

Chain plates

by Art Hall #36

Perhaps no subject has incited so many questions and concerns as chainplates; and for good reason. No one ever wants to experience a dismasting.

Backstay:

This chainplate is lagged into a sizable oak knee with three bronze ½" lag screws. The knee is then glassed into the lazarette effectively burying the fasteners and stainless steel chainplate and making it impossible to visually inspect. Allied did a lot of things right, but this perhaps is a flaw. Water will eventually find its way through the deck seal, travel down the plate, saturate the oak, and threatens the stainless steel with corrosion. The only way to really know what's going on in there is to grind away the glass. In my case I found the top lag completely wasted, a little corrosion on the second one down and the bottom lag looked perfect. So you just never know what you're going to find. If your chainplate is loose and can wiggle I would recommend immediate action.

If there is any question regarding the condition of the metal, now would be the smart time to replace it. Use a good grade of Stainless Steel such as 316L. (L for low carbon) A quick test with a magnet will let you know you have the right stuff. Another choice would be a piece of bronze flat bar.

When re-glassing a new wood knee in, use good secondary bonding practices and make sure you re-establish an effective deck seal. As an alternative you can through bolt a new chainplate directly through the transom. A very strong and serviceable approach. But it's a shame to deface that perfectly proportioned Seabreeze transom.

Original boats.

Forward lowers:

The forward lower chainplates are simply through bolted to the forward cabin bulkhead. Any inspection should pay close attention to the bulkhead and make sure rot has not set in. Likely the plastic laminate has created a barrier to protect the plywood. None the less, water can migrate into the plywood and compromise.

Aft lowers:

The aft lowers are similar to the forward except that there is a wood block stand-off. These spacers provide some protection from water ingress damaging the plywood bulkhead.

Uppers:

These are perhaps the most difficult to deal with. The chainplate is attached to a gusset. I know that the gusset on #36 is solid glass with no wood core. But I've heard that other owners have found plywood gussets. Obviously the former is preferred. Allied really had a bad idea when they covered the installation with another layer of glass which effectively buried the chainplates under glass. Like the backstay, they are not readily accessible.

Many owners have noticed a tell-tale rust streak. Clear evidence they must come out for inspection. You must access the bolt heads and nuts. A fairly simple way to accomplish this is to use a Dremmel tool with a carbide burr to clear away just enough glass to get sockets on the fastener. This will not compromise the strength of the installation. Once the fasteners are out, the chainplate will wiggle out.

Citation Boats:

I have no experience with the Citation variation but I'm told all chain plates are attached like the original boat uppers.

The plates:

Once you have the chainplate out these must be assessed. This can include various types of NDT (Non Destructive Testing). Visual, Dye Penetrant, Magnetic Particle are options. But after 50 years of service, perhaps it makes as much sense to order replacements out of quality, polished 316L stainless steel or bronze. Don't for a minute think that Stainless Steel is some sort of super material. Just because it doesn't rust like carbon steel, don't think it isn't susceptible to corrosion..... and failure!

After you have reinstalled you old or new chainplate with new fasteners, it is imperative that water stays out. Re-seal your chainplates on a regular basis and keep a sharp eye for even the slightest leakage. Don't ignore signs of trouble.

Once you have overhauled, renewed, sealed your chainplates you can rest easy knowing they will do their job. If you only do one deep-dive maintenance effort, let this be the one. Your life could depend on it.