- [Narrator] Welcome to the "Inspire and Learn" series. We are TMG Yachts, a multi award-winning dealership in Australia, specializing in multihulls, power and sail. Join us as our expert team teach you all about anchoring, docking, rigging, sail trim, maintenance and so much more, so you can build confidence in your boat handling ability. In this episode, Joe teaches us how to prevent chafing and what the critical chafing points are on a cruising catamaran. Enjoy.

- Hello and welcome back to another "Inspire and Learn" episode. My name is Joe Fox from TMG Yachts formerly The Multihull Group. You will notice we have undergone a name change but it's still me, I'm still the same person doing exactly what we've always done. Today, we're on board the Lagoon 42 and we are going to look at a few of the methods and processes for managing wear and tear and chafing on a cruising catamaran or a cruising vessel of any kind. Sailing long distance across oceans, even short weekend day sails can induce quite a bit of wear and tear on the rig. So we are just going to have a look at the methods for managing that, maintaining that, and getting onto those fixes before they become bigger problems. I'm joined on board today by Russell. He recently joined the team at TMG. He's gonna be helping me on board. You'll see him in some of the background of the shots and hopefully getting a bit more involved in some of the episodes in the future. So welcome, Russell.

- Thank you very much. Okay, it's good to be here.

- So now that the sails are set, before we head back up there and have a look at the sails, the ever important dinghy on the back of your boat, you need to make sure that sailing offshore, especially if there's a bit of swell, the boat's moving around, that the dinghy is securely fastened. Now this one here, it's hanging from the davits by two lift points and it's also tied very securely into the vertical post here. So, you know, this is not moving around at all. My concern would be that if this was moving a little bit there would be damage to the tubes of the dinghy which you obviously don't want, as well as potential fraying and damaging of the Dyneema straps up here. So a dinghy that's not moving around is much safer and more secure than a dinghy that's moving around a little bit. Let's head back up to the sails now. So making our way up to the bow of the boat, we'll start with the jib. This is the sail on the very front of the boat. It's a relatively simple sail. There aren't many friction points on this compared to the main sail, but importantly it runs on a furling line. Now this is controlled from further aft and this line runs all the way along down the deck, through these little eyelets, and then round a turn buckle just in front of me here. This line can take quite a lot of weight especially when you're furling the jib and it's important to check that this line isn't catching on any sharp edges or wearing out over time as it feeds into the drum that we have here. I'll head now up to the clew which is the other high wear point on any jib. The clew is on the back edge of the sail just above the deck. Now on this Lagoon 42 we have the clew attached to a self tacking sheet. So we've only got one sheet, runs from the controls, down the mast, there's a block on a slider here and then another block on the clew of the sail. Now this block on the clew of the sail can actually rotate. So it's important as you unfurl the sail that this line is not twisted around itself. If it is twisted around itself, it can wear itself out and it'll be very hard to control the sail. So make sure that this line isn't twisted. In terms of chaffing, there's a bowline tied onto the lower block. Make sure that that's not eating through that there are no broken fibers. And yeah, this is easy to see. It's nice you can see it from the helm station. Come up here and we'll look at the main chafing and wear points on the mainsail. So there is quite a bit of rigging that goes into the mainsail. We have the halyard holding the main up from the top and then we have a tack, and a clew along the back edge. Now one of the main chafe points can be the main halyard and where this enters the mast at the top. The main halyard is a two to one halyard and there is a block on the top of the sail. So the halyard starts fixed at the top of the mast, it goes through the block in the top of the sail, up again into the mast and then down to the controls which we use for hoisting. It's quite easy to get a little bit of chafing up the top of the rig where the halyard goes into the mast. So it's important that, again, like the jib that we just looked at, that your block isn't twisted as you're hosting the main so that the block is nicely in line with the sheath in the top of the mast. Sailing up wind, it's normally not a problem because the sheath and the block are in line but sailing downwind, which we'll demonstrate now where you ease out the boom and ease out the sail, this can twist the block on the top of the sail and cause chafing on the edge of the sheath where it enters the mast. We have just jibed the vessel and we are now heading down wind. We're on about 130 to 140 degrees off the wind. I've eased the main out using the traveller. So now I'm just gonna crack the main halyard off to relieve pressure on the block and the sheath at the top. It doesn't take much and it doesn't really ruin your sail shape at all but it just relieves a bit of pressure. I'm gonna let out maybe three or four inches and that will have taken a whole lot of pressure off the systems at the top. So if it is rubbing on any edges or over any corners there's less chance of it cutting through the rope. Now that we're sailing downwind, on any catamaran, generally catamarans don't have a backstay to stop