



RD Instruments
Acoustic Doppler Solutions

Field Service Bulletin FSB-132

Pressure Sensor Insert

Date: December 7, 2000

Abstract

A process error in the manufacture of ten Transducer Head assemblies resulted in the incorporation of a potentially defective insert assembly. This plastic insert assembly on the pressure sensor-mounting hole may leak, causing damage to the ADCP.

Instruments Affected

Workhorse Monitor/Sentinel/Rio Grande, 300 and 600kHz, 200 and 500 meter depth rated transducer head assemblies with or without a pressure sensor installed.

Description

Ten systems delivered between July 15, 2000 and October 31, 2000 have this potentially defective plastic insert ring assembly. The plastic insert bond may fail, causing the ADCP to leak.

Solution/Action

Short-Term Solution

Please use the following procedure to inspect your ADCP. If the inspection reveals an insert assembly, contact RD Instruments, RD Instruments Europe or your local RDI representative. They will provide return instructions for complete corrective action and replacement. If you have any question on your unit or are not confident in your inspection, please contact RD Instruments, RDI Europe or your local RDI representative for immediate support.

RD Instruments

9855 Businesspark Ave.

San Diego, California 92131

(858) 693-1178

FAX (858) 695-1459

Sales - rdi@rdinstruments.com

Field Service - rdifs@rdinstruments.com

RD Instruments Europe

5 Avenue Hector Pintus

06610 La Gaude, France

+33(0) 493-110-930

+33(0) 493-110-931

rdi@rdieurope.com

rdifs@rdieurope.com

Long-Term Solution

This process error has been corrected. In accordance with best commercial standards, this insert is not used on any subsequent production runs. In accordance with our standard manufacturing practice, a corrective action has been implemented. RDI regrets the inconvenience this has caused our customers.



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Inspection Procedure

CAUTION. Workhorse Sentinel ADCP Owners. If your ADCP was previously deployed with the battery installed, internal pressure may be present if the insert ring failed and water is present internally. Please perform the following steps before proceeding to step a.



1. At the end cap assembly, loosen the 4 (four) nuts but **DO NOT REMOVE**.
2. If pressure is present, the end cap will be forced against the loosened nuts, breaking the O-ring seal and releasing any pressure.
3. Proceed to step a.

- a. Place the ADCP on its' end-cap. Use a soft pad to protect the ADCP.
- b. Use a straight-slot screwdriver to remove the two screws on the pressure sensor cover plate. Do not remove the copper screw.

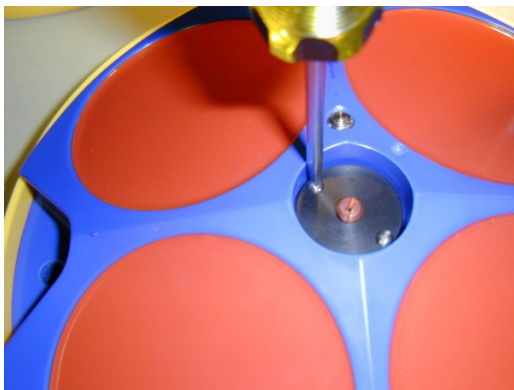


Figure 1. Remove the screws

- c. Use the copper screw to lift off the cover plate.



Figure 2. Lift off the cover



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- d. Wipe the area under the cover disk with alcohol (best) or water. Look very carefully for any signs of a seam indicating that an insert was used. There may only be a slight difference in color between the transducer head and the insert. If available, use a strong light source and magnification.



