Notice To Industry

Government of **Western Australia**
Department of **Transport**

Notice to Industry

Number 33

Date of issue: 23 September 2010

Sea Strainers

After a recent incident where an unattended vessel sank at its moorings, the resulting investigation determined that the cause was a failure in the sea strainer lid holding down device. It was further found that this was not the first failure, and had happened in similar circumstances previously.

The design of strainer in question (See enclosed diagram) uses a strong back to secure the strainer body lid, the strong back being held in place by, and pivoting about, a single bolt at one end of the strong back. The strong back has a single clamp at the other end, and is tightened by a tee bolt in the centre to hold the lid in place.

The materials of construction are believed to be 316 Stainless Steel.

The single bolt about which the strong back pivots mounts into the body of the strainer by way of a reduced diameter section, which is welded in place.

During operation this bolt is under tension. This bolt can be excessively stressed by over tightening by means other than hand tightening of the centre "T" bolt.

This tension combined with the stress raising change in section and the effects of any sea water allowed to collect in this area, provides ideal conditions for crevice corrosion. (Crevice corrosion can take place in 316 SS in sea water at under 15 degree Celsius).

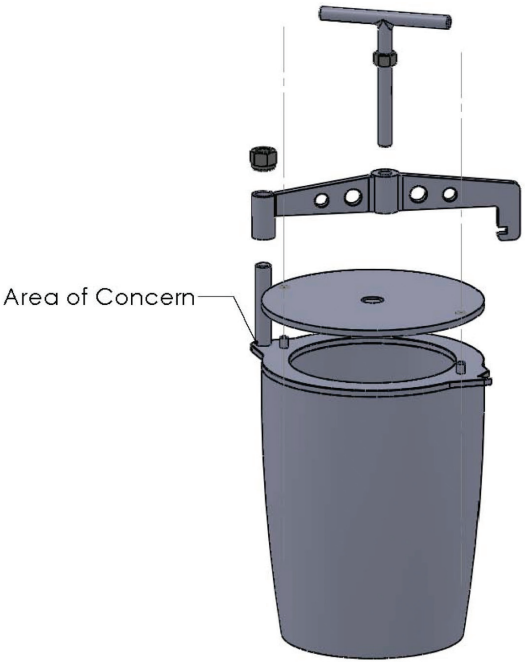
It is also possible for this bolt to be bent in service so increasing its chances of failure.

The Commercial Vessel Safety Branch holds concerns that the combination of tension, bending and corrosion to which the welded bolt could be subjected could cause it to fail and release the lid.

This release would allow sea water to enter the vessel in sufficient quantity to sink the vessel.

If your vessel is fitted with a sea strainer of this design, we would strongly recommend that:-

1. The welded bolt be carefully examined around the area for any distortion or cracking.
2. The area around the bolt be kept free of sea water.
3. That the stress imposed on the welded fixing bolt by the Tee bolt through the strong back be kept to a minimum by hand tightening only.
4. When the vessel is unattended at any time, good seamanship practice be followed and the shipside valve before the strainer is to be closed.
5. For vessels left unattended for long periods, as a precaution a flashing (Blue) light could be fitted to the mast of a vessel which may be activated by a high level bilge float switch (i.e. High Water Level alarm float) to indicate to an observer, ashore or on an adjacent vessel, that there is a possibility of a vessel taking on water..



Pivot Arm Type Sea Strainer

For Further information

Contact the:
Marine Safety Business Unit
Department of Transport
1 Essex Steet
PO Box 402
Fremantle, 6959
Phone: 9216 8240
Email: Commercial_survey.Branch@transport.wa.gov.au
Website: www.transport.wa.gov.au/imarine