SKIPPER Electronics AS

SKIPPER DATA BULLETIN		Number	SDB_EML224_04
For System	EML224S	Date	09.09.09
Serial from / to	07000 - today	Author	PC

Procedure for cleaning/testing an EML sensor.

1. Diagnosis

- The speed sinks over a longer period of time. Calibration factors are very high (over 60% i.e. measured speed 2kn, real speed 8kn).
- The Speed is unstable and calibration is very high.

These symptoms happen over a longer period of time, and are independent of area of operation and weather conditions.

2. Cause

Growth/plating on the sensor.

- With time organic growth can occur on the pins, this results in higher resistivity and lower measured speed.
- A plating occurs on the centre pin of the sensor. This may be linked to an active ICCP antifouling system, or copper anodes.
- The Vessel has stood still for a period of time with no power (Power to the sensor reduces growth rate)

3. Details/how to fix it

The symptoms above can be fixed by cleaning of the sensor. Mark the position of the pipe relative to the gatevalve to ensure the sensor is replaced correctly.

1. Mark the position of where the mounting pole exits through the gasket.

2. Lift the sensor
   Full instructions and a demonstration video can be downloaded from www.skipper.no.
   60mm gatevalve: http://www.skipper.no/component/docman/doc_download/205-sb-60-rev-amanual-20061222.html
   100mm gatevalve: http://www.skipper.no/component/docman/doc_download/203-sb-100-rev-b-man-20070119.html
   Video (runs in any web browser):
   http://www.skipper.no/component/docman/doc_download/298-sb100-instruction-video-stream-pt-3.html
   http://www.skipper.no/component/docman/doc_download/310-sb100-instruction-video-stream-pt-4.html

3. Carefully scrape away the growth until the shiny metal can be seen on all the pins, use the end of a flat screwdriver or similar.
   DO NOT PAINT THE PINS.
4. Replace the sensor, ensure the sensor is all the way down, by realigning your mark from point 1, and that the flat edge of the pole is on the port side as in the manual.
5. Allow the sensor to acclimatize, this can take 3-6 hours depending on how much cleaning is performed, until the speed signal becomes stable.
6. If necessary, recalibrate the sensor both for heading offset and speed.
7. Check the calibration factors are less than 50%. Expected to be approx 30% i.e. 7 knots measured = 10 knots real speed

If you experience a black centre pin. Please contact SKIPPER for advice, skipper is currently testing EML224 units with a different configuration for the middle pin.

How often?:

If the speed does not drop significantly the sensor only need be checked during routine dry docking. Otherwise if or when the problem occurs. Small drops in speed can be corrected in the calibration table.

If this does not help:

Check the temperature is correct. Check Signals out with either:

a) terminal emulator on graphic display.

b) a laptop / with a terminal emulator to the RS232 plug marked 'Head' in the Electronic unit.

If the $VMVBW sentence shows any less than 2 values or these are extremely low, contact SKIPPER support..