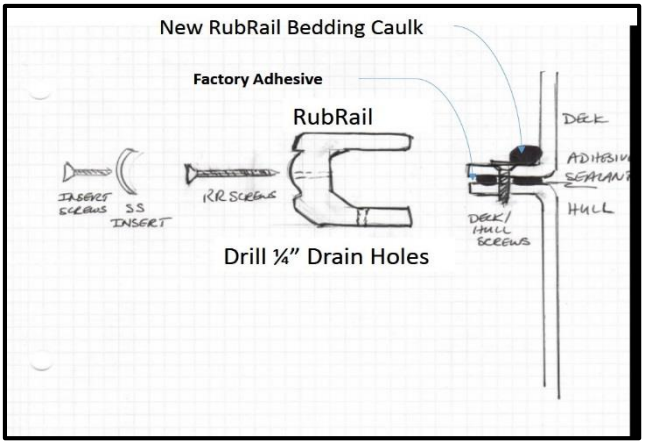
Repairing My MS 34 HT Hull-Deck Joint

A common problem experienced on many year / model of Mainships as well as other make model vessels, is water intrusion into the engine room. Several MS owners have experienced this problem and have identified the root cause as a poor the hull-deck joint.

Late model MS Trawlers use a Flange / Flange seal [see FIBERGLASS BOATBUILDING: Hull-Deck Joints for details] which is hidden behind the Rub Rail.

See this link for a fabulous HOW TO and photos of a typical MS Hull-Deck Joint. Many thanks to Steven Cyr who has done a fabulous job of capturing and sharing his Mainship projects and information.



The problems identified include (gaps) in the factory applied adhesive / sealant and loose or missing fasteners of the hull-deck joint. The best and most permanent way to remedy this is to remove the rubrail (SS insert strip AND PVC backer) and seal the hull joint.

WARNING NOTE: The choice of sealant material for marine applications is a controversial one. You will find differing opinions and will have to decide what sealant / caulk to use.

There are many opinions concerning the use of silicone caulks & sealants…and I believe there are as many folks that swear at silicone use as swear by it. I would advise doing your own investigation and research before deciding which sealant to use.
(See useful links below and do your own searches)

I used and would recommend 3M 4200 - See the - Marine Adhesive Sealant Info
3M 4000 can also be used... it is just the fast set version.

NOTE: I am NOT a fan of silicone sealants / caulk - reasons are:

1. They are not the best adhesive and can separate relatively easily
2. Once applied they are difficult to remove completely
3. Any residue prevents good adhesion of reapplied sealants - even more silicone
4. There are better alternatives available

I needed to replace many missing / loose hull-deck screws. If you replace screws you may need a grinder to grind / cut off the points as a screw short enough to not protrude through the bottom of the hull flange will likely not grip well in the hull flange due to the hole size. A better fastener choice is a flat head bolt and nut

After sealing the hull / deck joint as shown - I bedded the rubrail by placing a good size bead of the 4200 at the top inside of the deck flange so when replacing the PVC rubrail it is sealed along the vertical edge. This provides a larger and more permanent seal than simply placing a small bead at the external deck / rubrail intersection after the rubrail is in place. Per Steven's suggestion - I also drilled a few small (1/4") holes in the bottom section of the PVC to ensure a place for any water that does get behind the rubrail to escape.

While I can’t guarantee if this is truly "permanent" I would venture to say it will outlast any attempts to seal the hull / deck joint externally without removing the rubrail..

Useful links & references:

West Advisor - How To Select Sealants & Caulk

Silicone: versatile, quick and easy to use, elastic and highly resistant to chemicals, silicone is excellent for isolating dissimilar metals. It is not as strong in adhesive strength as polysulfide or polyurethane. Depending on compression from mechanical fasteners to maintain its grip, it’s more of a gasket material than a sealant, but is compatible with plastics. A big disadvantage is that silicone caulks leave a silicone-based residue behind that’s difficult to remove, to which nothing will adhere, including fresh silicone or paint (silicone is not paintable either, but polyurethane, polyether and polysulfide are).

Marine Sealant & Marine Adhesive Guide

Boat US What Sealant Do You Need?

“Calling silicone a sealant is something of a misrepresentation. It is more accurate to characterize it as a gasket material.”

Types of Caulking & Bedding Material

How can you remove silicone from a fiberglass tub?

“Silicone adhesive/caulking is difficult to remove from fiberglass without damaging the fiberglass. It seems to be resistant to most solvents, and anything strong enough to touch the silicone will damage the surface of the fiberglass. “