



## THE BAFFLING KNOT TRICK AKA CUT IN HALF BY ROPES

### EFFECT:

A volunteer has two ropes tied around them. When the ropes are pulled tight they cut right through the volunteer, who then walks away unharmed!

### DESCRIPTION:

A volunteer stands on stage while you and an assistant run two ropes behind them. You then tie the ropes around the volunteer so you are each holding two ends of either side of them.

When you and your assistant pull them tight simultaneously, they will

seem to go right through the volunteer, and then ropes that were behind them will now both be in front.

### HOW IT WORKS:

When the ropes are passed behind the volunteer, it looks like both ropes start on one side and end at the other. However, each rope starts on a different side, goes behind the volunteer and then comes back out on the same side where they started.

To keep the ropes in this arrangement, you first need to hide a magnet inside each rope. This can be done by prying the threads of a rope apart, slipping in a strong "rare earth" magnet, and then tightening the rope back up.

Then when you tie the knot around the volunteer, each rope goes around the front of

the volunteer only, but the magnets keep a bit of the rope held behind them. When you pull the ropes tight, the magnets will separate and the ropes appear to quickly jump in front of the volunteer.

### HINTS AND TIPS:

You need to make sure the ropes are exactly the same colour and length so the audience cannot tell which end is connected to which.

If the magnet looks like it might slip out, or causes the rope to be misshapen, it can be camouflaged by tying that bit of the rope in a knot. Several other knots at equal spaces along the rope will make sure attention is not drawn to the magnetic knot in the middle of the rope.

These knots actually make it easier to connect the magnets together. After you show the ropes separately to the audience, you can align them and run the ropes through your hand matching up each knot until you get to the middle. Do this while talking to the

audience or your volunteer about the trick without looking at your hands. Once you have the two middle knots connected, walk behind the volunteer to give the other ends to your assistant and this is





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when you can release the now-joined middle knots.

Make absolutely sure that you have only tied the ropes at the front and that the magnets at the back are not tangled or looped through each other. You don't want to hurt your volunteer actually tightening ropes around them! Have a secret code-word with your assistant that either of you can use if they notice the ropes are becoming tangled and you need to re-start the trick. It's better to make some excuses and re-do all of the ropes than to perform the trick incorrectly. An audience will never forgive you if you hurt a volunteer!

### Rare earth magnets

Rare earth magnets are alloys of rare earth metals such as Neodymium and Samarium-cobalt which form incredibly strong magnets. Discovered in the 1960s they became affordable during the 1990s and are used in a high range of products such as computer hard-drives, electric motors and speakers. Without rare earth magnets, earbud headphones wouldn't be possible!

### Danger:

Large rare earth magnets are attracted to metal and other magnets so powerfully they've been known to break people's bones that get in the way. There have even been deaths from people who accidentally swallowed rare

earth magnets that have then cause their internal organs to be stuck together.

### What's not a knot?

Both magicians and mathematicians are fascinated by things that look like knots, but actually aren't. Magicians use them so something can look like it is securely tied, only for the 'knot' to come undone when it is pulled. Mathematicians have developed different ways of classifying knots but are yet to find one way that can determine if any tangle of rope is actually knotted or if it isn't. Knots are an ongoing area of mathematical research.

