

Keel Bolts

Despite being fully sealed and bonded at the time of manufacture, the hull/keel joint is a primary target for leaks. Running aground or standing on bilge keels will increase the risk.

CAUTION: The following information is provided to assist suitable experienced marine engineers and assumes that suitable equipment and conditions are available to carry out the repair procedures. Westerly Yachts Limited cannot be held responsible for any damage incurred using the procedures.

Detection

A leaking keel bolt, will nearly always produce rust staining. This is a result of staining from the keel surface and not from the fittings which are stainless steel. Leaking bolts normally leak all the time, not just when sailing. If leaking occurs only when sailing, it is normally associated with a major structural fault which should be closely inspected. If a leak is suspected but there is no sign of staining, the following procedure should be adopted:

- 1 Dry the suspected area thoroughly.
- 2 Place a ring of 'plasticine', or similar, around the suspected bolt(s).
- 3 Check the area for signs of water within the ring. If water becomes trapped in the area, it is likely there is a leak.

Repairing a Leaking Keel Bolt

Leaking keel bolts must be tackled one at a time. Required tools and materials are as follows:

- 1 A suitably sized socket or spanner:
 - 1978 to date - Metric
 - 1975 to 1978 - Whitworth or Metric
 - Pre 1975 - Whitworth
- 2 A scraper.
- 3 Rag or other drying medium.
- 4 Caulking cotton.
- 5 Thiosulphide sealant (Keelbond or Thiofix etc.).

The following procedure is carried out from inside the hull.

- 1 Having identified the relevant bolt, remove the protective gelcoat.
- 2 Undo the locknut, using the correct sized socket or spanner (Fig. 1).

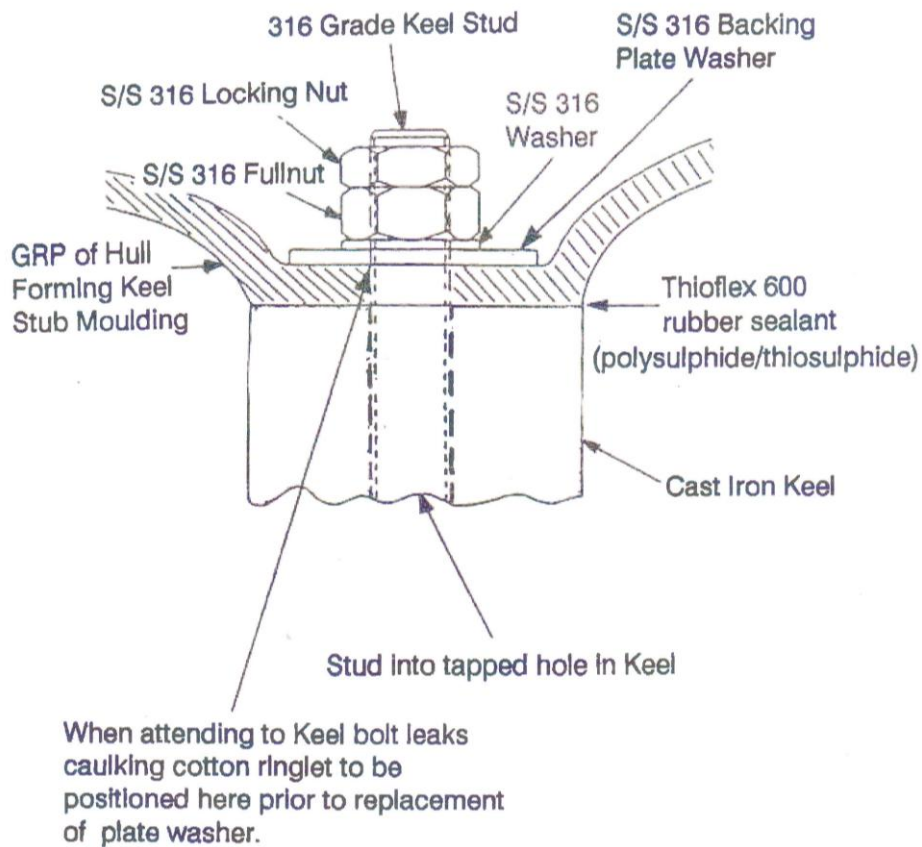


Fig. 1 - Typical Keel Bolt Installation

3 Remove the nut and small washer.

4 Remove the plate washer and clean ready for reassembly. Seepage will occur if the yacht is in the water.

5 Thoroughly dry the area using a suitable material.

6 Make up a ringlet of caulking cotton as shown in Fig. 2.

Start by forming a 4 or 5 strand loop around a finger or other suitably sized object, approximately 1/4" (6mm) larger than the bolt. Wind the cotton around the loop. Continue winding the cotton in a spiral fashion until the internal diameter is slightly less than the bolt. This will ensure a snug fit. The section through the ringlet should be approximately 1/4" to 5/16" (6 - 8mm) diameter.

7 Fit the ringlet of caulking cotton to the bolt.

8 Apply sealant to the underside of the plate washer and put in on the bolt.

9 Fit the plain washer and nut. Tighten the nut. Westerly Yachts Ltd do not use a torque setting for tightening keel bolts, but as a guide, 24mm bolts should be tightened to 150ft lbs, 20mm bolts to 85ft lbs and 15mm bolts to 55ft lbs.

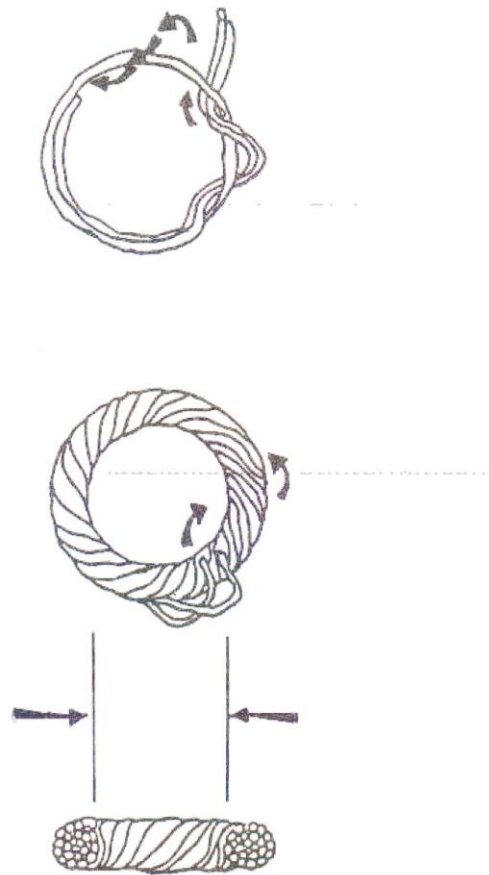


Fig. 2 - Ringlet

10 Fit and tighten the locknut to 30% of the torque figure required for the full nut.

11 When the sealant has cured, coat the whole assembly with gelcoat. Resin or paint will suffice if gelcoat is not available. This will both seal and lock the threads.

12 Regularly inspect the repaired area for signs of leaks until satisfied that the repair is totally watertight.