%27%20B2%20D2%202R2%20D2%202L%20B2)	(
	2L2 U2 2L U2 B2 2L2 B2 2L' B2 U2 2L2 U2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%20U2%20B2%202L2%20B2%202L%27%20B2%20U2%202L2%20U2%202L%27%20B2	
	2R2 U2 2R' U2 F2 2L2 F2 2R' F2 D2 2L2 D2 2L' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20U2%20F2%202L2%20F2%202R%27%20F2%20D2%202L2%20D2%202L%27%	
	2R2 B2 D2 2L' D2 2L2 B2 2R' U2 2R2 U2 B2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20D2%202L%27%20D2%202L2%20B2%202R%27%20U2%202R2%20U2%20B2%202L%27%	
	2L2 U2 2L' U2 B2 2R2 B2 2L' B2 D2 2R2 D2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%27%20U2%20B2%202R2%20B2%202L%27%20B2%20D2%202R2%20D2%202R%27%	
	2L2 F2 D2 2R' D2 2R2 F2 2L' U2 2L2 U2 F2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202R%27%20D2%202R2%20F2%202L%27%20U2%202L2%20U2%20F2%202R%27%	
	2R2 U2 2R B2 2L2 D2 2L D2 B2 2R2 U2 F2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20B2%202L2%20D2%202L%20D2%20B2%202R2%20U2%20F2%202R%27%20F2)	(
	2L2 U2 2L F2 2R2 D2 2R D2 F2 2L2 U2 B2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%20F2%202R2%20D2%202R%20D2%20F2%202L2%20U2%20B2%202L%27%20B2)	(2
	2R2 U2 2L' B2 2R2 D2 2R' D2 B2 2R2 U2 F2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20B2%202R2%20D2%202R%27%20D2%20B2%202R2%20U2%20F2%202R%27	
	2L2 U2 2R' F2 2L2 D2 2L' D2 F2 2L2 U2 B2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%27%20F2%202L2%20D2%202L%27%20D2%20F2%202L2%20U2%20B2%202L%27%	
	2L2 F2 D2 2L' F2 D2 2L2 D2 2R F2 2R2 D2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%27%20F2%20D2%202L2%20D2%202R%20F2%202R2%20D2%202R%20F2)	(2
	2R2 B2 D2 2R' B2 D2 2R2 D2 2L B2 2L2 D2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20D2%202R%27%20B2%20D2%202R2%20D2%202L%20B2%202L2%20D2%202L%20B2)	(
	2R2 B2 D2 2R D2 2R2 B2 2L U2 2R2 U2 B2 2L' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20D2%202R%20D2%202R2%20B2%202L%20U2%202R2%20U2%20B2%202L%27%20B2)	(
	2L2 F2 D2 2L' F2 D2 2L2 D2 2L' F2 2L2 D2 2L' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%27%20F2%20D2%202L2%20D2%202L%27%20F2%202L2%20D2%202L%27%	
	2R2 B2 D2 2R' B2 D2 2R2 D2 2R' B2 2R2 D2 2R' B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20B2%20D2%202R%27%20B2%20D2%202R2%20D2%202R%27%20B2%202R2%20D2%202R%27	
	2L2 F2 D2 2L D2 2L2 F2 2R U2 2L2 U2 F2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20F2%20D2%202L%20D2%202L2%20F2%202R%20U2%202L2%20U2%20F2%202R%27%20F2)	(2
	2R2 U2 2L B2 2R2 U2 2L U2 B2 2R2 U2 F2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%20B2%202R2%20U2%202L%20U2%20B2%202R2%20U2%20F2%202R%20F2)	(25,14
	2R2 U2 2R' B2 2L2 U2 2R' U2 B2 2R2 U2 F2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%27%20B2%202L2%20U2%202R%27%20U2%20B2%202R2%20U2%20F2%202R%20F	
	2L2 U2 2L' F2 2R2 U2 2L' U2 F2 2L2 U2 B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L2%20U2%202L%27%20F2%202R2%20U2%202L%27%20U2%20F2%202L2%20U2%20B2%202L%20B2	
	2L2 U2 2R F2 2L2 U2 2R U2 F2 2L2 U2 B2 2L B2 (http://alg.cubing.net/?	

	puzzle=4x4x4&type=alg&alg=2L2%20U2%202R%20F2%202L2%20U2%202R%20U2%20F2%202L2%20U2%20B2%202L%20B2)	(25,14
	2R2 F2 D2 2L' D2 2L2 F2 2R U2 2R2 U2 F2 2L F2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202L%27%20D2%202L2%20F2%202R%20U2%202R2%20U2%20F2%202L%20F2)	(2
	2R2 F2 D2 2R' B2 U2 2R2 U2 2L' B2 2R2 D2 2L' F2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20B2%20U2%202R2%20U2%202L%27%20B2%202R2%20D2%202L%27%	
	2R2 F2 D2 2R' B2 U2 2R2 U2 2R B2 2L2 D2 2R F2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20F2%20D2%202R%27%20B2%20U2%202R2%20U2%202R%20B2%202L2%20D2%202R%20F2)	(
	2R2 B2 U2 2R U2 2R2 B2 2R' U2 2R2 U2 B2 2R' B2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202R%20U2%202R2%20B2%202R%27%20U2%202R2%20U2%20B2%202R%27%20	
	2R2 B2 U2 2L F2 U2 2R2 U2 2R' F2 2R2 U2 2L' B2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%20F2%20U2%202R2%20U2%202R%27%20F2%202R2%20U2%202L%27%20B	
	2R2 B2 U2 2L F2 U2 2R2 U2 2L F2 2L2 U2 2R B2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=2R2%20B2%20U2%202L%20F2%20U2%202R2%20U2%202L%20F2%202L2%20U2%202R%20B2)	(25,14
	u l' u' 2L' u l f' l2 u' 2L' u l' L' f u' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=u%20l%27%20u%27%202L%27%20u%20l%20f%27%20l2%20u%27%202L%27%20u%20l%27%20L%2	
	u l' u' 2L' u l2 d' l u' 2L' u L' d l' u' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=u%20l%27%20u%27%202L%27%20u%20l2%20d%27%20l%20u%27%202L%27%20u%20L%27%20d%	
	u l' b' 2R' b l2 b' r f' 2R' f R' b l' u' (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=u%20l%27%20b%27%202R%27%20b%20l2%20b%27%20r%20f%27%202R%27%20f%20R%27%20b%	
	f' L2 u 2B' u' l2 u L' u 2B' u' l u' 2L2 f (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=f%27%20L2%20u%202B%27%20u%27%20l2%20u%20L%27%20u%202B%27%20u%27%20l%20u%27	
	f' u B2 r' 2U r b2 l2 2D l 2D' l 2B2 u' f (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=f%27%20u%20B2%20r%27%202U%20r%20b2%20l2%202D%20l%202D%27%20l%202B2%20u%27%20	
	u r' F2 r' 2F r b2 l2 2U l 2U' r 2U2 r u' y2 (http://alg.cubing.net/? puzzle=4x4x4&type=alg&alg=u%20r%27%20F2%20r%27%202F%20r%20b2%20l2%202U%20l%202U%27%20r%202U2%20r%20u%2	
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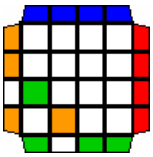
In Adjacent Dedges

