rfong's DIY ropedart guide

This is my guide to DIYing a rope dart that works for your body and movement style, based on my obsession with testing every conventional rope dart leash and every flatlock webbing I could find in hardware stores or on the internet. I'm very picky about leash material and did this both for myself and to come up with a really comfortable DIY setup I could make quickly and give away to beginners.

Targeted toward people who want to DIY on a budget ($5-10), but I also included links to higher-end options if that's what you're looking for.

Contents

1 tl;dr speed recommendations

My speed recommendations for beginners, if you don't want to read the long-winded explanations.

1.1 Buying a dart

If you want to just pay someone for a setup, Dark Monk and RDA are the go to options, ranging from $80-100 for fire/LED/metal darts to $40-65 for practice darts.

My contact LED dart is a Flowtoys capsule light in a Lanternsmith Umoja 90mm sphere, on a flat DIY leash with an added swivel for groundwork.

1.2 DIY Head

- a 4-6oz Kong dog chew toy
- a 4-6oz bag of rice/beans in a sock (adjustable)

1.3 DIY Leash

- Technora/Dyneema/"Dragon Rope" (very durable, fire-safe, more expensive, $20-45)
- 3/16" soft cotton rope (<$5)
- 1" lanyard webbing (more comfortable, less force needed, <$5)

You can get Dyneema from a hardware store or Dark Monk will splice it for you. Technora comes in grey, Dyneema / "Dragon Rope" comes in colors.

1.4 Sizing

Dark Monk's video on how to size a dart leash.

As a sanity check, you will likely end up getting about a 9' leash if you're under 5' tall, or perhaps up to a 13' leash if you're extremely tall or if you know that you want an additional body wrap length to combo empty knots.

If DIYing, factor an extra 2-3' into the length of rope you buy, to leave room for a tether and connecting the head.

2 Head

2.1 Material

You can literally make a dart head out of anything you are capable of tying a rope to and swinging. I recommend starting with something squishy that you don't mind repeatedly hitting yourself in the shins with for the first couple weeks.

Common DIY head materials:

- plastic bag full of rice or beans wrapped in a sock or any small fabric bag
- tennis ball filled with coins
- rubber dog chew toys; Kong makes one that's really easy to tie a rope to

2.2   Weight

Dartists commonly end up settling on 6-8oz heads. RDA silk dart heads weigh 7oz. Dark Monk's default fire dart heads weigh 6.5oz.

If you're not sure what you want yet, I recommend DIYing a **4-6oz head** and increasing the weight when you feel comfortable. This weight is a good balance between:

- weighty enough that your moves come out clear and clean
- **agile**, allowing you to more easily perform moves requiring more momentum
- not so heavy that it'll tire you out immediately when you start

2.3   Form factor

Martial dartists who do a lot of horizontal power shots tend to prefer, well, a dart-like shape. See RDA's shop for examples.

Spherical heads work for a lot of people and are especially good for contact dartists. Their rotational movement looks clean and they make smoother plane changes.

3   Leash

3.1   Material form factor

Standard fire leashes: Technora or Dyneema.

- They are also great for practice, and fairly smooth and durable, so it's reasonable to get this even if you don't plan to spin fire.
- RDA uses cotton rope for fire darts.

Any other rope
You can go into a hardware store and pick any rope that feels soft.

- Cotton clothesline is a common DIY pick.
- Friction increases control and responsiveness, at cost of rope burn.

- Smoothness facilitates empty knots, at cost of potentially reduced control.

A swivel is only useful if you want to do groundwork. I use a ball bearing fishing swivel (sz 7, rated to 320lb). You can get them somewhere that sells fishing gear, or Dark Monk sells similar ones for poi.

Flat webbing
More comfortable, and manipulable with less pressure, which allows for more effortless contact dart and plane changing. However, you can still contact dart completely fine with a standard round-rope leash.

Flatlock weave is necessary. It's very difficult to find flat webbing that is sufficiently soft, not so heavy it slows down the dart, stiff enough that it's responsive, and not so thin that it crumples up. Dark Monk used to carry good cotton webbing, but the manufacturer discontinued it.

My most reliable budget flat-leash find so far has been **1" lanyard webbing** (like the kind of wide, soft lanyard that conferences print logos on), which feels like a lower quality version of RDA's silk leash and only costs \$2-5 for 5 yards. You can find it on eBay or Etsy.

Extensive spreadsheet of the parameters of all the flat webbings I have tested as dart leashes.

3.2   Material width

For **round rope, 3/16" to 1/4"** strikes a good balance of:
- not so heavy that it makes your dart slow
- not so thin that it bites into your skin and gives you rope burn (too often, anyway)

For **flat webbing, 1"** strikes a good balance of:
- wide enough to give you the benefits of extra control
- not so wide that it doesn't settle easily into the hollows of your hand

(Your mileage may vary if you have exceptionally large or small hands)

3.3   Leash sizing

It's easiest to start with your wingspan plus the drop from your outstretched arm to the ground.
(This way, when you take in the slack using your fully outstretched arms at shoulder height, the remaining leash is the longest it can be without being at risk of hitting the ground.)

Again, see Dark Monk's video.

3.4 Tether

A tether is a loop at the end of your leash that attaches to your wrist and won't cut off your circulation.

Tethered
Darting with a tether prevents your dart from flying off and getting lost, and allows you to use your full extension and quickly recover during power shots.

Tetherless
Some folks (myself included) like to dart without using a tether. This allows you to be fully ambidextrous (you won't end up with a single buff arm), learn hands-free contact, dance expressively with your arms free, and improvise more strange false knots on the fly.

These are completely up to your personal movement style preferences. If you're not sure, build in a tether, because you can always choose whether to loop it on your wrist or not. [1]

3.5 Knots & splicing

When buying rope for DIY leashes, I factor in an extra 24-36" so I comfortably have room to tie a tether and connect the head.

Tether loop
Your goal here is simply to not cut off your wrist circulation. Any non-sliding loop will do.
I use a bowline because it's easy to untie and not very bulky.

Tie head to leash
Anything will work; it depends what your head looks like. Honestly a double knot is probably fine because you won't be untying this much. A simple sheet bend will tie a rope to a sock if your leash material is not slippery (Technora is slippery).

Tetherless stopper
If you've decided to go full tetherless and never look back, a double overhand stopper works great as a stop for the end of your rope.

Splicing
Attachment points on fire safe leashes are commonly spliced instead of knotted. Dark Monk's splicing guides can be found here. It's not necessary, but if you have the tools around, it's definitely nicer looking and makes for cleaner movement.

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[1] I keep tethers on all my dart leashes just in case I need to dart battle Xander, but Dresden does not.