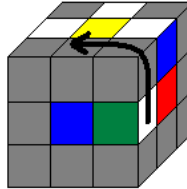# [[SOLVE THE CUBE]]

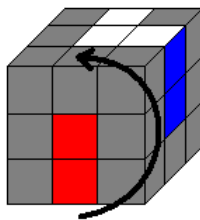**Beginner Method**   by Tim Pow
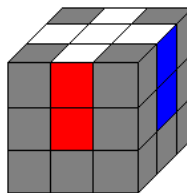
- **[STEP ONE] – Cross**

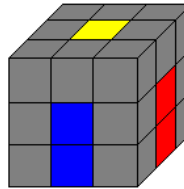Create the White cross on the Yellow side.

Then match up each secondary color to its corresponding center and rotate the side 180° until the entire White cross is solved.

Rotate 180°

**FOR THE REST OF THE REMAINING SOLVE, HOLD THE CUBE WITH THE YELLOW FACE ON TOP AND THE WHITE CROSS ON THE BOTTOM.

- **[STEP TWO] – First Layer**

Find a corner piece with White on it on the top layer and look at its three colors. According to these three colors, determine the three centers where it needs to be placed between and move the top layer until it is above this spot.

Red-White-Blue Corner
Blue Center
Red Center
White Center
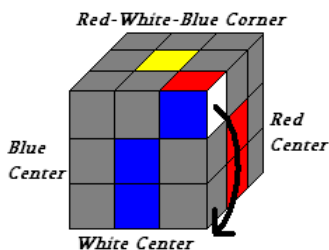
**Special case: if there are no White corners on the top layer, use the algorithm to move a wrong corner into the bottom layer to move a White corner back into the top layer to be solved.

Apply this algorithm (1 to 5 times) until the corner is correctly placed: **R U R' U'**

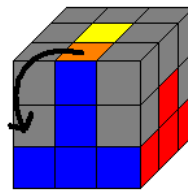Repeat on all four corners until the entire first layer is solved.
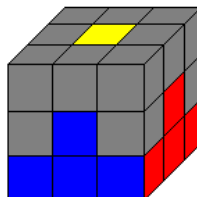
- **[STEP THREE] – Second Layer**

Find an edge piece on the top layer that *does not* have yellow on it. Match the front color of this piece with its corresponding center and determine whether it needs to be placed to the right, or to the left, according to its secondary color (on top).
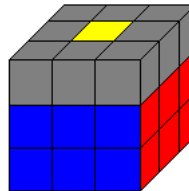
If placing to the right, apply this algorithm: **U R U' R' U' F' U F**
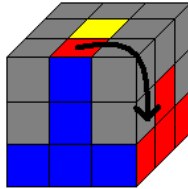
If placing to the left, apply this algorithm: **U' L' U L U F U' F'**

Repeat on all four edges until the entire second layer is solved.

**Special case: if all the edges on the top layer contain yellow, use the algorithm to move a wrong edge into the second layer to move a yellow-less edge back into the top layer to be solved.

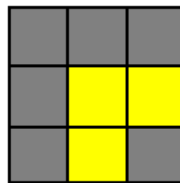- **[STEP FOUR] – OLL (Orientation of Last Layer)**

PART 1: Edge Orientation

During this step you may see a total of four possible cases on the top layer (Yellow side):
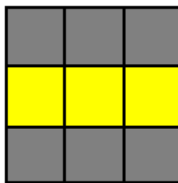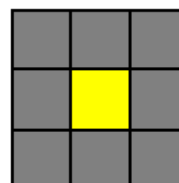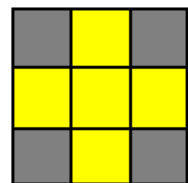
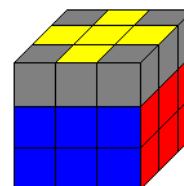| (1) a "line"	(2) an "r"	(3) a "dot"	(4) a "cross"
F R U R' U' F '	**f R U R' U' f '**	**F R U R' U' F'** **f R U R' U' f '**	**SOLVED**

Lower-case letters correspond to the capital letter move, but a double layer turn instead of one. (example: **f compared to **F**)

When you get the yellow cross on top, you are done with this part.

- **([STEP FOUR] continued)**

PART 2: Corner Orientation

During this step you will only apply the following algorithm: **R U R' U R U2 R'**

You will run into four different cases in this part:

<u>Case #1</u>: If you see that three of the four corners do not have yellow on top, move the cube until the bottom-left corner of the top face contains a corner with yellow on top. Then apply the algorithm above.
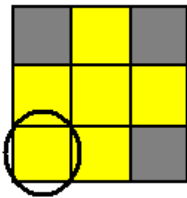

**If the top layer does not become completely yellow after applying the algorithm, repeat this step again until it is (1 to 2 times).