Case 1 (Close Adjacent Unoriented)



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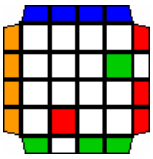
Case 2 (Far Adjacent Unoriented)



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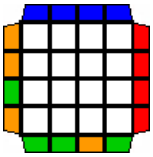
Case 3 (Oriented Case)



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	z u' r u2 2L' u 2R' u' 2L u2 R' u b2 u' 2R' u b2 z' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%20u%27%20r%20u2%202L%27%20u%202R%27%20u%27%202L%20u2%20R%27%20u%20b2%20u
	x 2L' U L U 2L' U' L' U' F2 2L' F2 2R U2 2R' U2 2L2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202L%27%20U%20L%20U%202L%27%20U%27%20L%27%20U%27%20F2%202L%27%20F2%202R
	L' B' 2L' U2 2L' U2 x U2 2L' U2 x' 2R U2 2R' U2 2L2 B L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=L%27%20B%27%202L%27%20U2%202L%27%20U2%20x%20U2%202L%27%20U2%20x%27%202R%2
	x 2L' U L U 2L' U' L' U' x U2 2L' U2 2L U2 2R' U2 2L 2R x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202L%27%20U%20L%20U%202L%27%20U%27%20L%27%20U%27%20x%20U2%202L%27%20U2%
	x 2L' U L U 2L' U' L' U' m' U2 2L' U2 2L U2 2R' U2 2L2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202L%27%20U%20L%20U%202L%27%20U%27%20L%27%20U%27%20m%27%20U2%202L%27%2
	x 2L U2 2L U2 m U L U 2L U' L' U' 2L' U2 2R U2 2L2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202L%20U2%202L%20U2%20m%20U%20L%20U%202L%20U%27%20L%27%20U%27%202L%27%2
	r U2 2L U2 3l U L' U 2L U' L U' 2L' U2 2R U2 l2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%20U2%202L%20U2%203l%20U%20L%27%20U%202L%20U%27%20L%20U%27%202L%27%20U2%2
	x' 2F' u r' f' 2R' f r u' 2F 2R' u r' f' 2R' f r u' 2R2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%202F%27%20u%20r%27%20f%27%202R%27%20f%20r%20u%27%202F%202R%27%20u%20r
	y' 2L U F2 U' 2L U F2 2L F L F 2L F' L' F' 2L' U' 2L2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%202L%20U%20F2%20U%27%202L%20U%20F2%202L%20F%20L%20F%202L%20F%27%20L%2
	x l' L' U L' U 2L' U' L U' m' U2 2L' U2 2L U2 2R' U2 l2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%20l%27%20L%27%20U%20L%27%20U%202L%27%20U%27%20L%20U%27%20m%27%20U2%202L
	z' 2R' u b u' b L b 2R b' L' b' u b' l u' 2R u l' u' z (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z%27%202R%27%20u%20b%20u%27%20b%20L%20b%202R%20b%27%20L%27%20b%27%20u%20b

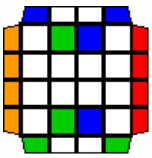
	2R u' l u 2R' u' f' u' B r2 B' 2L B r2 B' u f l' u (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20u%27%20l%20u%202R%27%20u%27%20f%27%20u%27%20B%20r2%20B%27%202L%20B%20
	y' x l' U' R' U' 2L2 U R U l' U2 l U' R' U' 2L U R U l' U2 l2 x' y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%27%20x%20l%27%20U%27%20R%27%20U%27%202L2%20U%20R%20U%20l%27%20U2%20l%20U
	2R' U' 2R U' 2R' D 2B2 2R 2B2 2R' U2 D' 2R' U' 2R U' 2R U 2R' U 2R2//Safe (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%27%202R%20U%27%202R%27%20D%202B2%202R%202B2%202R%27%20U2%20D%27
	x 2L2 U2 l U 2L U' l' U2 l' U2 l U2 l U 2L2 U' l' U2 l' U2 l' L2 x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202L2%20U2%20l%20U%202L%20U%27%20l%27%20U2%20l%27%20U2%20l%20U2%20l%20U%20
	r2 U r' U r' U r U2 r U2 r' U r U' r' U' r' U2 r' U2 r U2 r' U r2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%20r%27%20U%20r%27%20U%20r%20U2%20r%20U2%20r%27%20U%20r%20U%27%20r%2
	y r' U2 2R' r2 U2 r U2 r U 2R U' r' U2 r' U2 r U2 r U 2R2 U' r' U2 r 2R U2 r y' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20r%27%20U2%202R%27%20r2%20U2%20r%20U2%20r%20U%202R%20U%27%20r%27%20U2%2
	U' r' U r U' r2 U2 r' U2 r U2 r' U r2 U' r U r' U' r U2 r U2 r2 U r U' r (http://alg.cubing.net/?puzzle=5x5x5&type=alg&alg=U%27%20r%27%20U%20r%20U%27%20r2%20U2%20r%27%20U2%20r%20U2%20r%27%20U%20r2%

Non Dedge-Preserving Last Layer 4-Cycle Cases in Two Dedges

- These are all of the other 4-cycles that can occur in two dedges in the last layer besides double parity and adjacent double parity.
- These are additional cases which arise in the K4 Method and other direct-solving methods.

