

Improved Telltales – How to make them

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The standard telltales (small strips of cloth) as supplied on the Jeckells sail are not very good. It's possible that you think the sail is set correctly because the telltales look right, but in fact you are not developing optimum power from the rig. This is because they are not sensitive enough. What you need are better telltales that give you much better information about the airflow across the sail.

This article tells you how you can make super-sensitive telltales and how you can interpret the information they give you.

The leech telltales are sewn into the sail so unless you are into sail surgery then you will have to make do with them. Fortunately, they work quite satisfactorily to show if the wind is stalling off the back of the sail, so you can leave them alone. The ones to improve are the luff telltales closer to the mast. They are fixed a little away from the luff so as not to be affected by the separation bubble caused by the mast. About 40 – 50 cm is about right. These are the ones we are going to replace.

Making your own improved telltales - Step-by-step

You can use wool to make telltales but I have found that they tend to stick to the sail. Also, they do absorb water so take a little time to dry when wet, say after a capsize.

1. Find yourself some 4mm 12 strand Dyneema (Marlow Excel D12 or similar). I usually keep any offcuts after splicing for strop/bridle, etc. so will usually have a bit of spare. If you don't have any then there should be someone at your club who will give you a bit of spare – you will only need 12 inches or so to make enough telltales for 2 sails.

Dyneema is an excellent material for telltales. The fibre combines high strength with low density, resulting in high performance-for-weight basis. It is also very abrasion-resistant and has extremely low diameter for its strength. We'll be using many hundreds if not thousands of individual fibres for our telltales. Importantly, Dyneema has extremely low water absorption so that the telltales will dry out quickly. Also, if you follow my instructions, they will be super-sensitive with Gossamer strands. They will pick up with the slightest of air.

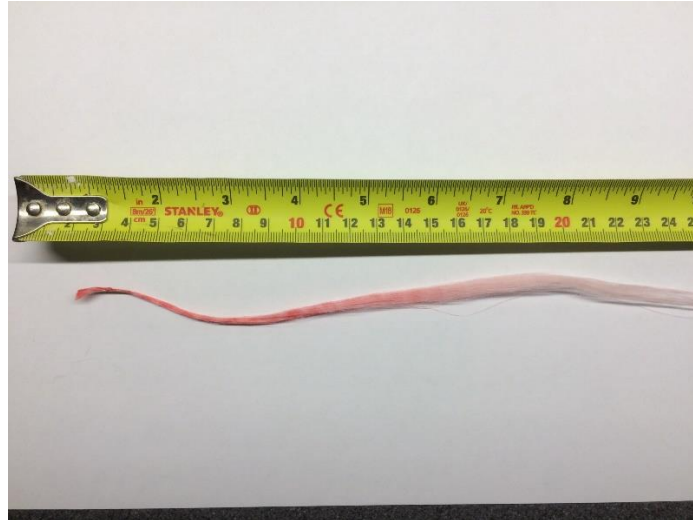
I managed to find some red coloured Dyneema, which looks good on my black sail cloth, but the colour is unimportant - black is just as good. They tend to bleach to grey after a while anyway.

If you haven't got Dyneema then you can take the inner core out of some control line (say Marlow Excel) and use that. Although it's Polyester, it works almost as well.

2. Cut off about 12 inches and start to unravel the strands. You should end up with 12 individual lengths. With each length, tie an overhand knot at one end. This will be the end which is fixed to the sail.
3. Now for the fun bit. With each strand you need to unravel all the fine fibres. There are literally hundreds of separate strands. It's a bit like combing out doll's hair, but much more difficult. The more fibres you tease, the more sensitive the telltales will be. After much experimentation I found the easiest way is to use a wire brush (or maybe a dog brush) and start from the tip working towards the knot, against a surface like a chopping board. You can be very brutal with the wire brush as Dyneema is very strong. You

will lose a few strands but don't worry about it. It should take you no more than a minute to do each one. You may get some knots at the tip, but you'll be cutting the end off shortly anyway.

4. You will end up with a telltale that looks like the one below. Then do the same for the rest of the lengths.



The ends will be a bit ragged, so cut off the ends neatly with Dyneema scissors (see my splicing scissors review). You can cut the ends with the Electrician's scissors (Screwfix Product 96347 £14.50) but they must have good blades. I found that cutting the telltales to 4 or 5 inches is about the right length. If they are too long they will tend to fray at the ends and stick more easily to the sail.

You will need 6 telltales for one sail.




