

## Catana 471 Trampoline Replacement

*S/V Pas de Deux*

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This paper describes new trampoline installation on Pas de Deux, a Catana 471, hull 44, that took place in May, 2008 while hauled out at Georgetown Yacht Basin, Georgetown, Maryland, US.

This was previously described on the Yahoo Catana forum in a discussion topic, with photos provided in the Photos section of the Files. I finally got around to creating this report in May, 2020.

Pas de Deux has a single piece trampoline. For boats with a center compression beam and two tramp sections, this information can be adapted for your use. The trampoline we were replacing was the original Catana-installed nylon Ribolla, which was very stretchy and had some tears that we inherited. For a replacement we selected a white 3/8 inch polyester "Offshore" mesh with grommets on all sides from Sunrise Yacht Products >> <https://multihullnets.com/>.

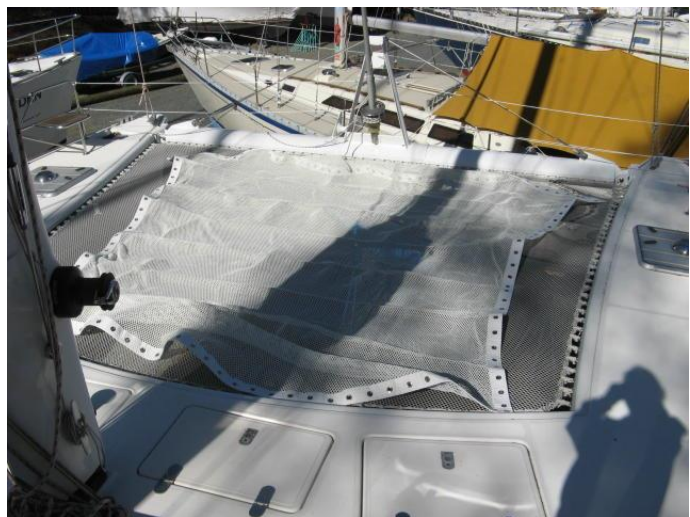
When we purchased this tramp in 2008, the price was US\$2219.00 + shipping. In May, 2020 the web advertised price is US\$3011.00 + shipping. In 2008 Sunrise included the 471 trampoline pattern in their collection of production boat designs. Since then, they have greatly expanded the number of production models they can supply, including Catanas I didn't know exist. Custom designs are available.

Currently, we still have the 2008 tramp in service with no apparent deterioration. This includes nine tropical winter cruises. It has never been removed nor re-coated with any paint or preservative. We've replaced the lacing once. That said, I am watching closely for signs that its end of life may be approaching. I would replace it with exactly the same thing.

Now for the installation:

As others have related, even the polyester versions need substantial stretching out of the box. Stories abound of people struggling to get the tramp stretched out for lacing including advice to wet it down first and cuss a lot. But we devised an easy and effective way of installation using our cockpit winches.

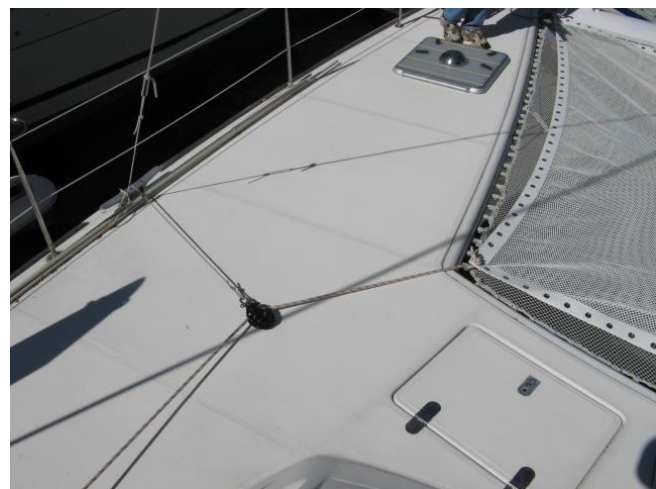
First, we laid out the new tramp over the old one which was still installed. This allowed us to move around on the old tramp while doing the initial "rigging" on the new one. Note the amount of stretching needed....