Figure 3. View of Pressure Sensor/Insert Plug with Cover Plate Removed

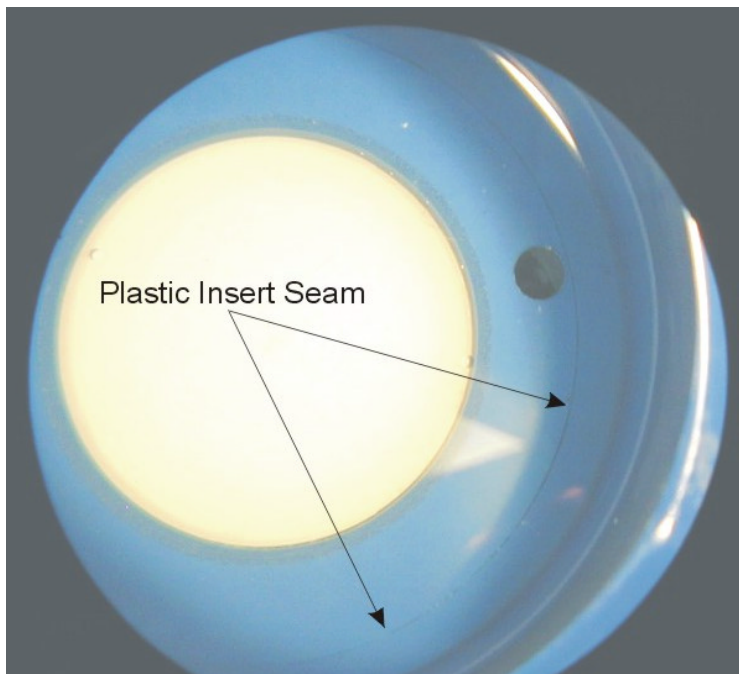


Figure 4. Close up view through microscope



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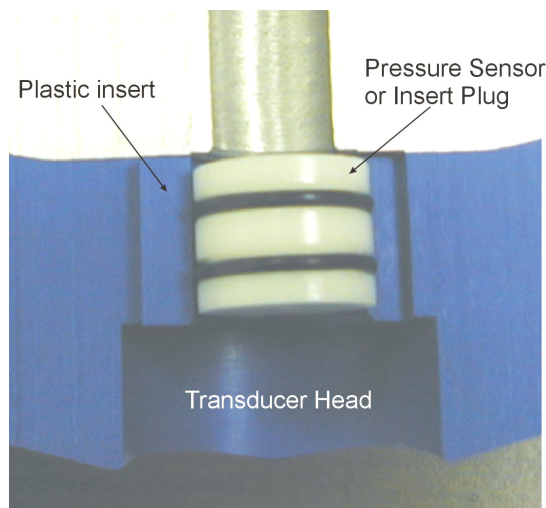


Figure 5. Cutaway side view of insert

- e. If the insert is on your ADCP, return the ADCP to RDI for a free warranty replacement. If you are not sure if the insert is installed, return the ADCP to RDI for a free inspection. If necessary, the ADCP will be replaced under warranty.

Reassembly

- a. Place the cover plate over the pressure sensor/insert plug. Align the holes in the plate with the two holes on the transducer head.
- b. Use a straight-slot screwdriver to install the two screws on the pressure sensor cover plate.
- c. Tighten the screws "finger tight" (2 in/lbs), then turn no more than 1/8 of a turn more to fully tighten the screws. Do not over tighten the screws or you may strip the threads on the transducer housing. If this happens, return the ADCP to RDI for repair.

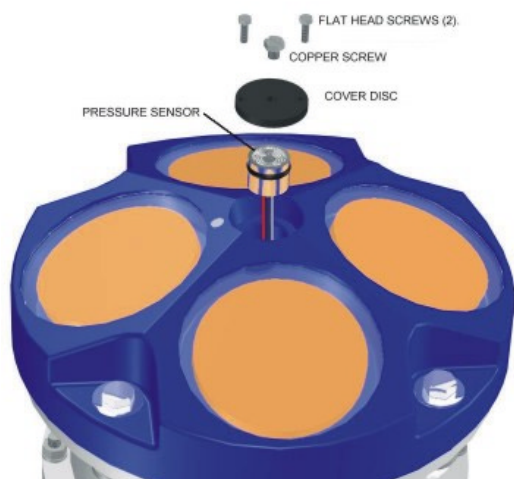


Figure 6. WorkHorse Pressure Sensor (Exploded View)