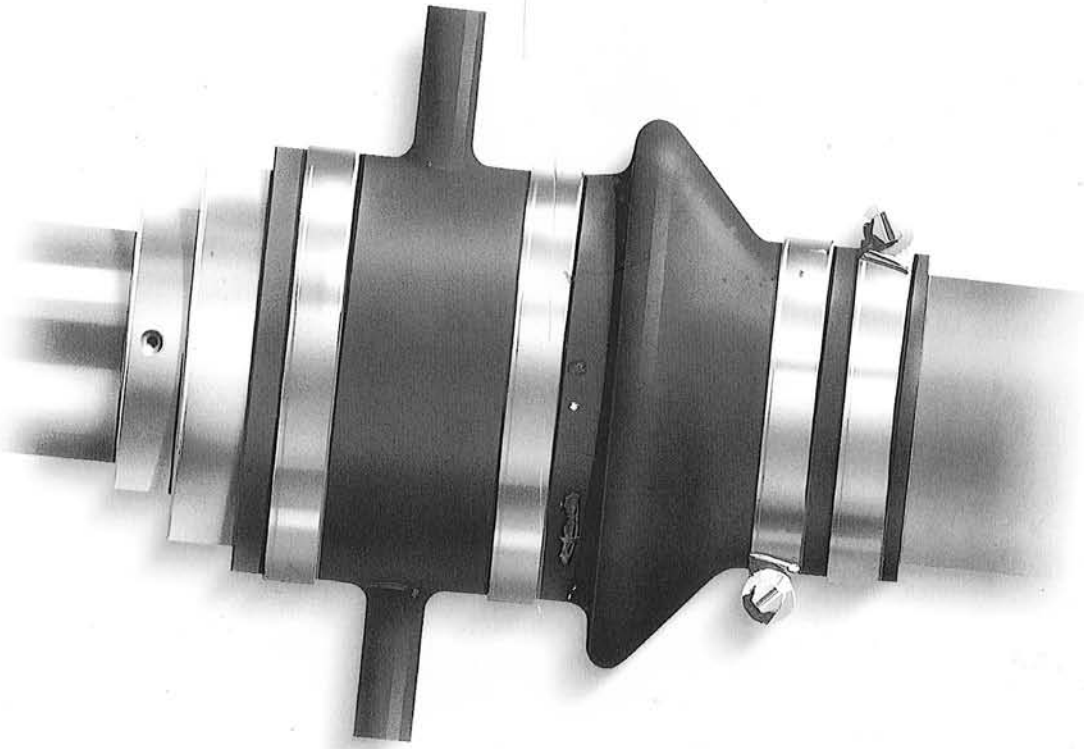
Engine oil
Shell 15/40
or equiv.

