The Importance of Holes

I greatly enjoyed reading George Blakeys recollections of boiler fires aboard ships in Journal No.113, and was reminded by his penultimate paragraph of a less serious but nonetheless extremely inconvenient incident with which I was involved a few years ago, also involving a "missing" hole.

At the time I was employed as skipper/engineer of a motor yacht which cruised extensively in the Mediterranean. Two V 12 diesel motors, of some 1300 hp each, powered the vessel. Both the engines and their ancillaries had been overhauled by the factory in Germany a couple of years prior to my joining the vessel.

During periods underway, regular hourly checks would be made of the engine room, including a good look over, under and around the machinery together with a good feel of the various pumps and other items to check for signs of untoward vibration or overheating. At the end of each days cruising, the level of lubricating oil in the sump would be checked and topped up if necessary in preparation for the next day.

I was therefore a little perturbed to discover at the end of one particular trip, that the oil level in one engine had reached the top of the dipstick tube - an apparent gain of some 200 litres of liquid! Nothing unusual had been noticed when the engines were running. As the jacket water level was unchanged my worst suspicions were confirmed, when a swift measurement revealed that the oil level indicated inside the engine was the same as that of the hull waterline.

Since there was no apparent emulsification of the lube oil, it was obvious that the ingress of water had occurred after the engine had stopped. Very odd. The engine was fitted with two pumps driven from the timing gears. The pumps were below the outside sea level. One was used to draw in seawater which was then passed through the jacket water heat exchanger before being discharged overboard, the other was connected to the bilge suction manifold, the discharge being overboard. A small-bore pipe connected from the sea chest to the suction side of the bilge pump ensured a flow of water which, although small, was sufficient to keep the pump cool and maintain prime.

A "tell-tale" hole was bored in the body of each pump which would give early indication of any problem with the seals at each end of its shaft. A regular poke with a piece of stiff wire indicated that these holes were clear.....oh yes it did.....but.....oh *$@! The stiff wire goes in a little further on one pump than on the other (less accessible - some contortion required) unit.

Oh well, out with the spanners. Close the seawater inlet, drain the sump into the bilge until oil appears, and remove suspect bilge pump. Sure enough, tell tale blocked. Not, however, by crud, but by a misaligned sleeve inside the pump that could only have occurred during manufacture or overhaul. The seal at the water end of the pump had failed, and the static pressure of the seawater had been sufficient to pass into the space between the pump shaft and body and force open the lip seal at the engine end, thereby allowing seawater into the engine. When the engine was running, of course, this water was discharged overboard.

Needless to say, the manufacturers denied liability and the insurers bore the cost of removal and rebuild of the engine. Upon stripping the engine, it was apparent that despite the seawater having entered the engine when it was stationery, and despite having drained it off within hours of its

ingress, the crankshaft journals, big end shells and oil cooler fins already showed signs of unacceptable corrosion damage.

If there is any moral to this story, it can only be to show that neither manufacturers nor operators are infallible, and that you should, as any sailor will tell you, ALWAYS CHECK THE HOLE THOROUGHLY!