In Opposite Dedges

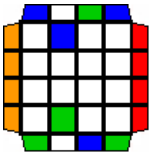
Checkerboard



		r2 U2 2R' e2 2R e2 2R' U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%202R%27%20e2%202R%20e2%202R%27%20U2%20r2)	(15,9)	Tom Rokicki & Ed Trice	[X]
		(2F2 2U' 2R2 u2 s') 2R (s u2 2R2 2U 2F2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282F2%202U%27%202R2%20u2%20s%27%29%202R%20%28s%20u2%202R2%202U%202F2%29)			(
		(2F2 2U 2R2 u2 s') 2R (s u2 2R2 2U' 2F2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282F2%202U%202R2%20u2%20s%27%29%202R%20%28s%20u2%202R2%202U%27%202F2%29)			(
		2R2 U2 2R s2 2R s2 2R' U2 2L2 2F2 m2 2F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20s2%202R%20s2%202R%27%20U2%202L2%202F2%20m2%202F2)	(21,12)		[X]
		2R2 U2 2R s2 2R s2 2R' U2 2L2 2B2 m2 2B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20s2%202R%20s2%202R%27%20U2%202L2%202B2%20m2%202B2)	(21,12)		[X]
		2R s' L2 s 2R U2 2R U2 2R s' L2 s 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20s%27%20L2%20s%202R%20U2%202R%20U2%202R%20s%27%20L2%20s%202R)	(17,13)	Chris Mc	
		2R s R2 s' 2R U2 2R U2 2R s R2 s' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20s%20R2%20s%27%202R%20U2%202R%20U2%202R%20s%20R2%20s%27%202R)	(17,13)	Chris M	
		(r2 u U s l2 2U2) 2R (2U2 l2 s' U' u' r2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r2%20u%20U%20s%20l2%202U2%29%202R%20%282U2%20l2%20s%27%20U%27%20u%27%20r			
		(r2 u' U' s l2 2U2) 2R (2U2 l2 s' U u r2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r2%20u%27%20U%27%20s%20l2%202U2%29%202R%20%282U2%20l2%20s%27%20U%20u%20r			
		r2 s 2R' U2 2R' U2 2R' U2 2R' U2 2R' s' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20s%202R%27%20U2%202R%27%20U2%202R%27%20U2%202R%27%20U2%202R%27%20s%27%			
		r2 s' 2R' U2 2R' U2 2R' U2 2R' U2 2R' s r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20s%27%202R%27%20U2%202R%27%20U2%202R%27%20U2%202R%27%20U2%202R%27%20s%			
	Alg(v1a)	2R' U2 2R2 U2 2R U2 2R' U2 2R U2 2R2 U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R2%20U2%202R%20U2%202R%27%20U2%202R%20U2%202R2%20U2%20			
	Alg(v1b)	r' U2 2R2 U2 r U2 2R' U2 r U2 2R2 U2 r' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%202R2%20U2%20r%20U2%202R%27%20U2%20r%20U2%202R2%20U2%20r%27			
	Alg(v1c)	2R' U2 r2 U2 2R U2 2R' U2 2R U2 r2 U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%20r2%20U2%202R%20U2%202R%27%20U2%202R%20U2%20r2%20U2%202R%			
	Alg(v1d)	r' U2 2R2 U2 2R U2 2R' U2 r U2 2R2 U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U2%202R2%20U2%202R%20U2%202R%27%20U2%20r%20U2%202R2%20U2%202R%			
	Alg(v2a)	2L' U2 2L2 U2 2L U2 2L' U2 2L U2 2L2 U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20U2%202L2%20U2%202L%20U2%202L%27%20U2%202L%20U2%202L2%20U2%202L			
	Alg(v2b)	l' U2 2L2 U2 l U2 2L' U2 l U2 2L2 U2 l' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U2%202L2%20U2%20l%20U2%202L%27%20U2%20l%20U2%202L2%20U2%20l%27)			
	Alg(v2c)	2L' U2 l2 U2 2L U2 2L' U2 2L U2 l2 U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20U2%20l2%20U2%202L%20U2%202L%27%20U2%202L%20U2%20l2%20U2%202L%2			
		l' U2 2L2 U2 2L U2 2L' U2 l U2 2L2 U2 2L' (http://alg.cubing.net/?			

Alg(v2d)	puzzle=4x4x4&type=alg&alg=l%27%20U2%202L2%20U2%202L%20U2%202L%27%20U2%20l%20U2%202L2%20U2%202L%2

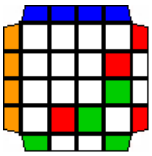
Bowtie/Hourglass



	2R2 U2 2R B2 2R B2 e2 2L' B2 2L B2 D2 2L' y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20B2%202R%20B2%20e2%202L%27%20B2%202L%20B2%20D2%202L%27%20y2)
	2R U2 2R U2 F2 2R F2 2L' U2 m 2R' u2 2R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%20F2%202R%20F2%202L%27%20U2%20m%202R%27%20u2%202R2%202U2
	2R U2 2R U2 m' U2 2R U2 2R' U2 m 2R' u2 2R2 2U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%20U2%20m%27%20U2%202R%20U2%202R%27%20U2%20m%202R%27%20u2%202
	2R2 U2 2L' U2 2L F2 U2 2R2 U2 2R F2 2R' F2 2R' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202L%27%20U2%202L%20F2%20U2%202R2%20U2%202R%20F2%202R%27%20F2%202R
	2R' U2 2R U2 2L' U2 2R U2 2L F2 2R' F2 2R F2 2R2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U2%202R%20U2%202L%27%20U2%202R%20U2%202L%20F2%202R%27%20F2%202R%20
	(B' R u' 2U' 2R' 2F2 r2 e) 2F' (e' r2 2F2 2R 2U u R' B) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28B%27%20R%20u%27%202U%27%202R%27%202F2%20r2%20e%29%202F%27%20%28e%27%20
	(B' R u' 2U' 2R 2F2 r2 e) 2F' (e' r2 2F2 2R' 2U u R' B) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28B%27%20R%20u%27%202U%27%202R%202F2%20r2%20e%29%202F%27%20%28e%27%20r2%
	2R U2 m' U2 2R2 U2 2R' U2 2R U2 2R' U2 2R' U2 2L U2 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%20m%27%20U2%202R2%20U2%202R%27%20U2%202R%20U2%202R%27%20U2%202R%2

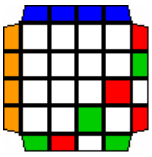
In Adjacent Dedges

Checkboard



	F2 u' F2 r2 u2 R2 z' s 2U F' B' u2 r2 u' F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F2%20u%27%20F2%20r2%20u2%20R2%20z%27%20s%202U%20F%27%20B%27%20u2%20r2%20u%2
	(F U' F' r2 U2) 2R' e2 2R e2 2R' (U2 r2 F U F') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28F%20U%27%20F%27%20r2%20U2%29%202R%27%20e2%202R%20e2%202R%27%20%28U2%20
	(R2 u' 2U' 2R' 2F2 r2 e) 2F (e' r2 2F2 2R 2U u R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20u%27%202U%27%202R%27%202F2%20r2%20e%29%202F%20%28e%27%20r2%202F2%2
	(R2 u' 2U' 2R 2F2 r2 e) 2F (e' r2 2F2 2R' 2U u R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R2%20u%27%202U%27%202R%202F2%20r2%20e%29%202F%20%28e%27%20r2%202F2%202R%
	(r' F2 m2 F) U2 2L U2 2L2 U2 2L U2 2L (F' m2 F2 r) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28r%27%20F2%20m2%20F%29%20U2%202L%20U2%202L2%20U2%202L%20U2%202L%20%28F%2
	(l' U2 m2 U) m U2 2L U2 2L2 U2 2L U2 2R (U' m2 U2 l) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28l%27%20U2%20m2%20U%29%20m%20U2%202L%20U2%202L2%20U2%202L%20U2%202R%20%
	(R B) 2R U2 m' U2 2R2 U2 2R' U2 2R U2 2R' U2 2R' U2 2L U2 2R' (B' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20B%29%202R%20U2%20m%27%20U2%202R2%20U2%202R%27%20U2%202R%20U2%202R%

