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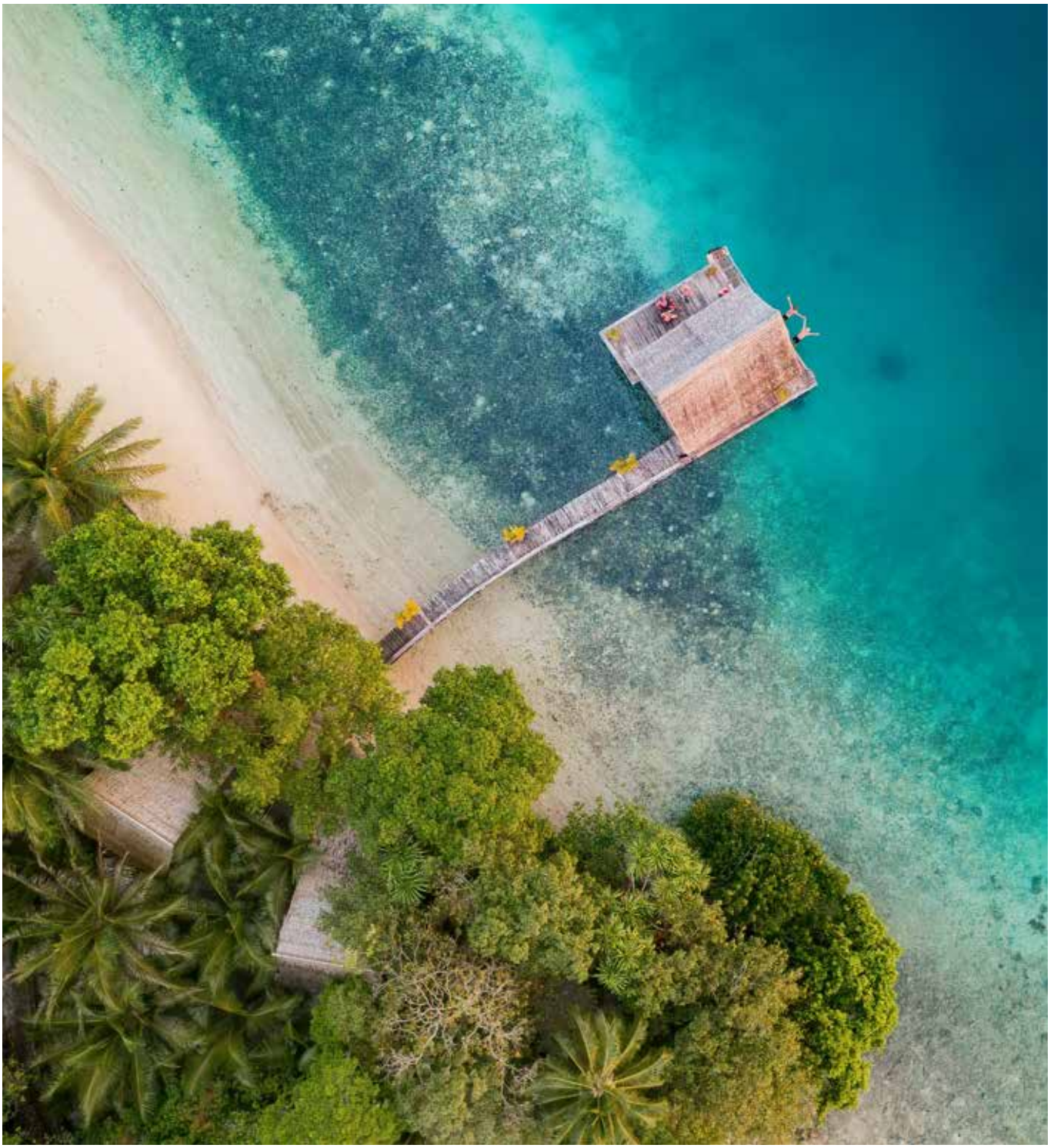

TROPICAL ISLAND ESCAPE TARGETING TREVALLY MAGNIFICENT MARITIMO S75
CREATURES OF THE NIGHT SWITCHED-ON SEA-DOO TRIMMING TO PERFECTION

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CORE STRENGTH

Your boat depends on its core strength – keeping an eye on these maintenance issues will help it stay strong and healthy.

By Michael Weston

One of the main causes of deck core saturation damage is water leaks through where deck-mounted hardware is installed and secured. Plywood and balsa are commonly used as a core material in decks – since timber-based core materials are organic and can rot, it is essential for the core material to be protected from the elements, especially water.

Fun fact: the term 'deck' is defined as the structures forming the horizontal surfaces in a vessel's general structure. Consider the foredeck, side decks, bulwarks, and cockpit as horizontal surfaces in this article.

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Additionally, since hardware and components are similarly attached to the wheelhouse or superstructure, and also possibly of timber construction, we will refer to those areas in this article, too.

