



Technical Bulletin

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Self-contained breathing apparatus – general maintenance

Lives have often been lost due to a lack of maintenance

SCBA is arguably the most important piece of equipment for use in an emergency. Lives have often been lost due to a lack of maintenance or its non-operation. It must also be remembered that it cannot be used underwater, several accidents with grave consequences have occurred where ships staff have attempted to use this type of equipment underwater.



Certificate of assurance

The manufacturers are required to issue a certificate of assurance for their equipment, which must also be approved by the flag administration of the vessel. In the certificate it is stipulated the part numbers which must be used in the set. This means parts from other manufacturers cannot be used. For example if an AGA mask is used with a Draeger set the certificate of assurance will in effect become null and void, and more importantly the BA set could be a hazard when used in an emergency. The set should have an instruction / spare parts booklet. This is a further requirement of the certificate of assurance and should be in a language understood by the crew.

Cylinder testing and capacity

The hydrostatic testing of cylinders should be carried out ashore regularly depending on construction and manufacturer. For steel cylinders it is every 5/6 years, and composite cylinders (aluminium) should be tested every 2 years. All sets should be inspected by qualified technicians annually.

Cylinders must have a minimum capacity of 1,200 litres or 30 minutes supply to comply with SOLAS (for US flag ships this figure is 45 cubic feet).

Regular onboard maintenance should include :

- **Testing of masks and valves**

Put on the mask without using the headband and with no air in the system. Breathe in and out a few times to moisten the exhale valve. Press the mask on to the face. The mask should remain on the face for at least twenty (20) seconds. If it does not then the mask or the exhale valve is suspect.



Good SCBA on brackets

- **Maintenance of masks**

After each use, detach the mask from the set and clean with a light soapy solution and fresh water. Following this, immerse the mask fully in a bucket of fresh water. Shake and air-dry the mask before refitting to the set.

- **Fill level of the cylinders**

Check using a properly calibrated test gauge, which should be carried. This gauge can also be used to check the accuracy of the pressure gauge on the set. If any salt or dirt is noticed inside the pressure gauge, the set must be considered suspect and should not be used until serviced ashore.

- **Whistle warning units**

These are normally fitted to sound when approximately 25% of the air is remaining, which will give the wearer a nominal working duration of just over 20 minutes allowing for escape time. This function should be tested at every inspection of the equipment by turning on the air, then turning it off again. Watch the gauge as the remaining air in the system escapes noting the pressure at which the whistle sounds.

- **General**

Examine hoses, back plate and harness for any damage. Always fully extend the straps of the mask and of the set itself.

Remember, if you look after your equipment it will look after you.