Bowtie/Hourglass



	(R B) r2 U2 2R' e2 2R e2 2R' U2 r2 (B' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20B%29%20r2%20U2%202R%27%20e2%202R%20e2%202R%27%20U2%20r2%20%28B%27%2
	(R f 2F 2R 2U2 r2 s) 2U' (s' r2 2U2 2R' f' 2F' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20f%202F%202R%202U2%20r2%20s%29%202U%27%20%28s%27%20r2%202U2%202R%27%2
	(R f 2F 2R' 2U2 r2 s) 2U' (s' r2 2U2 2R f' 2F' R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28R%20f%202F%202R%27%202U2%20r2%20s%29%202U%27%20%28s%27%20r2%202U2%202R%2
	F' l U D l2 b2 r' R' U' D B2 l2 f2 D2 l' F (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=F%27%20l%20U%20D%20l2%20b2%20r%27%20R%27%20U%27%20D%20B2%20l2%20f2%20D2%20l
	(l' U2 m2 U' x) 2R' U2 2R' U2 2R2 U2 2R' U2 (x' U m2 U2 l) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28l%27%20U2%20m2%20U%27%20x%29%202R%27%20U2%202R%27%20U2%202R2%20U2%202R
	R B 2R U2 2R2 U2 2R' U2 2R U2 2R' U2 2R2 U2 2R B' R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=R%20B%202R%20U2%202R2%20U2%202R%27%20U2%202R%20U2%202R%27%20U2%202R2%20U2%
	(2R U2 m2 U') m' U2 2L' U2 2L2 U2 2L' U2 2R' (U m2 U2 2R') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R%20U2%20m2%20U%27%29%20m%27%20U2%202L%27%20U2%202L2%20U2%202L%27%20U
	y2 f' 2R2 u2 L' u' U' R U F' R' F 2R' F' R F U' R' u U L u2 2R' f u f' 2R' f u' y2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y2%20f%27%202R2%20u2%20L%27%20u%27%20U%27%20R%20U%20F%27%20R%27%20F%202R%

Summary of Last Layer 2-cycles and 4-cycles (in two dedges) Movecounts

- Since there is disagreement among cubers about whether lowest slice quarter turn moves (SQTM) or lowest slice half turn moves (STM) defines the "optimal algorithm", the table below categorizes all 2-cycle and 4-cycle cases (in two dedges) on the 4x4x4 by the average of the two.
- Algorithms optimal in STM need not be the algorithm with the lowest average of SQTM and STM, and algorithms optimal in SQTM turns need not be the algorithm with the lowest average of SQTM and STM. Therefore the average for a given case might be from an algorithm optimal in SQTM moves, optimal in STM moves or optimal in both.
- Of course this ranking is based off of required moves. It is not based off of the amount of time it takes to solve a case.
- These results will change in the future if shorter algorithms are found for any of these cases.
- Lastly, note that term "optimal average" below does not necessarily mean the average of the minimum SQTM and STM (if an algorithm has both the fewest SQTM and STM, then yes). It's an average of the SQTM and STM of one algorithm. Should one algorithm have the least SQTM but not the least STM, we do not average the shortest numbers from two different algorithms.

- The table shows that the "worst case" is **Adjacent Double Parity**, and that the "easiest case" is the **Checkerboard Pattern** (in two opposite edges).

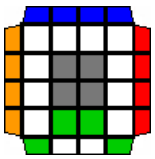
Arranged by Rank (Worst Last Layer Cases Are First)

Last Layer Case	Minimum SQTM	Minimum STM	Optimal Average	Rank
Adjacent Double Parity	**23**	**16**	**19.5**	**1**
Adjacent Checkerboard	**21**	**14**	**18**	**2**
One Dedge Flip	**18**	**15**	**18**	**2**
Double Parity	**21**	**14**	**17.5**	**3**
Bowtie/Hourglass	**21**	**13**	**17**	**4**
Adjacent 2-Cycle Case 1 (Close "Unoriented" Case)	**17**	**15**	**17**	**4**
Adjacent 2-Cycle Case 2 (Far Adjacent "Unoriented" Case)	**17**	**15**	**17**	**4**
Adjacent Bowtie/Hourglass	**19**	**13**	**16**	**5**
Adjacent 2-Cycle Case 3 ("Oriented" Case)	**16**	**15**	**16**	**5**
Opposite/diagonal 2-swap	**16**	**14**	**15.5**	**6**
Adjacent 2-swap	**16**	**12**	**15.5**	**6**
Checkerboard Pattern	**15**	**9**	**12**	**7**

Algorithms Which Don't Preserve the Centers

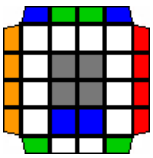
- These algorithms are for fixing the wing edges, but they do not preserve the centers. Many of these algorithms can be used in solving methods such as the Cage Method.