5. The final stage (which is optional) is to waterproof the telltales. Although the Dyneema doesn't absorb water, you will find that the fine strands will hold some water due to surface tension between the fibres. I found the best way to reduce this is to spray with a waterproofing coating. I used Nikwax, which is used to waterproof outdoor shoes. It is environmentally friendly, water-based and comes in a convenient spray bottle - see <https://www.nikwax.com/>. It can be purchased at Go Outdoors, The Range and other outlets. Soak the telltale in the solution and allow to dry. You will need to separate the fibres again which you can do between thumb and forefinger. Now you have your 'ultra' telltales which will be better than anything you can buy.
6. Fix them to the sail using the existing tabs – just peel off the tab enough to release the old telltales and fix the tab securely over the knot. Ideally this needs to be done in the warm and dry.

Before you hoist your sail, it's worth having a look at the telltales to see if they are not too splayed out – you want them just tight, so run them between your thumb and forefinger to bunch the fibres up a bit.

Now that you have a set of supremely good telltales, you need to know how to 'read' them.




Using the 'Gears' – what Upwind gear are you in?

1st gear (Power): Both windward and leeward telltales streaming straight back. Maximum power mode. You want to be in first gear when:

- Power
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- Straight line sailing in light winds
 - Light wind sailing when the wind is lighter than the waves
- Streaming
- 
- You are on the start line and want to accelerate fast with power
 - Punching through waves (where you need momentum = power)
- Streaming
- 
- Sailing in bad air
 - After tacking to accelerate
 - When you want a wide 'groove'

Keep the boom out towards the aft corner of the boat. Ease the mainsheet and outhaul. Top leech telltale streaming back, not flicking. Top batten to leeward (sail twist).




2nd gear (Maximum Speed): Windward telltales stream upwards from horizontal say 10 – 40 degrees. You want to be in second gear when:

- Speed
- 
- Flat water sailing in light or very light winds
 - Sailing through chop – medium breeze
- Aft at 10-40 Deg.
- 
- You want to accelerate a bit more into third gear to point better.
 - When you need to be in 'footing' mode
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- When you are in first gear and want to point higher
 - When you're in third gear and want to change down to go faster.

Boom a bit further in towards the centreline. Mainsheet trimmed so that top batten is parallel to boom. Top leech telltale flicking back 20% of the time. Moderate kicker.


3rd gear: Windward telltales stream upwards from horizontal at 45 degrees.

You want to be in third gear when:

- Pointing
- 
- You want to be in high pointing mode
- 45 - 90 Deg
- 
- Moderate breeze, over 10 knots
 - In lighter winds but only in very flat water – not in waves – this is very slow
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Boom even further in towards the centreline. Mainsheet trimmed so that top batten is slightly to windward. Outhaul tighter, tight leech with even more kicker. Top leech telltale flicking back 50% of the time. As you point higher, the windward telltale will rapidly move upright or occasionally forward – but your speed will drop.

4th gear: Windward telltales stream straight up. Very twitchy luff. You want to be in fourth gear when:

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- You have too much power and want to depower (pinch to lose power)
 - You cannot hike anymore to keep the boat flat
 - Moderate to heavy wind when the wind is stronger than the waves (when you put the bow down to get through the waves)
 - Survival sailing.

Boom further off centerline. Mainsheet trimmed tight but eased to keep the boat flat, Top batten to leeward. Outhaul tight to remove power from foot of sail, kicker hard on to keep leech tight when mainsheet eased, Cunningham on hard to move draft forward. Usually, unless you are over-powered, keep out of 4th as it's relatively slow.

Reverse gear: I'll let you work out this one! Very useful if you are head to wind and stalled, or if you are over the start line ... and yes, it is an option (but not fast). Remember to look behind you for other boats!

As a general rule, if the boat feels fast compared to boats around you then you can trim the mainsheet a bit harder – this will make the boat point higher. Conversely, if you feel you are slower than boats around you, then ease off the mainsheet. This will give more power (lower gear) and build more speed, which is a pre-requisite for higher pointing. Once the boat feels like it's going faster again, trim the mainsheet a touch harder, and back through the cycle – ease off once the speed falls off. By easing and trimming constantly, you'll be keeping the boat on the edge of maximum trim. However, this only works if you concentrate very hard. If the wind is light, shifty, there are waves, or if you are not mentally up to it, then you are better to ease the mainsheet and sail with a little less height.

If you see a mismatch between the upper telltales and those lower down, then you haven't got the right twist in your sail (kicker not set correctly). For example, if the upper telltales are twitchy but the lower ones are streaming nicely, then the upper part of the sail is effectively oversheeted. This indicates in light air there is not enough twist, and in a breeze your leech is hooked, so slacken off your kicker. If you have too much twist, the opposite will be true – the lower telltales will be lifting with the uppers streaming – more kicker is needed. You can use the top **leech** telltale to indicate twist – it should flicker forwards some of the time when sailing CH.

Always keep the leeward telltale streaming - a leeward stall is very slow.