SD60 Saildrive Rubber Boot Installation

This SD60 boot installation procedure was developed based on the personal experience of live aboard cruisers installing them with our experience bonding rubber products. It is not any one company's official procedure but should work across anyones common products.

The rubber boot is designed to seal to the sail drive leg and prevent or reduce marine growth in the sail drive cavity. I have heard anecdotally that warranties have been denied by Yanmar due to the boots not being present.

Prior to Starting

- You should select boots that fit the sail drive on your boat as there is apparently some variation in manufacturing. The OEM part is usually the best choice as cheaper copies have no composition guarantee.

- Use gaskets and boots that are a snug (almost tight) fit on the sail drive leg, otherwise marine life will likely grow inside the boot.

- Everything must be dry before you begin and preferably it should not be a wet or humid day.

- Before you install the gaskets and boots consider painting the sail drive with antifoul (e.g. Propspeed) before you lose access.

- Make sure that the drain hole is not obstructed by the moulding process and when installed is orientated at the lowest point on the hull.

Procedure

1. Get the boot/gasket, slide them onto the sail drives and trace around them on the hull.

2. Remove ALL of the antifoul from inside the tracing and 15mm outside of it, taking it back to the gelcoat. You must bond to gelcoat or sealed fibreglass, not antifoul. Use 80 grit sandpaper to clean the surface of the gelcoat, but not polish it, after you've carefully rubbed back the antifoul.

3. Use a compatible cleaner that doesn't leave residue (e.g. wax & grease remover/contact cleaner/methylated spirits) and a CLEAN cotton rag to thoroughly clean the newly exposed gelcoat.

4. Take the rubber boot and use a fine motorised brass brush, steel brush or similar, or 40 to 80 grit sandpaper (the brushes are the easiest and worth buying an inexpensive one just for this) and lightly but thoroughly rough up the contact surface of the rubber boot until the shine is completely gone. You only want to rough it up, not gouge it or tear it, with the objective being to remove the shiny moulded surface. Rough up 20mm/1 inch of the outside rim of the gasket on the non contact side as well.

   Clean the roughed up sides of the boot and gasket with an appropriate rubber cleaner that leaves no residue (e.g. contact cleaner), then wipe any residue off with a CLEAN cotton rag - you do not want to introduce any grease to the surfaces.

5. The adhesive we use is Rema Tip Top SC2000. This will work if done properly and will not come off. You need to find an industrial grade rubber glue, one that would glue conveyor belts together/industrial rubber parts or similar. Search for cold vulcanising cement. You're highly unlikely to find this in a normal hardware store. If you do find an adhesive in your local hardware store that states it will glue rubber, it is almost certain that it will not be strong enough. You need adhesive from an industrial supplier.

**** At this stage I have had such mixed experiences from identically labelled Sika products from different countries, I would not recommend using them for this or windows. If you have this job done by a contractor expect them to try and convince you that whatever they have loaded in the Sika gun will work and from what dozens of people have said, no, it likely will not. Considering haul out costs and time, don't risk it.

**** If using an industrial rubber glue, follow the instructions exactly. The benefit of buying this type of glue is it can be used to repair other items on the boat (shoes etc.) and if done properly, will not separate. These glues/activators are usually highly toxic until set.

**** We strongly suggest finding two bits of rubber and practising using the rubber cement so you get used to how much to apply and when to roll the sides together. This will vary depending on climate etc. It's not hard though.

**** Do steps 6 to 8 ONE sail drive at a time to reduce the chances of a mistake.

6. Wearing gloves, (or not if you're careful) ;) take your chosen "adhesive" and apply it to the hull with something clean. Swirl it into the hull on the entire contact surface with your finger or similar to remove air and maximise surface contact. Repeat this process with the rubber boot. This is especially important if using Silicone/3M/Dow variants as "glue" because you absolutely can't find Rema SC2000. The bond will only be as good as you push the adhesive into the clean surface.

7. Assuming you are using rubber contact cement, wait until the appropriate time and surface state as per the manufacturer's instructions. Slide the boot over the sail drive then roll the rubber adhesive covered surfaces together to minimise air bubbles from the inside out. Firmly press them together all over. Take a new rounded clean plastic scraper or a small stiff fibreglass roller and press the rubber from the inside to the outside to remove any air pockets. I just use my fingers to push them hard together. <u>You will only get one chance to align and roll them together.</u>

8. Clean excess "loose" glue from around the boot then build up a 45 degree angle of "the same adhesive/Silicone based adhesive" around the outside of the boot edge to reduce water resistance. A small brush or scraper may aid in this.

9. Let the boot dry for 24 to 48 hours before launching, although this may be product dependent. In our experience it sometimes takes longer to fully cure than the product specifications suggest.

10. ****Bonus paranoid step**** Paint the gelcoat and up over the edge of the boot to the one inch mark on the boot with two layers of an epoxy barrier coat to seal and lock the entire edge. Once this is dry, paint antifoul over it. DO NOT paint until the adhesive has set and contracted after 48 hours to be safe. Consider roughing up then cleaning the existing antifoul so the fresh antifoul paint will stick better, but follow the antifoul manufacturers procedure.

I took the time to write out this procedure after reading/hearing literally dozens of "professionals" try to convince people including myself that sail drive boots are impossible to keep on without using screws/fibreglass/some combination of mechanical and chemical fixings instead. This is total BS and either comes down to incompetence, laziness or production time restrictions. Not the best interests of the end consumer of the product.

I suggest anyone who questions if their particular sail drive requires boots for warranty, contact Yanmar International and ask them to respond in writing if the boot supplied with their sail drive is actually required for warranty.