

# Mutineer Standing Rigging

Mutineer standing rigging consists of the shrouds and in some cases a forestay. Chrysler, TMI, Starwind and now Nickels all used 1/8" wire rope. Gloucester used 3/32 wire rope. If you own a Gloucester, you should upgrade to the class required 1/8" rope. Another reason to upgrade your original Gloucester shrouds (and forestay if in use) is that they are more than 20 years old. It is recommended that all shrouds/stays more than 20 years old be replaced. The problem with SS wire is that it fails from within either the wire or the aircraft swage. So, it cannot be inspected for condition. This is the reverse of rope where the external surface is a good indication of the condition of the rope.

Aircraft swages were the original shroud end fitting on Chrysler boats. For 1/8" wire rope they have a 3/16" diameter pin and are often 304 SS, though nowadays you can get aircraft swages in both 304 and 316 SS. Marine swages are the same type of fitting (either an "eye" or a "fork"), but are heavier duty and are 316 SS. 316 SS is much better than 304 SS in resisting corrosion. Marine swages for 1/8" wire rope have a 1/4" diameter pin.



**Aircraft eye**

**Aircraft fork**

**Marine eye**

## Replacement Considerations

Marine swages are recommended. Since the pin size of marine swages is larger, you may need to enlarge the hole in the tangs on the mast to accept a 1/4" pin (simply drill out the hole to 1/4"). You also need to check to see if the shroud adjuster can take a 1/4" pin or can be drilled out to accept a 1/4" pin. If not, you can replace the shroud adjuster with one that takes 1/4" pins, or replace the shroud adjuster with a turnbuckle, or just stay with an aircraft swage on the shroud end fitting so you can use an existing 3/16" shroud adjuster. If you decide to stay with a 3/16" pin and buy aircraft swages, make sure they are 316 SS, not 304 SS.

If the length of the shrouds you are replacing is correct, you can simply mail one of the existing shrouds you are replacing to the rigging shop with instructions to construct the new shrouds to the same length. As long as the length of the current shrouds gives you a reasonable range of mast rakes with your shroud adjusters, then that tells you the current shroud length is fine. If the current shrouds are too long so that you cannot get sufficient backward rake of the mast, then the shroud length should be shortened. Conversely, if the current shrouds are too short so that you cannot get the mast to be completely vertical (0% backward rake), then the shroud length should be lengthened.

A combination of shroud length and pin adjuster to give you a range of backward rake from 4% to 0% is recommended. If the pin adjuster has more range than that, then add equal amount to both ends. For example if the range is 6%, make the shroud length so that the range will be 5% backward rake to 1% forward rake. If the range is 8%, made the shroud length so that the range will be 6% backward rake to

2% forward rake.

When determining the shroud length you want, you should take into account stretch. There are two types of stretch for SS wire rope, structural and elastic. Structure stretch is permanent and occurs when a load is first put on a piece of wire rope, causing the individual wires to reorientate themselves. All shrouds should be made from pre-strained wire rope to avoid the shroud having any structural stretch. Elastic stretch is temporary stretch, similar to that on an elastic band. You need to account for the elastic stretch when specifying the length of the shroud. For Mutineer shrouds the elastic stretch is about 0.2" at 200 pounds load and 0.4" at 400 pounds load. I recommend specifying the shrouds 3/8" shorter than you want to account for elastic stretch.

**Sources for new shrouds:**

West Marine - offers competitive pricing and a fast turn around, usually the same week.

Production Facility

860 Marine Blvd.

Rock Hill, SC

888-447-7444

Defender Marine – offers competitive pricing but turn around time can be up to six weeks.

Defender marine

42 great Neck Road

Waterford, CT 06385

800-628-8225