One Dedge Flip



r2 U 2R' U' B2 U 2R U 2R' U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%202R%27%20U%27%20B2%20U%202R%20U%202R%27%20U2%20B2%20r2)	(17,12)	Christo Mov	
r2 U' 2R' U B2 U' 2R U' 2R' U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20U2%20B2%20r2)	(17,12		
r2 3d 2L U' R2 U 2L' U y 2R U2 F2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%203d%202L%20U%27%20R2%20U%202L%27%20U%20y%202R%20U2%20F2%20r2)	(17,12)	Chris Mo	
r2 F 2R F' u2 B 2L' B 2L B2 u2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20F%202R%20F%27%20u2%20B%202L%27%20B%202L%20B2%20u2%20r2)	(17,12)	Christopher Mowla	
l2 3d' 2R' U L2 U' 2R D' 2R' U D L2 y' l2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%203d%27%202R%27%20U%20L2%20U%27%202R%20D%27%202R%27%20U%20D%20L2%20y%2			
r2 U' 2R' U B2 U' 2R U B2 D2 2L D2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%20B2%20D2%202L%20D2%20r2)	(19,13)		
r2 3d 2L U' R2 U 2L' U' D2 y 2L D2 F2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%203d%202L%20U%27%20R2%20U%202L%27%20U%27%20D2%20y%202L%20D2%20F2%20r2)	(1		
r2 U2 2R U2 2L' U2 2L U2 2R' F2 2R F2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%202R%20U2%202L%27%20U2%202L%20U2%202R%27%20F2%202R%20F2%20r2)	(21,13)		
r2 U2 2R U2 2L' U2 2L U2 2R' B2 2L B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%202R%20U2%202L%27%20U2%202L%20U2%202R%27%20B2%202L%20B2%20r2)	(21,13)		
2L U2 2L' U2 l2 F2 2R' F2 r2 U2 2L' U2 2R x2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U2%202L%27%20U2%20l2%20F2%202R%27%20F2%20r2%20U2%202L%27%20U2%202R%20x2			
2R2 u b' u' 2R u r b 2R' b' r' b u' 2R (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20u%20b%27%20u%27%202R%20u%20r%20b%202R%27%20b%27%20r%27%20b%20u%27%2			
2R2 U2 2R' U2 2R U2 2L' U2 2R U2 2R' U2 2L 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20U2%202R%27%20U2%202R%20U2%202L%27%20U2%202R%20U2%202R%27%2			
2R2 U2 2R U2 2L' U2 2L U2 2L' U2 2R U2 2L 2R (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R2%20U2%202R%20U2%202L%27%20U2%202L%20U2%202L%27%20U2%202R%20U2%			
x 2R R' U' r U' 2R U r' 2R' U R U' 2R U 2R' x' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%202R%20R%27%20U%27%20r%20U%27%202R%20U%20r%27%202R%27%20U%20R%20U%27%2			

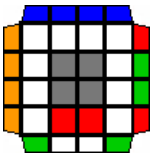
One Dedge Flip + PLL Parity (Double Parity)



- Most of these algorithms are exactly the same as the one dedge flip ones except that the extra quarter turn is inverted.

r' F' 2U F' D2 F 2U' F' 2L D2 F2 r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20F%27%202U%20F%27%20D2%20F%202U%27%20F%27%202L%20D2%20F2%20r)	(15,12)		
r2 U 2R' U' B2 U 2R U 2R U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%202R%27%20U%27%20B2%20U%202R%20U%202R%20U2%20B2%20r2)	(17,12)	Christopher Mowla	
r2 U' 2R' U B2 U' 2R U' 2R U2 B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%20U2%20B2%20r2)	(17,12)	Ch	
r2 3d 2L U' R2 U 2L' U y 2R' U2 F2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%203d%202L%20U%27%20R2%20U%202L%27%20U%20y%202R%27%20U2%20F2%20r2)	(17,12)		
l2 3d' 2R' U L2 U' 2R D' 2R U D L2 y' l2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l2%203d%27%202R%27%20U%20L2%20U%27%202R%20D%27%202R%20U%20D%20L2%20y%27%2			
r2 U' 2R' U B2 U' 2R U B2 D2 2L' D2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%20B2%20D2%202L%27%20D2%20r2)	(19		
r2 3d 2L U' R2 U 2L' U' D2 y 2L' D2 F2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%203d%202L%20U%27%20R2%20U%202L%27%20U%27%20D2%20y%202L%27%20D2%20F2%20r			
x' r2 F2 2R F2 2R U2 2L' U2 2L U2 2R' U2 r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20r2%20F2%202R%20F2%202R%20U2%202L%27%20U2%202L%20U2%202R%27%20U2%20r2			
2L' y' u2 r2 u' 2L' u r2 u' 2L 2U' U y 2L U2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20y%27%20u2%20r2%20u%27%202L%27%20u%20r2%20u%27%202L%202U%27%20U%20y			
r2 2B2 D' 2F' D B2 D' 2F U' 2F U D b2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%202B2%20D%27%202F%27%20D%20B2%20D%27%202F%20U%27%202F%20U%20D%20b2%20r2			
2L 2R U2 2L U2 2R' U2 2R U2 2R' U2 2L' U2 2L2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%202R%20U2%202L%20U2%202R%27%20U2%202R%20U2%202R%27%20U2%202L%27%20U2%20			
2R U2 2R' U2 b' 2R f 2R' b r2 f' 2R f r2 f' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%27%20U2%20b%27%202R%20f%202R%27%20b%20r2%20f%27%202R%20f%20r2%			

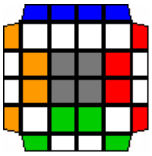
One Dedge Flip + Adjacent PLL Parity (Adjacent Double Parity)



	(2R2 U' r U' R' U') 2R' (U R U r' U 2R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R2%20U%27%20r%20U%27%20R%27%20U%27%29%202R%27%20%28U%20R%20U%20r%27%
	(2R2 U F2 U' 2R' F2) 2R (F2 2R U F2 U' 2R2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R2%20U%20F2%20U%27%202R%27%20F2%29%202R%20%28F2%202R%20U%20F2%20U%27%
	r' U r U F2 U' 2R' U F2 2R' U' R' U' r (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r%27%20U%20r%20U%20F2%20U%27%202R%27%20U%20F2%202R%27%20U%27%20R%27%20U%
	(x u F U 2R' U R' U) 2R (U' R U' 2R U' F' u' x') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28x%20u%20F%20U%202R%27%20U%20R%27%20U%29%202R%20%28U%27%20R%20U%27%202
	x' 2R2 U' r U' 2L' U2 2L' U2 2L' U2 2L2 U' r' U 2R2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%202R2%20U%27%20r%20U%27%202L%27%20U2%202L%27%20U2%202L%27%20U2%202L2%

Three Flips

OLL Parity (Only)



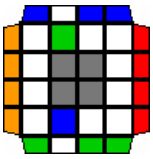
	(2R2 F2 U) 2R U2 2R' U2 2R U2 2R' U2 2R (U' F2 2R2) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282R2%20F2%20U%29%202R%20U2%202R%27%20U2%202R%20U2%202R%27%20U2
	(2R2 U2 F' m' U) 2R U2 2R' U2 2R U2 2R' U2 2R (U' m F U2 2R2) (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=%282R2%20U2%20F%27%20m%27%20U%29%202R%20U2%202R%27%20U2%202R%20

OLL Parity + PLL Parity (Double Parity)

	(2R' U' F' R' F R2 U') 2R' (U R2 F' R F U 2R) (2R U2 2R' U2) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%282R%27%20U%27%20F%27%20R%27%20F%20R2%20U%27%29%202R%27%20%28U%20R2%20F

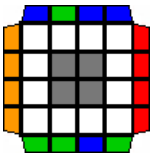
2-Cycles In Two Adjacent Edges (in the M ring)

