

# Trillion



*Patented by G. Yokoi 1983.*  
(plastic, 3.5 inch diameter with arm, 3/4" thick,  
with box 4.4 inches square by 1.2 inches high)

The puzzle comes in a plastic box as shown below; the *Yoki patent* also describes the *Ten Billion Barrel* puzzle. Seventeen pieces (one white and four each of orange, green, blue, and yellow) are arranged in a cross (a center piece and four pieces on each arm). A center disc can rotate the center five pieces (i.e., the center piece and the first piece on each arm), a middle ring can rotate the next two pieces of each arm, and an outer ring can rotate the outside pieces of each arm. In addition, a plunger can be temporarily pushed in to offset all of the pieces of a row by one unit (and while it is in, the outer ring cannot rotate). The goal is to mix up the puzzle and then solve it so that each concentric circle has the same color (with white in the center). The booklet that was sold with the puzzle, folds out into a strip with 7 panels on each side, as shown on the following page. *Jaap's Page* credits the puzzle invention to work at Nintendo and presents a solution.



## Further Reading

*Jaap's Page*, from: <http://www.geocities.com/jaapsch/puzzles/trillion.htm>

*Yokoi Patent*, from: [www.uspto.gov](http://www.uspto.gov) - patent no. 4,376,537

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# The Booklet That Was Sold With Trillion

From the Makers of **Rubik's CUBE™**

## TRILLION™ Puzzle



CIRCLE (from central chip to outer ring): White, Orange, Yellow, Green, Blue.

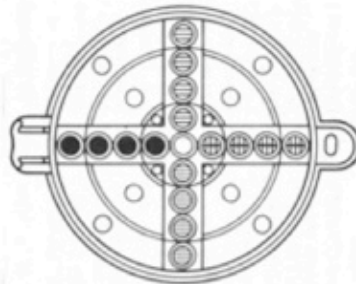
**Object:** To change the arrangement of the chips from the original "CROSS" pattern to the "CIRCLE" pattern that corresponds to the colored circles printed on the puzzle base . . . and then to get it back to the "CROSS"!

Note: The single white chip belongs at the center of both patterns.

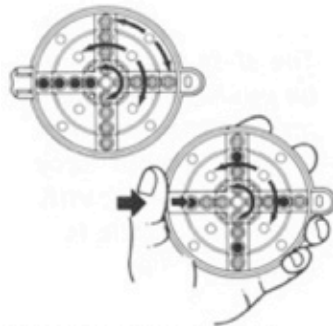
Stop! Read the entire instruction sheet before you make a move.

Enjoy a unique puzzle challenge—to master the arrangement of colored chips in circles and crosses inside the *Trillion* puzzle—more than one billion possible patterns, and just two solutions!

**Change the patterns** by rotating any of the 3 transparent rings either clockwise or counterclockwise and by pushing in the slide lever with your thumb to shift the chips as you rotate the inner and middle rings. The outer ring cannot be rotated while the slide lever is depressed



CROSS



*The slide lever cannot be pushed in unless the chips are aligned straight. Do not force the slide lever; gently shake the puzzle to align the chips.*

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 RUBIK'S WORLD™ Puzzle  
 RUBIK'S CUBE™ Puzzle Necklace and Puzzle Keychain  
 THE MISSING LINK™ Puzzle  
 ALEXANDER'S STAR™ Puzzle  
 PUZZLE PENS™ Puzzles  
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 U.S. and Foreign Patents pending.  
 2L-1574  
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## How To Change Chips From Cross Arrangement To Circle Arrangement

- |                            |                           |
|----------------------------|---------------------------|
| 1. Push lever              | 19. Turn central left 1 × |
| 2. Turn middle left 1 ×    | 20. Push lever            |
| 3. Release lever           | 21. Turn central left 1 × |
| 4. Turn outer left 2 ×     | 22. Release lever         |
| 5. Turn middle left 1 ×    | 23. Turn middle left 1 ×  |
| 6. Push lever              | 24. Push lever            |
| 7. Turn middle right 1 ×   | 25. Turn central left 1 × |
| 8. Release lever           | 26. Release lever         |
| 9. Turn outer left 1 ×     | 27. Turn middle left 1 ×  |
| 10. Turn central right 1 × | 28. Push lever            |
| 11. Push lever             | 29. Turn central left 1 × |
| 12. Turn middle left 2 ×   | 30. Release lever         |
| 13. Release lever          | 31. Turn middle left 1 ×  |
| 14. Turn middle left 1 ×   | 32. Turn central left 1 × |
| 15. Push lever             | 33. Push lever            |
| 16. Turn middle right 1 ×  | 34. Turn central left 1 × |
| 17. Turn central left 1 ×  | 35. Release lever         |
| 18. Release lever          |                           |

1 × = (One Turn = 90 Degrees)

## How To Change Chips From Circle Arrangement To Cross Arrangement

- |                            |                            |
|----------------------------|----------------------------|
| 1. Push lever              | 20. Push lever             |
| 2. Turn middle left 1 ×    | 21. Turn central left 1 ×  |
| 3. Release lever           | 22. Release lever          |
| 4. Turn outer left 1 ×     | 23. Turn middle left 1 ×   |
| 5. Push lever              | 24. Push lever             |
| 6. Turn middle left 1 ×    | 25. Turn middle left 2 ×   |
| 7. Release lever           | 26. Release lever          |
| 8. Turn outer left 1 ×     | 27. Turn central left 1 ×  |
| 9. Turn middle left 1 ×    | 28. Push lever             |
| 10. Push lever             | 29. Turn middle left 2 ×   |
| 11. Turn middle left 1 ×   | 30. Release lever          |
| 12. Release lever          | 31. Turn middle left 1 ×   |
| 13. Turn central left 1 ×  | 32. Turn central left 1 ×  |
| 14. Push lever             | 33. Push lever             |
| 15. Turn middle left 2 ×   | 34. Turn central right 1 × |
| 16. Turn central right 1 × | 35. Release lever          |
| 17. Release lever          | 36. Turn middle left 1 ×   |
| 18. Turn middle left 1 ×   | 37. Turn central right 1 × |
| 19. Turn central left 1 ×  |                            |

1 × = (One Turn = 90 Degrees)