HMI
Propeller Shaft Seal Mk II



Installation & Operating Instructions

High Speed Model for Craft with Shaft Speeds up to 2,000rpm

Halyard
Phone +44 (0)1722 710922 Fax: +44 (0)1722 710975

LC40060 | HPC100579

MADE IN BRITAIN

HMI 47/02

Halyard

Halyard

HMI Propeller Shaft Seal

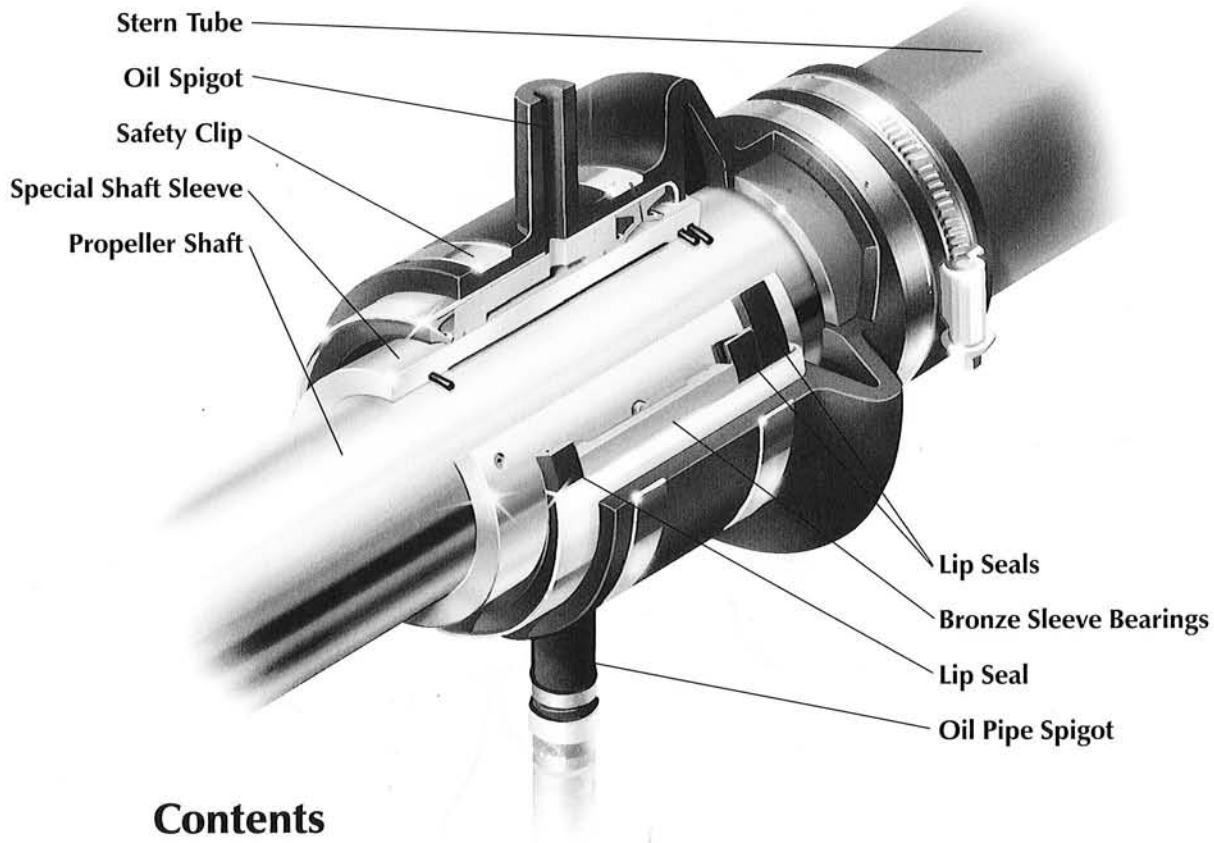
Thank you for purchasing the HMI Propeller Shaft Seal Mk II. The following information will help you to achieve correct installation and ensure a long and satisfactory life for the product. If you have any doubts about the installation, qualified help must be sought.

WARNING
This seal is supplied without oil. Do not run before filling with oil.

Running Hours

The HMI seal was launched in 1996. It is designed for pleasure craft in private use.

Commercial operations in excess of 600 hours per annum are not yet permitted.



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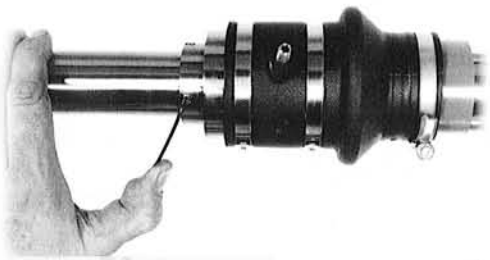
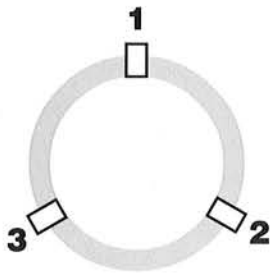
Halyard

Step 7. Tightening the grub screws





Check that the grub screws and their holes have no oil or grease in them. Clean if necessary. Apply a drop of thread locking liquid and position each in its hole. Under no circumstances must the threadlock liquid touch the black lip seal marked **A**. Tighten all the grub screws until you just feel resistance. Then tighten each slightly more until you feel real resistance. Then tighten each until the Allen Key just starts to bend. The correct torque is 0.85Nm, or 7.5lbf.ins. Remember the shaft sleeve is designed to slip in real emergency - for instance if the propeller shaft came uncoupled from the engine.

Now gently clean off any excess thread locking liquid from the delicate outer face of the rotating shaft sleeve, using a spirit if necessary.

Tip... Do not tighten grub screw except as detailed above. You will force the shaft off centre in the seal sleeve, causing the seal to run off centre.