Adjacent 2-Swap



	2L U' 2L' U' F2 U 2L U' F2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U%27%202L%27%20U%27%20F2%20U%202L%20U%27%20F2%20U2)	(13,10)	Christopher Mowla	[X]
	2L U 2L' U F2 U' 2L U F2 U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20U%202L%27%20U%20F2%20U%27%202L%20U%20F2%20U2)	(13,10)	Christopher Mowla	[X]
	z2 y' U2 R2 U 2L U' R2 U 2L' U y 2R z2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=z2%20y%27%20U2%20R2%20U%202L%20U%27%20R2%20U%202L%27%20U%20y%202R%20z2)	(13		
	2L F2 2R' U2 2L U2 2L' U2 2R U2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%20F2%202R%27%20U2%202L%20U2%202L%27%20U2%202R%20U2%20F2)	(17,11)		[X]
	2L' U l' U L U' 2L' U L' U' l 2L U' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2L%27%20U%20l%27%20U%20L%20U%27%202L%27%20U%20L%27%20U%27%20l%202L%20U%27			

Opposite/Diagonal 2-Swap

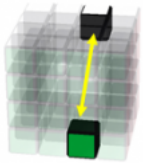


- Some of these are nearly the same as the one dedge flip algorithms.

	l' U' 2L U B2 U' 2L' U' 2L U2 B2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U%27%202L%20U%20B2%20U%27%202L%27%20U%27%202L%20U2%20B2%20l)	(15,12)	C
	l' U 2L U' B2 U 2L' U 2L U2 B2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U%202L%20U%27%20B2%20U%202L%27%20U%202L%20U2%20B2%20l)	(15,12)	Christophe Mowla
	l' 3d' 2R' U L2 U' 2R U' y' 2L' U2 F2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%203d%27%202R%27%20U%20L2%20U%27%202R%20U%27%20y%27%202L%27%20U2%20F2		
	x' U r' U 2R' U' r 2R U' R' U 2R' U' R x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20U%20r%27%20U%202R%27%20U%27%20r%202R%20U%27%20R%27%20U%202R%27%20		
	x' R U r' U 2R' U' r2R U' R' U 2R' U' x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20R%20U%20r%27%20U%202R%27%20U%27%20r2R%20U%27%20R%27%20U%202R%27%2		
	x' 2R' u b' u' 2R u r b 2R' b' r' b u' x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%202R%27%20u%20b%27%20u%27%202R%20u%20r%20b%202R%27%20b%27%20r%27%20b		
	l' 3d' 2R' U L2 U' 2R D' 2R' U D L2 y' l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%203d%27%202R%27%20U%20L2%20U%27%202R%20D%27%202R%27%20U%20D%20L2%20y		
	l' U 2L U' B2 U 2L' U' B2 D2 2R' D2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U%202L%20U%27%20B2%20U%202L%27%20U%27%20B2%20D2%202R%27%20D2%20l)	(1	
	l' 3d' 2R' U L2 U' 2R U D2 y' 2R' D2 F2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%203d%27%202R%27%20U%20L2%20U%27%202R%20U%20D2%20y%27%202R%27%20D2%20		
	(x') 2R' U2 2R U2 2L' U2 2L U2 2L' U2 2R U2 2L (x) (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28x%27%29%202R%27%20U2%202R%20U2%202L%27%20U2%202L%20U2%202L%27%20U2%202		
	l' U2 2L' U2 2R U2 2R' U2 2L F2 2L' F2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%202L%20F2%202L%27%20F2%20l)	(1	
	l' U2 2L' U2 2R U2 2R' U2 2L B2 2R' B2 l (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=l%27%20U2%202L%27%20U2%202R%20U2%202R%27%20U2%202L%20B2%202R%27%20B2%20l)	(2	
	m' 2L' U2 2L' U2 2L U2 2R' U2 2L U2 2L' U2 2L (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=m%27%202L%27%20U2%202L%27%20U2%202L%20U2%202R%27%20U2%202L%20U2%202L%27%2		

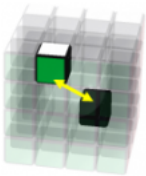
2-Cycles In Two Opposite Edges (in the M Ring)

Adjacent 2-Swap



	y l' u' 2R f 2R f' 2R2 u l u' 2R d (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=y%20l%27%20u%27%202R%20f%202R%20f%27%202R2%20u%20l%20u%27%202R%20d)	(13,12)	Ch
	U' r' U 2R' U' r 2R U' R' U 2R' U' R U2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%27%20r%27%20U%202R%27%20U%27%20r%202R%20U%27%20R%27%20U%202R%27%20U%27		

Opposite/Diagonal 2-Swap



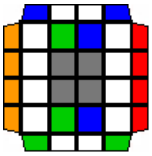
- These are the same as the one dedge flips but without first and last moves.

	U 2R' U' B2 U 2R U 2R' U2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%202R%27%20U%27%20B2%20U%202R%20U%202R%27%20U2%20B2)	(13,10)	Christopher Mowla	[X]
	U' 2R' U B2 U' 2R U' 2R' U2 B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20U2%20B2)	(13,10)	Christophe Mowla	

	3d 2L U' R2 U 2L' D 2L U' D' R2 y (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=3d%202L%20U%27%20R2%20U%202L%27%20D%202L%20U%27%20D%27%20R2%20y)	(13,11)	Chri M	
	U' 2R' U B2 U' 2R U B2 D2 2L D2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U%27%202R%27%20U%20B2%20U%27%202R%20U%20B2%20D2%202L%20D2)	(15,11)	Christopher Mowla	
	3d 2L U' R2 U 2L' U' D2 y 2L D2 F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=3d%202L%20U%27%20R2%20U%202L%27%20U%27%20D2%20y%202L%20D2%20F2)	(15,11)	Christo Mov	
	x' U2 2L U2 2R' U2 2R U2 2L' F2 2R F2 x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=x%27%20U2%202L%20U2%202R%27%20U2%202R%20U2%202L%27%20F2%202R%20F2%20x)	(17,1		
	U2 2R U2 2L' U2 2L U2 2R' F2 2R F2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%20U2%202L%27%20U2%202L%20U2%202R%27%20F2%202R%20F2)	(17,11)		[X]
	U2 2R U2 2L' U2 2L U2 2R' B2 2L B2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=U2%202R%20U2%202L%27%20U2%202L%20U2%202R%27%20B2%202L%20B2)	(17,11)		[X]

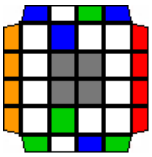
4-Cycles in Adjacent Edges (in the M ring)

Checkboard



	r2 U2 2R U2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=r2%20U2%202R%20U2%20r2)	(9,5)	Marc Waterman	[X]