Next, we rigged the port/stbd spinnaker guys to the two port/stbd front corners of the new tramp after routing the guys around a bow cleat. (Doing this again, we would use a low friction ring on a soft shackle.) We ran the opposite, loose ends of the guys forward from the cockpit through blocks secured with a separate line on the midship cleats, then to the two aft corners of the new tramp. We had to trial-and-error adjust the length of this separate line to position the block correctly to achieve a straight pull in the right direction on the aft corners. Then, using the utility winches for the front corners and the primary winches on the line to the aft corners, we were able to stretch out the new tramp, pulling all four corners exactly into place simultaneously. No cussing needed! While any lines could be used for this, we used the spinnaker guys since the forward end runs under deck to near where we needed it at the bow.

Once the four corners were in place, we temporarily secured the tramp at several locations along each side using temporary lines from the grommets to the corresponding hull attachment points (cutting out old attachment lines as needed) including at grommets adjacent to the corners. To ease tightening these temporary ties - and for the final lacing - we used a tool wind surfers use to tighten their down hauls called a Maui Hookup (<https://isthmussailboards.com/hypotec-maui-hookup-downhaul-tool.html>). This was a very valuable tool allowing use of both hands while saving wear and tear on your fingers. Another trick was using vise grips to temporarily hold lines while tying (more on this, below).

Then we one-by-one relaxed each corner guy and secured each corner with permanent line. Because we had placed temporary lines on grommets adjacent to the corner grommets, the corners didn't spring back very much. This resulted in each corner being held in its final stretched-out location.



For the permanent attachment line we chose economical 1/4 inch (6mm) StaSet double braid polyester and a lacing pattern which corresponded to the grommet spacing. When ordering the new tramp, I specified the number of grommets I wanted on each side, corresponding to the number of existing attachment points on the hulls and crossbeam. This allowed using a single, continuous line on each side of the tramp (once away from the corners) in a zig-zag pattern. Some may scoff at this approach, arguing that a break anywhere along a single line could release the whole side of the tramp. More on this below....

Starting at one aft corner, and cutting off the original tramp ties as we went, we then threaded the permanent line through a grommet and attachment point pair, in the zig zag pattern, tightening each link with the Maui Hookup and holding it in place using vise grips with duct tape padding the jaws. This eliminated the need to tie separate intermediate knots. We first secured the entire length of the aft border in this fashion. Because we started and finished from a corner already in its fully stretched out position, we were able to stretch each grommet one-by-one into its final position without incremental tightening. Just one pass along the entire side.



We then secured the cross beam border in the same manner working from below on a step ladder (this could be done from a dinghy if in the water). One person on the cross beam did the threading and vise gripping while another tightened each link pulling from below on the ladder using their weight with the Maui Hookup. Then we did the two sides. In the end we were able to completely stretch out and secure the tramp without any second passes and retying of lines. There's no more than a 1.5 inch gap all around the border. We had a friend helping at first, but Donna and I did the last two sides all by ourselves - about an hour each. I was sore the next day.



Any bigger diameter than the 1/4 inch (6m) StaSet we used would have posed problems threading through the hull attachment points - especially when making multiple wraps at corners. The StaSet has a nice hand and is pretty supple and slippery and tightens nicely pulling around the grommets and hull attachment rings. The zig zag pattern permits easy re-tensioning in the future, if needed, because there are no intermediate knots to untie and re-tie at each attachment point.

We strongly recommend using something like a Maui Hookup - you could probably make your own from a broom handle and a couple J hooks. The vise grips trick - long used by beach cat sailors to tighten tramps - works really well to avoid tying a few hundred knots.

After about a year of settling, the tramp had sagged a bit and we re-tightened the lacing. This was straightforward using the Maui Hookup and vise grips, simply untying one end of each side and working our way along the existing lacing. When complete the tramp was really close to the hulls/cross beam all around, so it had stretched a bit.

As for the concern of a single line break releasing an entire side, we tested this potential when it came time to replace the lacing. After about 8 years the lacing was looking ragged, so we decided to replace it, accomplished one side at a time, similar to re-tightening but replacing the line as we went.

Before starting we cut the line at the midpoint on one side to see what would happen. Answer: Nothing. There's so much friction that the line won't easily slip its attachments and send you through. I walked and jumped on the tramp next to the cut and it would slowly sag a bit – but no wholesale disaster. For those still worried about this, separate redundant lines could be spaced along each edge.

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