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description: History of the L5EP step for Rubik's Cube.

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import TwistyPlayer from "@site/src/components/TwistyPlayer";

import Exhibit from "@site/src/components/Exhibit";

import YouTube from "@site/src/components/YouTube";

import ImageCollage from '@site/src/components/ImageCollage';

# L5EP

<Exhibit

stickering={{

solved: "U D F B L R DL DB DR DFR DFL DBL DBR FR FL BL BR UFR UFL UBL UBR",

orientedWithoutPermutation: "UL UF UR UB DF"

}}

/>

## Description

\*\*Proposer:\*\* [Mike Bennett](CubingContributors/MethodDevelopers.md#bennett-mike)

\*\*Proposed:\*\* 2005

[Click here for more step details on the SpeedSolving wiki](https://www.speedsolving.com/wiki/index.php/L5E#L5EP)

## L5EP 4U + 1D

### First Development

L5EP was first proposed by Mike Bennett in December, 2005 on the Speed Solving Rubik's Cube Yahoo group [1, 2]. Mike Bennet developed the algorithms and placed them on a website in January, 2006 [3].

![](img/L5EP/Bennett1.png)

![](img/L5EP/Bennett2.png)

![](img/L5EP/Bennett3.png)

### Other Developments and Popularity

#### Second Development

In mid-2006, Michael James Straughan independently had the same idea and developed the algorithms for use in the MI1 method [4].

![](img/L5EP/Straughan1.png)

![](img/L5EP/Straughan2.png)

#### Popularity

In 2008 Kennth Gustavsson developed a naming system for each case [5]. Within Kenneth's thread, Straughan developed and posted an arrow-based representation image using Kenneth's naming scheme and the algorithms previously developed by Straughan [6, 7]. The image and the wiki page helped L5EP gain some popularity, eventually making its way into various methods. Some example methods include ZZ-Portico, Hawaiian Kociemba, Mehta, and Squall.

![](img/L5EP/Kenneth.png)

![](img/L5EP/Straughan3.png)

#### Alternate Naming Scheme

An alternate set of names for each case was developed by Andrew Mahovich and Cubingcubecuber [8, 9].

![](img/L5EP/AlternateNames.png)

# References

|  |  |
| --- | --- |
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| [4] | M. J. Straughan, Straughan's Website, 2006. [Online]. Available: https://web.archive.org/web/20110224050936/http://athefre.110mb.com/. |
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| [6] | M. J. Straughan, "L5E," PhotoBucket, [Online]. Available: https://i140.photobucket.com/albums/r25/Athefre/L5EFinal.png. |
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| [8] | A. Mahovich and Cubingcubecuber, "L5EP," Google Docs, 8 May 2020. [Online]. Available: https://docs.google.com/document/d/1kb4JFX2WY5mh0gchb9gkbI-RoINaFfX5w0i4VJ1z5ek/edit. |
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