Bowtie/Hourglass



	(y L' U B' r2 U2) 2R' (U2 r2 B U' L y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20L%27%20U%20B%27%20r2%20U2%29%202R%27%20%28U2%20r2%20B%20U%27%20L%2
	(y L F' U r2 F2) 2R (F2 r2 U' F L' y') (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=%28y%20L%20F%27%20U%20r2%20F2%29%202R%20%28F2%20r2%20U%27%20F%20L%27%20y%2
	2R U2 2R' U2 x' U2 2R U2 2R2 U2 2R' U2 2R' x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%20U2%202R%27%20U2%20x%27%20U2%202R%20U2%202R2%20U2%202R%27%20U2%202R%27
	2R2 U2 2R U2 x' D2 2R' U2 2R D2 2R' U2 2R' x (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R2%20U2%202R%20U2%20x%27%20D2%202R%27%20U2%202R%20D2%202R%27%20U2%202R%27

Parity Algorithms Which Don't Preserve F3L or the Colors of the Centers

- These algorithms are least practical when it comes to use of parity algorithms, and therefore they are mentioned here for theoretical purposes only. They have fewer moves than any other OLL Parity algorithm forms.

OLL Parity (Only)

	r2 U 2R' U' B2 U 2R U 2R' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%202R%27%20U%27%20B2%20U%202R%20U%202R%27%20B2%20r2)	(15,11)	
	r2 U' 2R' U B2 U' 2R U' 2R' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%27%20B2%20r2)		
	r2 U 2F U' B2 U 2F' U 2L B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%202F%20U%27%20B2%20U%202F%27%20U%202L%20B2%20r2)	(15,11)	Christ Mo
	2R' U' R U' 2R U2 2R U2 2R U' R' U' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%27%20R%20U%27%202R%20U2%202R%20U2%202R%20U%27%20R%27%		
	2R' U' R U 2R' U2 2R' U2 2R' U R' U' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%27%20R%20U%202R%27%20U2%202R%27%20U2%202R%27%20U%20R%		
	2R' U' R U 2R' F2 U2 2R U2 F2 2R' U R' U' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2R%27%20U%27%20R%20U%202R%27%20F2%20U2%202R%20U2%20F2%202R%27%2		

OLL Parity + PLL Parity (Double Parity)

	r U R B R' 2L f2 2R' f2 U' r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%20B%20R%27%202L%20f2%202R%27%20f2%20U%27%20r2%20x)	(14,11)	
	r U R B 2L f2 2R' f2 R' U' r2 x (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%20B%202L%20f2%202R%27%20f2%20R%27%20U%27%20r2%20x)	(14,11)	
	r2 U 2R' U' B2 U 2R U 2R B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%202R%27%20U%27%20B2%20U%202R%20U%202R%20B2%20r2)	(15,11)	Chris M
	r2 U' 2R' U B2 U' 2R U' 2R B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%27%202R%27%20U%20B2%20U%27%202R%20U%27%202R%20B2%20r2)	(15,	
	r2 U 2F U' B2 U 2F' U 2L' B2 r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r2%20U%202F%20U%27%20B2%20U%202F%27%20U%202L%27%20B2%20r2)	(15,11)	(
	r U2 r U2 r U2 r2 U' R U r2 U R U' r2 (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r%20U2%20r%20U2%20r2%20U%27%20R%20U%20r2%20U%20R%20U%27%		
	r U2 r2 U' r' U2 r U2 r' U' r2 U' R2 U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U2%20r2%20U%27%20r%27%20U2%20r%20U2%20r%27%20U%27%20r2%20U%27		

Either OLL Parity (Only) or Double Parity

- The following list of algorithms can be considered either OLL Parity (Only) or Double Parity. Just exchange the last move r' with l', r with l, etc.

	r' U' R' U' r F' R' F' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20R%27%20U%27%20r%20F%27%20R%27%20F%27%20r%27)	(9,9)	(
	r' U' R U' r F' R F' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20R%20U%27%20r%20F%27%20R%20F%27%20r%27)	(9,9)	Christophe Mowla
	r U' R U' 2R' D' R D' r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U%27%202R%27%20D%27%20R%20D%27%20r)	(9,9)	Christopher Mowla
	r' U R' U r U F2 U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R%27%20U%20r%20U%20F2%20U%20r%27)	(10,9)	Christopher Mowla [X]
	r U' R U' r' D' R2 D' l (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%20U%27%20r%27%20D%27%20R2%20D%27%20l)	(10,9)	Christopher Mowla
	r' U' F2 U' 2R B' R B' l' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20F2%20U%27%202R%20B%27%20R%20B%27%20l%27)	(10,9)	Christ Mo
	r U' L U' F2 l U' R U' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20L%20U%27%20F2%20l%20U%27%20R%20U%27%20r%27)	(11,10)	Christ Mo
	r U' L' U' F2 2L U L U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20L%27%20U%27%20F2%202L%20U%20L%20U%20r%27)	(11,10)	Christop Mowla
	r' U' L' U' r F2 U L U r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20L%27%20U%27%20r%20F2%20U%20L%20U%20r)	(11,10)	Christophe Mowla
	r' U' L' U' B2 r' B R B r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20L%27%20U%27%20B2%20r%27%20B%20R%20B%20r)	(11,10)	Chris Mo
	r' U R2 U r F2 U L' U r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20R2%20U%20r%20F2%20U%20L%27%20U%20r)	(12,10)	Christopher Mowla [X]
	r' U F' U 2L U2 F' U2 F r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20F%27%20U%202L%20U2%20F%27%20U2%20F%20r%27)	(12,10)	Christo Mow
	r U' R' U' r' D' L D L' D' l (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%27%20R%27%20U%27%20r%27%20D%27%20L%20D%20L%27%20D%27%20l)		
	r B U F' R 2B' m R e' R b (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20B%20U%20F%27%20R%202B%27%20m%20R%20e%27%20R%20b)	(11,11)	Bruc Norsko Christo Mow
	r U R' U R 2R' U2 B' L' B' r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20U%20R%27%20U%20R%202R%27%20U2%20B%27%20L%27%20B%27%20r%27)	(	
	2L' B' 2U B' D2 B 2U' B' 2L D2 2L' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=2L%27%20B%27%202U%20B%27%20D2%20B%202U%27%20B%27%202L%20D2%202L%		
	r F U' R U r' F U R F' U r (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20F%20U%27%20R%20U%20r%27%20F%20U%20R%20F%27%20U%20r)	(12,12)	Chr M
	r' U F' L F r F R B' e y B r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%20F%27%20L%20F%20r%20F%20R%20B%27%20e%20y%20B%20r%27)	(12	
	r s' F L F' U 2B' U e m U b (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%20s%27%20F%20L%20F%27%20U%202B%27%20U%20e%20m%20U%20b)	(12,12)	N Cl
	r' U' F R' F' r F' U' F2 R U r' (http://alg.cubing.net/?puzzle=4x4x4&type=moves&type=alg&alg=r%27%20U%27%20F%20R%27%20F%27%20r%20F%27%20U%27%20F2%20R%20U%20r		

2-Cycles

- Although the following list of algorithms is not "OLL Parity", where dedge preservation is important, they are the briefest 2-cycle algorithms yet to be found. They do not preserve F3L or the centers.
- These algorithms are nothing more than 2-cycle algorithms which don't preserve centers with beginning and ending outer layer turns omitted.

