

Top Spin / No. Crunch



Patented by F. Lammertink 1989, made by Binary Arts.
(left "Top Spin", right "No. Crunch"; both plastic, 6 inches)

Numbers slide around the loop, and spinning the disc reverses the order of 4 numbers; the goal is to mix up and then restore to increasing clockwise order.

Notation:

R = rotate the numbers right (clockwise) one position

L = rotate the numbers left (counter-clockwise) one position

S = spin the disc (180 degrees)

Note: S advances one number 3 positions clockwise, one number 1 position clockwise, one number 1 position counter-clockwise, and one number 3 positions counter-clockwise.

Solution from the directions:

- Solve 7 to 20 by working from 19 down to 7, one number at a time:
 - Advance 3 positions clockwise until within 4 positions of destination.
 - Move counter-clockwise until exactly four units from destination.
 - Spin the disc.
- Get positions 1 to 6 as close to solved as you can.
- The following transformation advances a number in the left position of the disc 4 positions clockwise without affecting any other numbers:

S L S R S L S

(That is, **LRL** with interspersed **S**'s.)

So to exchange two adjacent numbers, repeat this sequence 5 times to make a number go all the way around and come back exactly one position to its right (remember each time to put the number in the left position of the disc).

Further Reading

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

Lammertink Patent, from: www.uspto.gov - patent no. 4,871,173

Cutrofello Patent, from: www.uspto.gov - patent no. 7,604,234

Chang Patent, from: www.uspto.gov - patent no. 5,622,368

Protheroe Patent, from: www.uspto.gov - patent no. 332,211