Numbers are yellow on one side and white on the other, and can rotate any number of positions in either direction. In addition, there is a north pole that spans three numbers (13, 1, 2 in the photos above) and a south pole that spans four numbers (6, 7, 8, 9 in the photos above); a flip turns these 7 numbers along the pole axis:

**Solution:** Use ideas from *Jaap's Page* (which also presents moves to speed up solving). For a positive integer $n$, $n$ and $-n$ denote clockwise and counter-clockwise rotations by $n$ positions, and $/$ denotes a flip. The pole position $P$ is the center of the north pole, and the two positions to its right clockwise are $Q$ and $R$.

**Step 1:** Make the side facing you all yellow by using as needed:

$$2/-2/2/-2 = \text{flip the pole position}$$

**Step 2:** From 1 to 11, move counter clockwise to its position, using:

$$1/-1/6/-6/-6/-6/-1 = \text{PQR -> RPQ}$$

That is, repeatedly move the next piece to position R and use this transformation to advance it two positions towards its goal. If it is only one position away, first advance number to its right.

**Step 3:** If 12 and 13 are reversed, change parity by changing the side facing you from yellow to white (which mixes the numbers), turn over the puzzle, and repeat Steps 1 and 2:

$$/5/5/ = \text{flip all of the numbers}$$

**Further reading:**
*Unsicker Patent*, from: www.uspto.gov - patent no. 6,003,868