

V-Reels

The name “V-Reels” is short for “Virtual Reel System”, not that there is anything particularly “virtual” about them. Instead, the name came about because they were developed as a companion product for the Virtual Scoring Machine (VSM). VSM is a new form of scoring machine that allows any Windows PC to act as a complete 3-weapon FIE T2005 compliant scoring machine, and adds many new (and wondrous) capabilities as well. VSM also has one other important characteristic: it's cheaper than just about any other scoring machine... and in fact *much* cheaper than any machine with even vaguely similar capabilities. One of the primary motivations for the development of VSM was to make high-quality integrated scoring affordable for even the smallest fencing club, as well as for individuals.

However, it was obvious from the onset that a low-cost scoring machine, no matter how capable or advanced, is not much use if you can't afford the reels. Hence, “V-Reels”. V-Reels are simple. They have almost no moving parts. They are only ever-so-slightly more complicated to set-up and tear down than conventional reels. They have no rotating contacts or brushes to get dirty or wear out. They don't require floor cables. But mostly, they are inexpensive — and that was the primary objective of their design.

Together, a VSM system AND a set of V-Reels can cost less than a single reel from some equipment vendors.



V-Reels are simply a way to keep the cables connecting the fencers to the scoring machine out of the way as they advance and retreat up and down the strip. They work in a similar way as a “bungee” type system; however, the bungee has been replaced by a pulley on a retractable cord. This makes the system considerably easier to set up, and the design of the reel platform also includes storage for the fencer's cables when they are not in use.

One of the other main considerations in the design of V-Reels was portability. The weight of the reels has been kept to a minimum. A higher weight could have helped to hold the reels in place, however, in my experience “reel creep” seems to invariably take place. So I have elected to add a simple device called an “anchor card” to the V-Reel design. The “anchor card” (as seen in the set-up instructions to follow) is just a simple tab that secures to the bottom edge of each V-Reel base via a Velcro strip. The anchor card is then secured to the floor with a small piece of tape. When in storage, the “anchor card” can be turned around and secured to the bottom of the V-Reel's bases with the Velcro strips. If you normally don't experience “reel creep” on your strip floor, you can just skip that set-up step.

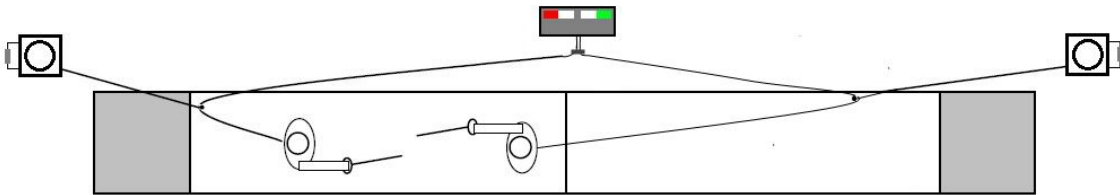
Setting Up the V-Reels

just add duct tape...



Step 1: Remove the reels from the box

Step 2: Place each reel beyond the rear limit and on the side of the strip (as shown in the diagram below.)



Step 3: Release the Velcro cable tie securing the loose end of the plug. Unwind the cable from the storage hooks.

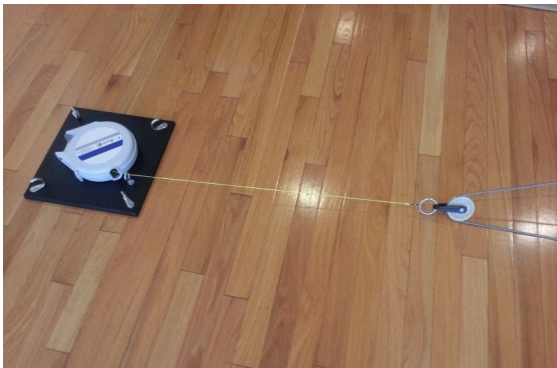
Step 4: Lay the cable along the sides of the strip from each reel to the center point of the strip. The loose plug-ends of the cable will connect to the scoring machine.





Step 5: At the center of the strip, tape down the cables as shown. Each cable is taped down over the rubber-reinforced section of the cable. This is the section of cable that will flex and the rubber hose provides additional strain relief.

Important: A second piece of tape is placed on the cable. The cables must be taped down past the quick-disconnect connectors. These are plug-and-jack connectors that can be easily pulled apart. In the event the cable length is exceeded (e.g. an end-of-strip fleche.) The quick-disconnect allows the cable to disconnect rather than pull the scoring machine off the table.



Viewed from end-of-strip: Pulling the fencer's connector forward causes the pulley to move forward, unwinding the reel against its spring. Retreating backward, the pulley takes up the cable slack as the reel's spring tension retracts the pulley.

And that's it; just plug in the scoring machine and you are ready to fence.

Notes:

- Makes sure the V-Reel bases are set beyond the rear limits of the strip in order to provide adequate room to retreat off the end. The bases should also be placed offset to the sides of the strip by a foot or more so that the cables are kept off the strip. It is important that the cables are not underfoot of the fencers or spectators so that they are free to move.
- If you have a "short strip" due to a lack of floor space, the cable lengths can be adjusted by sliding the rubber hose sections away from the "quick-disconnect"

jack-and-plug. First, place the reel bases as far back as possible. Then pull the excess cable to the center of the strip, leaving about two feet of cable loose in front of each reel base when they are fully retracted. Then reposition the rubber hose sections to a position on each cable at the center of the strip. Add another cable-tie (or for a temporary period, use a document-type clip or a clothes pin) onto the cable just behind the hose so that the cable can't move forward through the hose. Coil up the slack.

- When not in use, keep the cables wound loosely on their reel bases. This will prevent kinks and knots from forming in the cables and make them much easier to set-up and transport.
- You'll need some duct tape.
- Do not tape over either of the quick-disconnect jack-and-plug combinations; they must be free to disconnect if a fencer tries to move farther than the cable length allows. The jack and plug need to separate in order to prevent your cable from braking.