# Auto Pole Launcher

Anyone who has tried sailing a Fireball with a small crew will have found that the biggest problem, apart from staying the right way up, is the spinnaker pole. Even if the crew can actually reach the pole attachment point on the mast, he/she will still struggle to attach it because the lack of height or strength. The answer is an auto pole launcher. I have used one in four boats over many years, and sailed competitively with crews of less than 5 feet in height and 7 stone in weight. You still have to contend with being overpowered in a Force 3, but at least you can still fly the kite!

# Basics

Fitting a pole launcher need not be difficult or too expensive, but it does require careful thought to get it right. The basic principle is that an outhaul line is attached to the inboard end of a single-ended pole. This line goes through a block on the mast in the same position as the normal pole attachment, down to the bottom of the mast, and back to the helm. When the helm pulls the line the inboard end of the pole is drawn up to the block on the mast.

# Mast Fitting

You can attach a block to the standard pole-eye, but the line will not lead cleanly and will wear its way through the side of the block. The block will also chafe against the side of the mast, damaging both.

The specially made mast fittings are very expensive and, in my experience, are not the best things for the job. I use an old-style spinnaker crane, and these can still be found in the main mail order catalogues (70-4210 in Northampton Sailboats, 51-R4210 in P&B). It is a good idea to strengthen the mast in the fitting area with a short piece of mast sleeving. This also helps make the screws more secure by giving them more metal to bite into. This fitting is going to take a considerable strain, so fix it properly. A good ball-bearing block can then be shackled to the ring on the crane. Remember that friction is the killer in these systems, so use the best gear you can. Depending on what type of boat cover you use, you may need to remove the block when not in use, so a captive-pin shackle might be a good idea.

# The Pole

The pole will be single-ended, so you only need one end fitting. A standard tapered pole can be adapted by sliding an old piece of vacuum cleaner tube over the end. These are usually about 18 inches long and can be trimmed to length. They are normally wider at one end, and sliding on this end helps to achieve a secure joint. The pole will be under compression, so there is no danger of it coming off.

A (very) cheap alternative is aluminium TV aerial pole. These are about 40mm diameter and untapered, but they are strong and come in 3m lengths which can be cut to suit.

The rules measure the pole from the front edge of the mast to the outer end of the pole (2025mm), but the pole itself can be longer provided that it can not extend further from the mast. I have found it preferable to use an over-length pole, and allow the inboard end to lie alongside the mast rather than pulling it out in front of the mast. Just ensure that the attachment point of the outhaul line falls where the pole rests against the widest point of the mast, so that the pole can pivot around this point. The sleeving on the mast will also help to prevent chafing damage at this point.

A stopper should be placed on the outhaul where it enters the mast block to ensure that the pole stays within legal length.

If you use a shorter pole that pulls out in front of the mast it may well get stuck there when you come to retrieve it or, worse, it may slip round the other side of the mast!

Ensure that the inboard end of the pole is well padded. They fly in quickly, and sharp edges could do a lot of damage to you or your crew!

# The Outhaul

This needs to be very low stretch and thick enough for comfort when pulling it out. I use 8mm. Drill a hole in the pole at the attachment point, and get rid of any sharp edges around the hole. Push the outhaul through from the outside, and knot it inside.

The attachment point will be near the top side of the pole, but slightly towards the mast side. The placement of the attachment along the pole needs to be carefully measured so that you get the maximum extension (within the rules) when the attachment point lies alongside the widest point of the mast.

The outhaul then passes up through the block on the mast and down, in front of the mast, to a turning block at the foot of the mast. This block should again be low friction, and as low and as far forward as possible.

It is a good idea to fit a fairlead of some sort to the mast at gooseneck level, to prevent the pole trying to launch itself between the mast and it’s own outhaul. This does bring proceedings to a sudden halt! I use a standard plastic bullseye tied with thin line around the mast. Anything that keeps the outhaul close to the mast at this point will work.

The outhaul then goes back to the helm in a straight, friction-free line. It should then pass through a good quality camcleat before going through a final turning block to the helm’s hand, so that it will autocleat as it is pulled. If you can, mount the cleat the right way up. It can be mounted sideways if you can only fit the assembly on the side of the plate case, but do not mount it upside down - it will pop out, and your pole will fly in at the worst possible moments!

# The Uphaul

The single ended pole allows the use of a rather novel, but very effective, uphaul arrangement. The pole is supported by a fixed length wire, secured to the outboard end of the pole, and to the mast immediately below the jib halyard exit. The wire passes through a simple floating ring, and to the ring is attached the adjustment line. This can enter the mast through the old uphaul entry point provided it is at a reasonable position, preferably around 2950mm up from the foot of the mast. This goes back down the mast in the usual way. This uphaul adjustment simply “tweaks” the fixed wire in towards the mast, shortening it’s effective length, and raising the pole. The arrangement is very powerful, and you won’t require any additional purchase. The ideal mast entry point for the adjustment line is where the pull will be perpendicular to the mid point of the fixed wire.

The down haul can be whatever you used before, but slightly longer because it has to go to the end of the pole and not the middle.

# The Retrieval Elastic

The stronger the elastic and the more tension it is under, the better the pole will fly in. However, this also makes the pole harder to launch. The answer is to make the elastic as long as possible. Ideally, it should start at the outboard end of the pole, passing freely down inside the pole and out through the inboard end. It should then enter the outboard end of the boom through a ball-bearing sheave, and go back up inside the boom to the gooseneck end before going round a block and back to the outer end. This will give a stretched/relaxed ratio of 4/3, and a good balance between speed of retrieval and ease of launching. Watch your heads!

# Using the System

The crew hooks the guy to the end of the pole as the helm hoists the kite. The crew then sets the guy or twinning line while the helm launches the pole.

When gybing, the helm releases the outhaul from the cleat, causing the pole to fly in. The crew then takes the guy from the end of the pole, and pulls the spinnaker around to the new leeward side in the normal way whilst the boom is gybed. The new guy is then fixed to the pole end, and the pole is re-launched on the new gybe. The new twinning line can be pulled down before the gybe, and the old one can be released afterwards.

For the drop, the pole comes in first allowing the crew to unclip the guy and start bagging the kite, while the helm uncleats the halyard.

# Other Tips

If you are using this system, you almost certainly have an underweight crew, and you are overpowered on windy three-sail reaches. You can considerably alleviate this by dumping the kicker to whatever extent is necessary. Since I mean seriously dumping the kicker, you have to ensure that your kicker system has enough travel – 100mm or more!

This amount of travel simply can not be achieved with a three-part cascade. Consider switching to a two-part cascade with a 4 to 1 pulley system on the end, or to some other system that gives sufficient travel. Once you can dump enough kicker, your boom may assume a very unnatural angle, but the top half of the main will be completely twisted off, and the end of the boom won’t hit the water!

One of the advantages of using an auto pole system will become apparent the first time you gybe in a following sea. Whilst everyone else is nose diving because their crews are standing by the mast struggling to fix the pole, your crew has only to attach the guy and can then move well back. Just smile as you pick your way through the broaches and capsizes!

You will also find that gybing can be very quick. Go for the inside lane, and blast over the opposition with a full kite whilst they are still rigging their poles!

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