

Yau Method for Solving the 4x4 Cube

Supplementary to video tutorials at

<https://www.cubeskills.com/tutorials/intermediate-tips-and-yau-method>

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Images sourced from Conrad Rider's VisualCube - <http://cube.crider.co.uk/visualcube.php>

Introduction

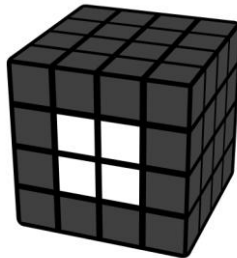
Proposed in 2009 by Robert Yau, the Yau method for solving the 4x4 is widely used by top 4x4 speedcubers. The method is a slight variant on the reduction method, with the main difference being that we solve the centers and the cross for the 3x3 stage before we pair up all the edge pieces. Solving the cross before pairing up the remaining 8 edge pairs means that we are never required to do any rotations on either the z or x axis in edge pairing, which makes edge pairing a lot faster.

Before reading this guide you should be familiar with how to solve the 4x4 cube and the different types of pieces on the cube.

This guide is also intended only as a supplementary reference to the video tutorials linked at the top of this document, which explain the steps of the Yau method in more detail.

Solving Two Opposite Centers

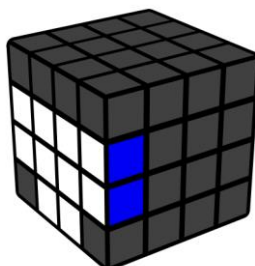
The first step in the Yau method is to solve two opposite centers. In this tutorial we will solve the white and yellow centers.



Solving Three Cross Edges

After solving two centers, hold them on the left and right hand side of the cube. Using the middle slice and outer layer turns, solve three cross edges around one of the two centers solved in the first step. In this example, we have solved three white cross edges. If you're a right-hand dominant cuber, then we suggest trying to solve the edge pairs onto the left side of the cube, and vice-versa.

It's important to remember to pair and solve the cross edges in their correct relative positions. For example, in the image shown below – the white/green edge pair should be the edge at the back left, and the white/red edge pair is the one that belongs on the bottom left.



Solving The Last Four Centers

The next step is to solve the remaining four centers around our middle slice. However, this is slightly more difficult than with the basic reduction method, because we have an added restriction – we can't do any moves which mess up the three cross edges we have solved. So, we need to take this into account and adjust the face which contains our cross edges whenever it is necessary to do so. One way I like to teach this in the tutorial videos is to place your thumb on the front cross edge and your middle finger on the back cross edge (assuming the third cross edge is at the bottom left), and don't let go of those edges as you solve the last four centers.

It will take a little bit of time to get used to these restrictions as you transition from the reduction method, but they will eventually become automatic.



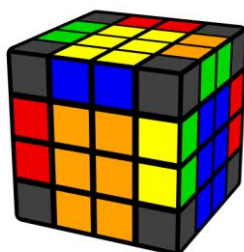
Solving The Last Cross Edge

Next, simply pair and correctly place your final cross edge to complete your cross and centers. This can either be done whilst holding the cross on the bottom face or on the left face, and is a pretty straightforward step.



Solving The Last Eight Edges

After solving the cross and centers, we will now pair up the remaining edge pieces, holding the cross on the bottom. There are many ways to do this – one of the most popular methods is known as the 3-2-3 method, which is explained in detail in the [video tutorial](#). In this method, we perform a Uw or Uw' after solving the cross and centers, and then place three edge pairs around the cube so that when we undo that slice move, three edge pairs are created. After this, we can use just two of our F2L slots to pair up the remaining 5 edges, two or three at a time, minimizing rotations and maximizing speed.



3x3 Stage

After solving the cross, the centers and pairing up the edges, you can now finish off the cube as if it were a 3x3, remembering to tackle any parities you encounter along the way. This step is a fair bit faster with the Yau method because we already have a completed cross!