the mast falling forward. So what we have on this cat is shrouds which are swept back very far and this means that they actually come into the path of the sail when you are sailing downwind. I'm looking up here and I can see that the batons and the sail are actually touching the shroud which is holding up the rig. Now this is fine, you know, for 10 minutes while we're on this tack inside Pittwater, but sailing offshore, you know, for a week, maybe a week and a half, it will cause a few problems on the battens and the sail, if it's constantly touching the shroud. So in order to mitigate for that I obviously want to sail downwind, so I want my sails to be out as far as they can. I'm going to ease the traveller down. So the traveller will be lowered. This will allow the sail to move out as we want it sailing downwind. But I'm going to pull in on the mainsheet and the pulling the boom down will just tighten up the sail and I can tighten out just enough in the conditions so that it pulls the battens and the sail off the shrouds to reduce any damage on that back edge of the sail. So we've looked at the main chafe points when sailing downwind. Now let's put a reef in and have a look at reefing lines. So we've just put reef one in on the mainsail. If you do want to learn how to put a reef in in more detail we have covered this in one of our earlier videos, so scroll down to have a look at that. So what we can see here the yellow and white line is reef one. This comes out of the boom from the back end of the sail. It goes up through the reefing point number one on the mainsail and then down through this spectacle which is riveted to the rig. This goes down to the winch that we pulled it in on. Now it's important that this whole setup here, there aren't too many sharp angles on the line. So you can see this eye here is nice and smooth on the inside. There's no chance of that line wearing through. This line where it goes into the boom, although close to the the capping on the boom, there's no chance of anything cutting through the line there. The spectacle on the rig is probably the highest chance of where you're going to come into trouble and it's important that the line does not turn too sharply over this top edge. If this eye was 12, 13 centimeters further down then this reefing line would be turning a right angle over the top edge of the spectacle and that's where you're going to run into trouble. So you want to minimize the angle that the line has to take to get around the spectacle without having this eye too high. If this eye is too high then the reef's not in properly and you can't tension the sail in the best way. Heading to the back of the boom, again with reef one still in, we'll just have a look at this. It is not as much of a high chance as chafing as at the front end, but it's important to know what is right and what is not right. So the eyelet here is about 10 centimeters off the boom. That's fine, it doesn't need to be any closer. The sail is being pulled down enough and it's being pulled aft enough. So the bottom edge of the sail is nice and flat. If this goes too tight, this eyelet may come down to the boom and actually touch the boom. And while it's not gonna do huge damage, it is gonna damage the boom and potentially the eyelet. So best to have a nice gap here. It's also important just to check this position, check the bowline that ties the reefing line around the boom and just check for any rubbing points. You know, a good way to do it is just to run your finger over any sharp edges, of which I can feel none. So I'm fairly confident that that's set perfectly. So that's just about wraps up what we're going to cover. Look, we've covered some of the major chafing and wear points on a cruising catamaran. There are many more, some of which you might not know about. Some might come to light after your delivery or even after owning the boat for a couple of months. It is important, I should add, to regularly check all wear points on the rig. And it's really just a fact of due diligence that, you know, if you're sailing offshore for a number of days, a number of weeks, you want to do at least a daily check on all moving parts of the rig. Access, obviously, to the top of the mast is a little bit more tricky but I suggest a good pair of binoculars is pretty good for that. If you are becalmed, if it is very flat, then maybe go up and check the halyard at the top for any wear. But really you want to just keep on top of these little problems that can become bigger problems, if they do break, when the weather's less than ideal. So all of these wear points do have varying consequences depending on the function of the rope or line or fabric that's involved. The most important is probably the main halyard as this has the most, you know, significant consequences, if it does break through. We will talk through a solution and a method for re-rooting a main halyard, re-mousing a main halyard. There are multiple different words for it, but that is something that we will cover in another video. Part of being a responsible skipper or captain on a cruising vessel is really being on top of your rig, really inspecting it regularly and maintaining it so that you're preempting little issues before they become bigger problems. We do hope you enjoyed this video. It was great to have you along. It's been good, we haven't done an "Inspire and Learn" episode in a while. It's good to have Russell with us. So thank you Russell for joining. If you did enjoy this video, do like and subscribe to be updated when we do release more Lagoon catamaran related content. From Joe Fox at the team at TMG Yachts. Goodbye.

- [Narrator] Join us in the next episode for more how-to videos, so you can build confidence in your catamaran handling ability. See you then.