The next question may be: do you have timber-cored decks? Many boat manufacturers

Above: When you see moisture like this, repair the damage thoroughly and find the leak source.

A wet core can lead to many issues

utilise balsa or plywood as a core material in decks due to cost, diagonal stiffness, ease of use and availability of materials. There are also foam- or composite-cored decks, which may be used for a lighter weight factor, but come at additional cost. Foam cores may or may not be impervious to moisture or the elements and are better protected when sealed, so on we go.

Top: Immediate attention is needed to replace the missing sealant in this hawsepipe, which is prone to vibration and stress.

Above: Rust stains indicate a lack of sealant around fittings.

Right: Moisture from leaking decks migrates to lower parts of the cabin. Here, the cupboard hinge screws will eventually fail.

SPONGY SPOTS

Have you noticed mysterious moisture stains on the overhead of your interior, or is there water showing up in places on your boat where it shouldn't be? Does it feel 'spongy' or soft when you walk on it, or perhaps your surveyor or shipwright has said 'there are high moisture readings on the deck'?

Let's explore minimising or eliminating these potentially expensive events by utilising a simple periodic observation while 'walking your deck'.

FASTENED TO THE DECK

There are quite a few components that are mounted to decks and superstructures: rails, pulpits, windlass, cleats, hatches, chocks for tenders, antennas, and so on. These are all mounted with fasteners and some form of marine sealant.

When attaching such components, the sealant forms a watertight and airtight seal between the surfaces, protecting the boat's core and keeping moisture from travelling to places it should not go.

Additionally, sealants such as polyurethanes provide an adhesive bond, hence improving hardware attachment beyond 'fasteners only' strength.

That said, the objective is to keep the – possibly wooden – core of your decks free of moisture and the hardware secure.

A wet core can lead to many issues: mould, fibreglass delamination, interior weathering, and even structural failure, and the repairs are labour intensive and costly.

During your periodic observations, whether it be by yourself or your local marine professional, focus your attention on the following:

- Missing fasteners or open holes where components or fasteners might have previously been
- Missing, damaged or cracked caulking/sealant where components mate or attach to your boat, including windscreens
- Chips, splintered GRP or damaged areas exposing the core

- Rust stains seeping from under components, especially around fasteners securing equipment such as rub rails or stanchion bases
- Moisture stains in the overhead of the interior
- Soft spots or discolouration on cored fibreglass decks.

EASY MAINTENANCE

- Always replace missing fasteners and/or seal open holes where fasteners or previous equipment may have been installed
- Repair or replace any sealant that may be cracked, missing, hardened or damaged
- Repair any chips, splintered fibreglass or damaged areas that may be exposing wood core to the elements. Rust stains seeping from under components not only means potential exposure to the core, but also possible leaks and failing fasteners. Inspect these areas, replace corroding fasteners if required, and reseal
- If moisture stains appear, whether it be around a hatch or in an overhead locker, find where the moisture is coming from and repair.

Finally, it is possible that you discover a soft spot or your surveyor finds a high-moisture area or delamination and brings it to your attention during a survey: do not let these go unattended. Discuss the required solutions with your surveyor or shipwright regarding a proper marine repair and preventing further damage.

If it appears that there is delamination, visible core damage or high moisture readings, scrutinise your options and perform proper repairs. Shortcut repairs will always come back to haunt and cost more than if the repair was conducted properly in the first place.

RUST STAINS

A note on rust stains: fasteners such as bolts and screws are often made from a lesser grade of stainless steel that might be less corrosion-resistant than the piece it's securing, such as a cleat or stanchion.

Lower grades of stainless steel will usually offer similar performance and longevity at a lower price point. A fastener replacement with new sealant will generally cure the issue.

MARINE SEALANTS

A brief explanation regarding marine sealants: there are several choices on the market, ranging from silicones to polyurethanes and a few in between.

Polyurethane sealants were specifically developed for the marine market. They cure on exposure to atmospheric moisture and are excellent for elastic joints, are vibration resistant and also used for below-waterline applications. Due to the strong adhesive bonding qualities, they are usually recommended for permanent bonding.

Silicone sealants, while easy to use, do not have the adhesive strength found in polyurethanes – there is more of a reliance on mechanical fasteners to maintain grip. It may be categorised as a gasket material rather than a sealant.

However, silicone is more compatible with plastics, particularly good for isolating dissimilar metals, and resistant to chemicals. Silicone is not paintable while polyurethanes are. Refer to manufacturer directions before using any of these materials.

Wrapping it up, when a vessel is surveyed, the decks are only part of a complete survey. I find, however, the areas most prone to failure on decks are those that take the most amount of force during the life of the vessel: windlass, bow roller, cleats, stanchions and rails are always of high interest. They should be in your sights as well – in terms of structural integrity and their sealant, too, to ensure they're in good form to do their job and to ensure your boat's core remains dry and protected from the elements. CM

Above: Corroding fasteners in a stanchion base need to be replaced and resealed.

Below: Splits in window sealant are another potential leak source.