		2R' U' B2 U 2R U 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%27%20B2%20U%202R%20U%202R%27)	(8,7)	Christopher Mowla	[X]
		2R' U B2 U' 2R U' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%20B2%20U%27%202R%20U%27%202R%27)	(8,7)	Christopher Mowla	[X]
		2R' U L2 U' 2R D' 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%20L2%20U%27%202R%20D%27%202R%27)	(8,7)	Christopher Mowla	[X]
		2R' U' R2 U 2R D 2R' (http://alg.cubing.net/?puzzle=4x4x4&type=alg&alg=2R%27%20U%27%20R2%20U%202R%20D%202R%27)	(8,7)	Christopher Mowla	[X]

More External Links

PLL Parity Algorithms

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/31340
- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/topics/30854
- http://frederickbadie.free.fr/444PLLparity.html
- https://www.speedsolving.com/forum/showthread.php?26357-PURE-Corner-swap-parity-algorithms
- https://www.speedsolving.com/forum/showthread.php?23182-full-4x4-pll

OLL Parity Algorithms

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/topics/35545
- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/29327
- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/topics/28904
- http://www.speedsolving.com/forum/showthread.php?11311-4x4x4-OP-DP-algorithms-%28more-finger-friendly%29
- http://www.speedsolving.com/forum/showthread.php?15614-Odd-parity-Algorithms-%28specifically-single-edge-quot-flip-quot-%29
- http://www.speedsolving.com/forum/showthread.php?2727-4x4-Orientation-parity
- http://www.speedsolving.com/forum/showthread.php?30127-New-4x4-parity-algs-using-R-Rw-U
- https://www.speedsolving.com/forum/showthread.php?10037-4x4-Parity-Algorithms
- https://www.speedsolving.com/forum/showthread.php?27783-4x4-pure-double-parity
- http://www.speedsolving.com/forum/showthread.php?11409-4x4-Optimal-Solver-v2
- http://www.twistypuzzles.com/forum/viewtopic.php?f=8&t=8829
- http://www.stefan-pochmann.info/spocc/other_stuff/4x4_5x5_algs/?section=FixOrientationParity
- http://www.stefan-pochmann.info/spocc/other_stuff/4x4_5x5_algs/?section=FixBothParities
- http://www.mementoslangues.fr/CubeDesign/4xCubes/DoubleMidgeFlip.pdf
- http://apelgam.se/Rubik/4x4parity/

SuperCube Parity Algorithms

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/21622
- http://www.speedsolving.com/forum/showthread.php?4659-4x4-algorithm
- http://www.speedsolving.com/forum/showthread.php?37308-Is-a-SuperCube-Safe-Single-Dedge-Flip-Algorithm-Possible-in-lt-U-Rw-gt
- http://www.speedsolving.com/forum/showthread.php?26622-God-s-algorithm-discovered-for-OLL-parity-edge-flip-%28theory%29

OLL Parity Algorithms which don't preserve F3L

- http://www.speedsolving.com/forum/showthread.php?37962-Fixing-4x4x4-orientation-parity-earlier-than-usual
- http://www.speedsolving.com/forum/showthread.php?26564-4x4x4-edge-parity-is-there-a-shorter-alg-that-doesn-t-preserve-corners
- http://www.speedsolving.com/forum/showthread.php?17839-WANTED-New-Dedge-Flip-Algorithm!
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=9502

K4 Method Parity Algorithms

- http://tomas.rokicki.com/ell4x4.html
- https://www.speedsolving.com/forum/showthread.php?708-A-Collection-of-Algorithms&p=811284&viewfull=1#post811284

Cage Method Parity Algorithms

- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=6552
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=7140

Comprehending and making your own parity algorithms (Parity Algorithm Theory)

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/12909
- http://twistypuzzles.com/forum/viewtopic.php?f=1&t=9720
- http://twistypuzzles.com/forum/viewtopic.php?f=1&t=995
- https://www.speedsolving.com/forum/showthread.php?15643-Can-we-really-solve-big-cubes&p=239619
- http://www.speedsolving.com/forum/showthread.php?22969-Methods-for-Forming-2-Cycle-Odd-Parity-Algorithms-for-Big-Cubes
- http://www.speedsolving.com/forum/showthread.php?21725-New-Two-Corner-Swap-Algorithm-Technique-for-Big-Even-Cubes-%28PLL-Parity%29
- http://www.speedsolving.com/forum/showthread.php?43745-4x4-fixing-one-edge-parity-without-algorithms
- http://www.speedsolving.com/forum/showthread.php?26477-Contructing-Algorithms-%28not-a-how-to-sorry%29

General Parity Theory

- https://www.speedsolving.com/forum/showthread.php?41972-Parity-Errors/
- https://www.speedsolving.com/forum/showthread.php?9996-understand-parity
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=26759
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=22201
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=12841
- https://www.youtube.com/watch?v=wmOyuROOANI
- https://www.speedsolving.com/forum/showthread.php?21045-Difference-between-OLL-and-PLL-parity-on-4x4
- https://www.speedsolving.com/forum/showthread.php?52852-Can-all-parity-be-explained

Preventing/Avoiding Parity

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/10755
- http://twistypuzzles.com/forum/viewtopic.php?f=8&t=7366
- https://www.speedsolving.com/forum/showthread.php?892-avoiding-4x4-pairity-problems
- https://www.speedsolving.com/forum/showthread.php?15880-Can-odd-parity-be-detected-in-a-big-cube-prior-to-being-solved
- https://www.speedsolving.com/forum/showthread.php?19965-Avoiding-parity-errors-in-4x4x4

Miscellaneous

- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/topics/12612
- https://groups.yahoo.com/neo/groups/speedsolvingrubikscube/conversations/messages/10119
- http://twistypuzzles.com/forum/viewtopic.php?f=1&t=9133
- http://www.mementoslangues.fr (Go to "Cube Design")

- This page was last modified on 21 August 2017, at 10:07.