**3x3x3: PLL Recognition Guide**

**EPLLs**

**Category 0: Two 3x1 Blocks**

solved: 

I hope you can recognize this.

**Category 1: One 3x1 Block**

**Ua: A colorful cube with black lines

Description automatically generated A colorful cube with black lines

Description automatically generated Ub:** A colorful cube with different colored squares

Description automatically generated A colorful cube with black lines

Description automatically generated

When the block is on the left:

-It's Ub when an opposite edge colour is on the right

-It's Ua when an adjacent edge colour is on the right

When the block is on the right:

-It's Ua when an opposite edge colour is on the left

-It's Ub when an adjacent edge colour is on the left

**Category 2: No 3x1 Blocks & At Least One Opposite Edge**

**Ua:** A colorful cube with different colored squares

Description automatically generated **Ub:** ** H: A colorful cube with black outline

Description automatically generated**

-It's Ua when an opposite edge colour is on the right

-It's Ub when an opposite edge colour is on the left

-It's H when an opposite edge colour is on each side

**Category 3: No 3x1 Blocks & No Opposite Edge**

**Ua:** **A colorful cube with black outline

Description automatically generated** **Ub:** **A colorful cube with black outline

Description automatically generated** **Z:** A colorful cube with black outline

Description automatically generated A colorful cube with black outline

Description automatically generated

When there are no opposite edges:

-It's Ua when a checker pattern is only on the left

-It's Ub when a checker pattern is only on the right

Otherwise:

-It's Z

**Diagonal CP**

**Category 1: Two Blocks**

**V:** **A colorful cube with black lines

Description automatically generated Y:** **A colorful cube with black lines

Description automatically generated** **Na: A colorful cube with different colored squares

Description automatically generated Nb: A colorful cube with black lines

Description automatically generated**

-It's V when the blocks are both on the inside

-It's Y when the blocks are both on the outside

-It's Na when the inner corner is part of a left block

-It's Nb when the inner corner is part of a right block

**Category 2: One Block**

**V:** **A colorful cube with black lines

Description automatically generated** **A colorful cube with black outline

Description automatically generated** **Y:** A colorful cube with black lines

Description automatically generated A colorful cube with black outline

Description automatically generated

-It's V when there’s a block on the outside

-It's Y when there’s a block on the inside

**Category 3: No Blocks**

**V: A colorful cube with black outline

Description automatically generated Y:** **A colorful cube with black outline

Description automatically generated E:** **A colorful cube with black outline

Description automatically generated A colorful cube with black outline

Description automatically generated**

-It's V when there’s a checker pattern on the inside

-It's Y when there’s a checker pattern on the outside

-It's E when there’s no checker pattern at all

**Adjacent CP – Two Blocks**

**Category 1: One 3x1 Block & One 2x1 Block**

**Ja:** A colorful cube with different colored squares

Description automatically generated **A colorful cube with black lines

Description automatically generated** **Jb:** A colorful cube with black lines

Description automatically generated **A colorful cube with black lines

Description automatically generated**

When the 3x1 block is on the left:

-It's Ja when the 2x1 block is on the inside

-It's Jb when the 2x1 block is on the outside

When the 3x1 block is on the right:

-It's Jb when the 2x1 block is on the inside

-It's Ja when the 2x1 block is on the outside

**Category 2: One Outer 2x1 Block and One Inner 2x1 Block**

**Ja:** A colorful cube with black lines

Description automatically generated **A colorful cube with black outline

Description automatically generated Jb: A colorful cube with black lines

Description automatically generated A colorful cube with black lines

Description automatically generated**

- It's Ja when the 2x1 block on the outside is on the left

- It's Jb when the 2x1 block on the outside is on the right

**Category 3: Two Inner 2x1 Blocks**

**Aa:** **A colorful cube with black lines

Description automatically generated Ab:** A colorful cube with black lines

Description automatically generated

-It's Aa when the outer corner on the right is opposite

-It's Ab when the outer corner on the left is opposite

**Adjacent CP – Headlights, One Block**

**Category 1: Inner Block**

**T: A colorful cube with black lines

Description automatically generated A colorful cube with black lines

Description automatically generated Ra: A colorful cube with black lines

Description automatically generated Rb:** A colorful cube with black lines

Description automatically generated

When the edge in between the headlights is adjacent:

-It's Ra when the block is on the right

-It's Rb when the block is on the left

Otherwise:

-It's T

**Category 2: Outer Block**

**Aa: A colorful cube with black outline

Description automatically generated Ab: A colorful cube with black outline

Description automatically generated Ga: A colorful cube with many squares

Description automatically generated Gc:** A colorful cube with black outline

Description automatically generated

When only three unique colours are visible:

-It's Aa when the block is on the right

-It's Ab when the block is on the left

Otherwise:

-It's Ga when the block is on the right

-It's Gc when the block is on the left

**Adjacent CP – No Headlights, One Block**

**Category 1: One 3x1 Block**

**F: A colorful cube with many squares

Description automatically generated A colorful cube with black lines

Description automatically generated**

-It's F

**Category 2: Inner Block**

**Ga:** **A colorful cube with black lines

Description automatically generated Gc:** **A colorful cube with black outline

Description automatically generated** **Gb:** **A colorful cube with black lines

Description automatically generated Gd: A colorful cube with black lines

Description automatically generated**

When the corner beside the block is adjacent:

-It's Ga when the block is on the left

-It's Gc when the block is on the right

Otherwise:

-It's Gb when the block is on the left

-It's Gd when the block is on the right

**Category 3: Outer Block & Opposite Corner**

**Gb: A colorful cube with black lines

Description automatically generated Gd: A colorful cube with black outline

Description automatically generated Aa:** **A colorful cube with black lines

Description automatically generated Ab: A colorful cube with black outline

Description automatically generated**

When only three unique colours are visible:

-It's Gb when the block is on the right

-It's Gd when the block is on the left

Otherwise:

-It's Aa when the block is on the left

-It's Ab when the block is on the right

**Category 4: Outer Block & Adjacent Corner**

**Ra: A colorful cube with black outline

Description automatically generated Rb:** **A colorful cube with black outline

Description automatically generated T: A colorful cube with black outline

Description automatically generated** A colorful cube with black outline

Description automatically generated

When only three unique colours are visible:

-It's Ra when the block is on the left

-It's Rb when the block is on the right

Otherwise:

-It's T

**Adjacent CP – Headlights, No Blocks**

**Category 1: Opposite Edge In Between Headlights**

**Gb:** A colorful cube with black outline

Description automatically generated **A colorful cube with black outline

Description automatically generated Gd**: A colorful cube with black outline

Description automatically generated A colorful cube with black lines

Description automatically generated

When only three unique colours are visible:

-It's Gb when the headlights are on the right

-It's Gd when the headlights are on the left

Otherwise:

It's Gb when the headlights are on the left

-It's Gd when the headlights are on the right

**Category 2: Adjacent Edge In Between Headlights**

**Ra: A colorful cube with black outline

Description automatically generated Rb: A colorful cube with black outline

Description automatically generated**

**Ga: A colorful cube with black lines

Description automatically generated Gc:** A colorful cube with many squares

Description automatically generated **Aa:** **A colorful cube with black outline

Description automatically generated Ab:** A colorful cube with many squares

Description automatically generated

When only three unique colours are visible:

-It's Ra when the headlights are on the left

-It's Rb when the headlights are on the right

Otherwise:

-It's Ga when the headlights are on the right and there is a checker pattern

-It's Gc when the headlights are on the left and there is a checker pattern

-It's Aa when the headlights are on the right and there is no checker pattern

-It's Ab when the headlights are on the left and there is no checker pattern

**Adjacent CP – No Headlights, No Blocks**

**F: A colorful cube with black outline

Description automatically generated**A colorful cube with black outline

Description automatically generated

**Ga:** **A colorful cube with black outline

Description automatically generated Gc:** **A colorful cube with black outline

Description automatically generated Ra: A colorful cube with black outline

Description automatically generated Rb:** A colorful cube with black outline

Description automatically generated

When only three unique colours are visible:

-It's F

Otherwise:

-It's Ga when an opposite outer corner is on the right

-It's Gc when an opposite outer corner is on the left

-It's Ra when an opposite inner corner is on the right

-It's Rb when an opposite inner corner is on the left