<u>Case #2</u>: If you see that two of the four corners does not have yellow on top, move the top layer until one of the unsolved corners is placed in the bottom left corner of the top face, and that the yellow on this piece is facing you. Then apply the algorithm above. This works for any of the following combinations:
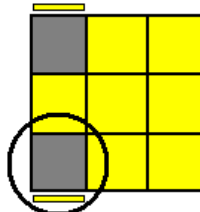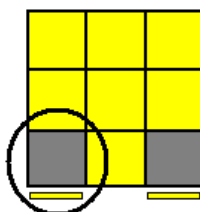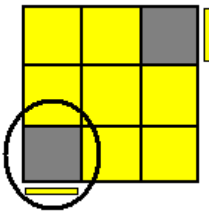

**After this you should get a <u>Case #1</u>. Solve it like normal.

<u>Case #3</u>: If you see that all four corners do not have yellow on top, move the top layer until one of the unsolved corners is placed in the bottom left corner of the top face, and that the yellow on this piece is to the left. Then apply the algorithm above. This works for any of the following combinations:
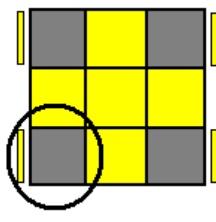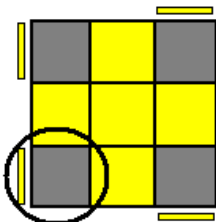
**After this you should get a <u>Case #1</u>. Solve it like normal.

<u>Case #4</u>: If you're lucky you will run into an entirely yellow top layer, in which case you may skip this part and move on.
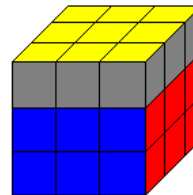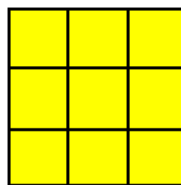
- ## [STEP FIVE] – PLL (Permutation of Last Layer)

PART 1: Corner Permutation

During this part you will only apply the following algorithm: **R' F R' B2 R F' R' B2 R2**

Once the top face is completely yellow, the colors left unsolved will be on the sides. Here, look for a pattern called the "headlights". This is when two adjacent corners are the same color. Once you find them, put them in the back face and apply the algorithm above. Once there are headlights on all sides, you are done with this part.
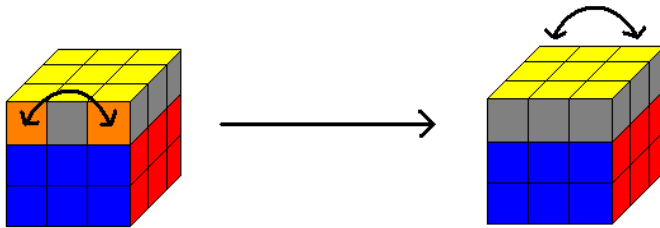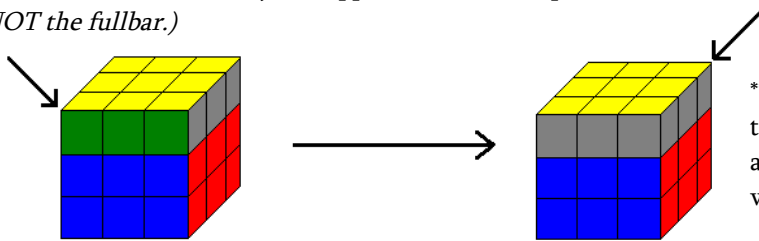
**Sometimes there will be no "headlights". If this is the case, then apply the above algorithm from any position. After, you will see the "headlights" and can proceed.

PART 2: Edge Permutation

During this part you will only apply the following algorithm: **R U' R U R U R U' R' U' R2**

Once there are headlights on all sides of the cube, only the edges will be out of place. On the sides, look for a pattern called the "fullbar". This is when an entire side bar is the same color. Once you find it, put it in the back face and apply the algorithm above. You may need to apply the algorithm more than once. *(Note: if you see the fullbar, it does not mean you skipped PART 1. The point of PART 1 is to get headlights on all sides of the cube, NOT the fullbar.)*

**Sometimes there will be no "fullbar". If this is the case, then apply the above algorithm from any position. After, you will see the "fullbar" and can proceed.
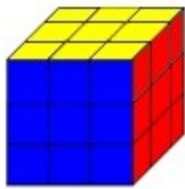
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j00 |-|4\/3 5l4i|\| 73|-| r|_|81x (|_|83

*13\/31 |_||>!
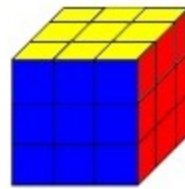
If you have any questions, please feel free to ask me.
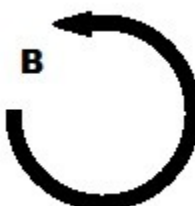
-Tim Pow-

NOTATION PAGE

U

U'

D

D'

R

R'

L

L'

F

F'

B

B'