

THE PROBLEM OF HULL MAINTENANCE

A LIGHT REVIEW

BY

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As a seafaring race hull maintenance has been of some concern to us since our forefathers launched their first coracle.

The effects of neglect in this sphere have been remarked on through the ages and were dramatically illustrated by the loss of H.M.S. *Royal George* in Spithead in 1782, due to a surfeit of dry rot.

When iron displaced wood as the hull material for warship construction the future must have seemed rosy. The longevity of wrought iron was well known and was borne out by the career of H.M.S. *Agincourt*. She was floated out of dry dock at Lairds' in 1865, wore the white ensign until 1909 when she was converted to a coal hulk and continued to serve the Fleet, in that lowly but necessary capacity, in the Medway until disposed of in 1960, her framing and plating in good shape to the end.

Hull maintenance became a more pressing duty when steel was introduced as the principal structural medium. As the quality of steel improved scantlings became lighter, to enable more equipment, armament and fuel to be carried for the same displacement, and demanded better maintenance practices if the expected life of the hull was to be attained.

The improved maintenance practices were not always forthcoming for a variety of reasons and the post Second World War period is still fresh in many memories, when reduced complements, large operational commitments, rationed refits and a lack of appreciation of the problem in many minds, led to such a deterioration in the state of the hulls of many of our smaller ships that they were barely seaworthy and a severe stocktaking had to be made.

The Hull Maintenance Working Party came into being and concurrently the requirements of overall ship maintenance and its planning were investigated and from then on the long road to material recovery opened up.

T.C.V.s became an accepted facility leading to better bilge and tank cleaning without the attendant drudgery and waste of manpower involved in hand cleaning, improvements in the quality of protective paints, the introduction of vacu blasting and the extension of metal spraying all helped to improve the state of the hull structure.

The introduction of planned maintenance and the formation of Class Authorities brought organization into the battle and lately the official establishment of Fleet Maintenance Units improves the lot of small ships.

However, there is still much more to do and there are several ways in which the Fleet can help itself. A very important requirement is that the periodical structural inspections and examinations, called for in the *Hull Maintenance Schedules*, are carried out at the correct intervals. Only regular inspection of the hull structure as prescribed will highlight deterioration and allow alarm bells to be rung in time to avoid breakdown and possible costly repairs.

The prompt reporting of defects and deficiencies in material or design affecting maintenance, on Forms S.2022, enables design authorities to put right many faults which might otherwise be perpetuated due to lack of knowledge of any shortcomings, but these reports must be full and factual. Many of those that flow in at the moment contain insufficient information to be of much value in the struggle for material efficiency and only clog up an already overloaded organization, in dealing with them.

The baldest description of a defect and a terse comment 'bad design' does not help much in sorting out an answer to a problem. The fullest possible details about the defect, including any previous troubles with similar items, should always be given. It is interesting to note in passing that no structural corrosion defects have been reported on Forms S.2022, which only shows that if you have toothache long enough you will no longer feel it.

We can all take advantage of the know how that is available on the subject of hull maintenance. Grandmothers should never despise learning of new techniques for evacuating ova. The *Ship Husbandry Manual* (BR.2203) is well worth a glance, only takes about an hour to read and is infinitely more rewarding than some paper backs. It should be required reading for all ratings engaged in hull maintenance work. The foreword and general instructions to the *Hull Maintenance Schedules* are informative and there is scope for missionary work in making known the excellent officers' and ratings' courses available at the Painting School in H.M.S. *Sultan*. The officers' courses are at present mainly patronized by engineer and shipwright officers.

Supervision is extremely important and the quality of represervation work must be checked all along the line. Work-study reports are illuminating on the time supervisory ratings actually spend on this all important task and it would appear that some sharpening up in this direction may be necessary.

What else remains to be done? In the design field there is a constant striving for improvement in material, better preservation techniques, longer life coatings, better paints, simplified designs and improved accessibility. There is also a need for more sophistication in the design of hull equipment, too much of it is clumsy and time-consuming in its maintenance requirements.

Poor shipyard practice still leads to maintenance hazards being built into ships and more detailed specifications and drawings and improvements in the overseeing organization may be necessary to avoid this.

It may be thought that progress is slow but there is no need for despair. Quite a time elapsed between Noah's building the Ark and the discovery of the principles of seasoning of timber in 1771, which led to vast improvements in the life of wooden walls. Steel ships have as yet been with us for merely a few decades.