SCHEDULE 14

SPECIFICATIONS OF EQUIPMENT FOR LIFEBOATS, BOATS AND LIFERAFTS
Rule 90(1)(j)

PART I

COMPASSES FOR LIFEBOATS

1. Every compass shall be of the liquid type. The liquid used shall be a mixture of industrial methylated spirit and water, specific gravity 0·93 at 15°C. It shall be clear and free from sediment, cloudiness, and dirt defects. The compass shall function efficiently over a temperature range of 50°C to minus 20°C.

2. The magnet shall have ample directive force. In the United Kingdom a period of 18 to 22 seconds after a deflection of 40 degrees at a temperature of about 15°C shall be deemed to comply with this requirement. For the purposes of this paragraph a "period" is the time taken by a complete oscillation of the card after a deflection of 40 degrees, a swing past the position of rest, and back again to the completion of its swing on the side to which it was originally deflected.

3. Over a range of 50°C to minus 20°C, the card system when immersed in the compass liquid shall rest on the pivot with a weight between 4 and 10 grammes.

4. The card shall be not less than 100 millimetres in diameter and shall have a clearance from the bowl of at least 6 millimetres. It shall be marked to half points, the eight principal points being distinctively marked. The card shall be luminised or fitted with a suitable means of illumination.

5. The centre of the card shall be of sapphire or equally hard jewel and shall be removable from the float.

6. The pivot of the card shall be of iridium or equally suitable hard material.

7. The arrangements made to allow for the expansion and contraction of the liquid shall enable the compass to withstand a temperature range of 50°C to minus 20°C without leakage, formation of bubbles or other defects.

8. The bowl shall be adequately weighted and properly poised in the gimbals which shall give a fore and aft and thwartship action. The gimballing shall be in the same horizontal plane as the point of suspension of the card and the outer gimbal pins shall be placed fore and aft. The bowl shall be placed in a binnacle or box of non-magnetic material and the lubber line or point shall be luminised or fitted with suitable means of illumination. The card system shall remain free when the bowl is tilted by 10 degrees.

9. The direction of the lubber line or point from the centre of the card shall lie in the same vertical plane as the outer gimbal axis or other fore and aft datum line. The cumulative effect of card, pivot, directional and other similar errors, and of inaccurate positioning of the lubber's point shall be such that in the undisturbed earth's field the direction as read on the card against the lubber's point shall not differ by more than 3 degrees from the magnetic direction of the outer gimbal axis or other fore and aft datum line for any direction of the latter.

10. The minimum thickness of the metal used in the construction of the compass shall be as follows:—

Compass bowl	4·0 millimetres
Binnacle	3·85 millimetres

Lamp	3·85 millimetres

The compass bowl shall be efficiently stiffened to take gimbal pins. The binnacle shell shall be swaged or spun into the base ring and soldered all round.

The gimbal ring shall be of naval brass or other rigid non-magnetic metal 15 millimetres by 3 millimetres. Gimbal pins shall be of naval brass or other hard non-magnetic material of 6 millimetres diameter: both they and the bearings in which they engage shall be perfectly smooth.

11. The paint inside the bowl shall show no sign of blistering.

12. The materials and workmanship shall be good throughout and the compass shall be such as will remain efficient under sea-going conditions.

13. The bowl of the compass shall be engraved or stamped with the maker's name or other identification mark.