

Appendix D

PREPARATION FOR USE FOR ALL TYPES OF TRANSDUCERS

AIR BUBBLES

Air bubbles on or near a transducer are a potential source of trouble because they will scatter the sound wave. They provide small pockets of low acoustic impedance and will often resonate at frequencies within the useful frequency range of the transducer. The entire transducer should be washed with a wetting agent before immersion into the water to prevent such bubbles (see Ref. 15 for additional information concerning wetting agents).

TEMPERATURE STABILIZATION

Transducers should also be temperature stabilized before use (i.e., the temperature throughout the transducer should be the same as that of the water surrounding it). A warm transducer placed in cool water will heat the water adjacent to the transducer. This can result in air coming out of solution and clinging to the transducer as air bubbles. In addition, temperature gradients within the transducer can result in changing stresses and strains that affect the vibrating system.

STORING

The best solution to the above problems is to store the transducer in the same water as in which it will be used, and removing it as infrequently as possible.

RIGGING

As a general rule, keep all rigging fixtures as small, thin, and lightweight as possible.

COMPENSATION BAG INFLATION FOR J-SERIES TRANSDUCERS

The passive compensation bag in all J-series transducers is normally inflated when delivered to the user and requires no attention. However, it should be checked. The bag should be full, but feel limp to the touch. When required, inflate the bag with air that is as dry as possible. ***Do not inflate by mouth!*** Open the small valve located on the compensation housing and, with a small rubber or plastic tube and squeeze bulb, gently fill the bag with air. ***Do not over inflate!*** After inflation, close the valve and tighten it with the small key provided for this purpose.