Step 8. Positioning the oil reservoir

The oil reservoir must be positioned where it is easy to check the oil level, and to see the colour and condition of the oil in the small sight glass window on the bottom of the bottle. Remember you should do this at least as frequently as required for engine oil checks. The reservoir should be mounted on a bulkhead within 1.5m (4'6") of the seal, between 150mm (6") and 300mm (12") above the vessel's waterline. It must not be below the heeled waterline on a yacht. The bracket should be secured firmly to the bulkhead with the bottle mounted in it. Protect the assembly so it cannot be used as a step into the engine space.

Step 9. Connecting the oil feed pipes

The oil feed pipes may now be cut to the appropriate length and pushed onto one of the spigots on the bottom of the bottle, and on both the seal spigots, and clipped tightly with the hose clips provided. The remaining oil pipe should not be connected until step 10 is complete. The oil pipes should simply push onto the spigots without lubrication. The oil feed pipes should not strain or stretch the seal spigots in any direction.

Safety tip... Do not position the bottle near a hot surface, such as the exhaust.

Step 10. Filling with oil

Fill the oil reservoir with any good engine lubricating oil with a viscosity of up to 30w, or with multigrade oil 10w/30w. Lubricating oil for diesel engines can be used, but contains a detergent which may make the oil appear dark within 100 engine hours. Oil is not supplied with the seal as most delivery services will not accept it. Filling lubrication system: Arrange the system as Figure 1 with the vent pipe disconnected and the yellow end cap on the vent connected to the bottle. Insert the clear plastic tube supplied into the end of the vent pipe, the clear pipe will act as a sight glass during the filling operation. The vent pipe should be temporally supported with the clear tube level with the top of the reservoir. Fill the system to the second mark of the dipstick and leave the system to bleed until the oil is visible in the clear tube, this operation may take up to three hours depending on oil temperature and viscosity. This procedure allows the air to be expelled from the seal body and is important for the safe operation of the unit. After the system has been bled remove the clear tube from the vent pipe and the yellow cap from the reservoir connection and quickly connect the vent pipe to the bottle. Top up the system with lubricant to a level between the first and second marks on the dip stick cap. Fit hose clips provided to all hose connections. The system should now be arranged as shown in Figure 2. Allow two hours for oil to settle before running the seal.

Figure 1

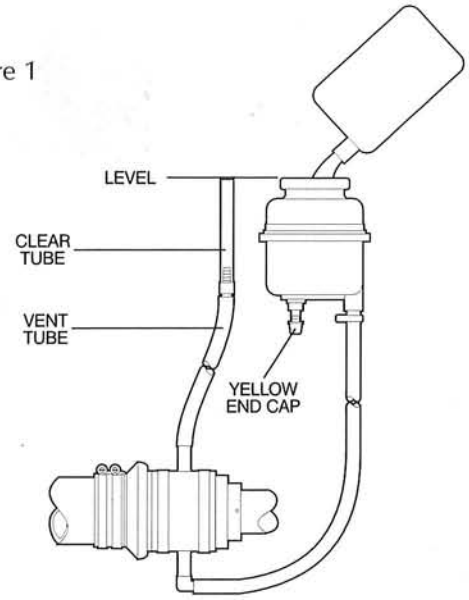
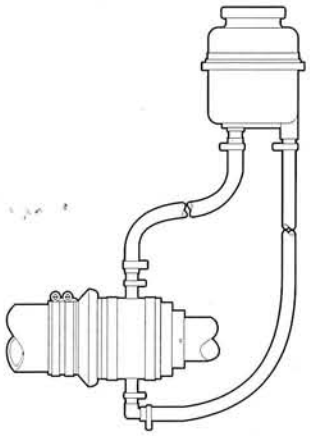


Figure 2



Tip... Automatic transmission fluid (ATF) may also be used

Step 11. Starting up

Check what you have done step by step against the fitting instructions. Leave the seal for at least two hours, check the oil level and check for any oil leaks before launching craft. Now run the engine slowly in gear for ten minutes, taking care that the vessel is moored securely. Top up the oil level and inspect for leaks. Check the oil level and inspect the seal for leaks during the first hour, and then each hour for the first five engine hours. Check for temperature – at 1750 shaft rpm you should still be able to keep your hand on the unit after ten minutes.

Safety tip... The seal must **never be allowed to run out of oil.** Failure could occur. Check the oil level and inspect the unit for leaks as part of the regular routine of checking the engine oil.