**Potential Redesign to Improve the Device**

Redesign of the Corner Locking Piece & Corner Piece Frame

After dissecting the Rubik’s Cube and viewing all the parts that hold it together and allow it to function, we noticed that the cube’s corner piece frame and corner locking piece were separate parts. Having these parts separate has no advantages to the item’s functionality. Combining these two parts would make the part easier to manufacture and would make the assembly process more efficient. In addition, having the parts combined would increase the part strength, reducing long run wear and tear on the Rubik’s cube. Another advantage of combining the parts is that it would lower manufacturing prices, because manufacturers would only need to create one simplified part as opposed to two.

Recommendation for the Corner Mechanism

Combining the corner piece frame and the corner locking piece would simplify the model, make manufacturing cheaper and more efficient, and increase the overall strength of the part, reducing wear and tear on the Rubik’s Cube.

Recommendation for the Inner Mechanism

As the rows and columns of the Rubik’s Cube are turned, one can feel and hear the pieces rubbing against each other. This is not bad, but it can be remedied to give the Rubik’s Cube a better overall feel and quality to give it an advantage over the many other option available for purchase. To reduce the friction and allow the pieces to glide past each other smoothly, Teflon dry lubricant can be applied to the inner edges of the corner locking piece, corner piece frame, edge piece, centerpiece frame, and middle piece frame. The advantage of using dry lubricant over wet lubricant is that it can repel dirt and junk will not get stuck in the Rubik’s cube. Dry lubricant is also nonflammable once it is dry, so it is completely safe for the end user as long as it is not ingested. It is also not oily to the touch, so it will not get on the user, unless they attempt to take apart the cube. It will also slightly reduce the noise created by the turning of a Rubik’s cube.