

# UNIVERSAL LOOPS



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# POTENTIAL APPLICATIONS



Loops to help don gloves



Basic Pattern handle loop



Paracord bracelet handle loop



Sock aide



Removable pants loops



# PRODUCT DEMONSTRATION

<https://www.youtube.com/watch?v=LCZv-9PUVD8>

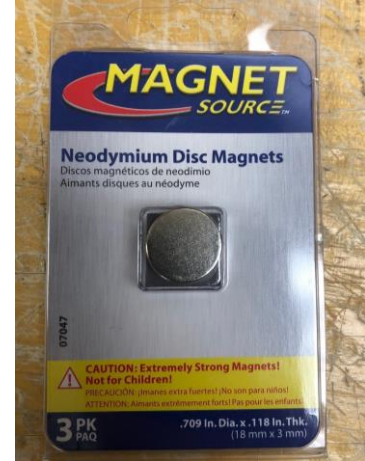


# COMPONENT LIST

## TOOLS USED

- Scissors
- Heat gun/lighter
- Tape measure
- Super glue

Single Strand Option (30-minute build time)		
paracord 550	60"	\$5.99=100'
paracord 1100	60"	\$6.84=50'
3/4"-3/8" heat-shrink tubing	1 pck	\$2.18= 2/pck
.7" Neodymium Rare-Earth Magnet Discs	2 pcks	\$5.98=3/pck
dycem sheet	16"x1"	\$13.60/strip
Total Cost:		~\$35





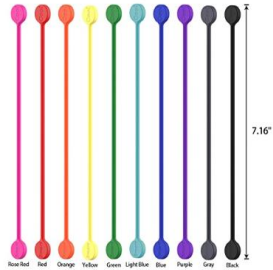
# FABRICATION



1. Cut shrink tubing to fit over magnets and paracord. (figure 1)
2. Tie a knot on your 60" strand of paracord, leaving about 10-12 inches on the far side. (figure 2)
3. Use heat gun to form shrink tubing then tie knot on opposite side of magnets. (figure 2)
4. Tie loose end back on connected loop. (figure 3)
5. Secure knot by either melting paracord or tying another knot as an anchor. (figure 4)
6. Cut out small circle of dycem and glue to flat side of shrink tubing.



# COMPARABLE DEVICES



## A) Silicone Magnetic Cable Ties:

1. Source: [Silicone Magnetic Cable Tie](#)
2. \$17.99 per pack of 20

## B) Pant Clip:

1. [Pants Clip](#)
2. \$17.36 each

## c) Custom Sock aide:

1. Specialized Provider
2. Not currently sold



# JUDGING CRITERIA

- **Practicality-** Set up is easy and with practice, patients can attach independently. It is also versatile and can be used for a variety of different ADL applications.
- **Cost-** The price to make this is affordable and uses materials that can be found online or in local hardware stores. The price is within the range of small ADL devices that typically serve a single purpose. The price can be decreased if products are purchased in bulk.
- **Innovation-** Fabricated out of low-tech materials and inexpensive components that are readily available. It is also versatile for what it can be used for to help increase independence with multiple daily tasks. It is also specialized by having secondary loops for individuals with impaired hand function to use to separate magnets, which similar products do not have. Size/length of loops can also be customized per client needs.
- **Replication-** Therapists and caregivers alike should be able to replicate basic device without difficulty and only using basic tools.
- **Durability-** Made from durable components that will not breakdown easily. It is also easy to wipe down and clean using wipes or spray cleaner for when it is soiled or when trialing with multiple people. I have used multiple variations of these over the course of 4 years.
- **Aesthetic Appeal-** The appearance of the device is meant to be minimalistic and not draw attention to the device, but it also has the potential to be customized based on patterns/colors of materials. Compares to loops that have been sewn onto articles of clothing which require permanent modification of clothing and can lead to skin irritation if not careful.

