

(EDITOR'S NOTE :

We occasionally receive criticisms concerning defective apparatus which, to quote the critics, "Should never have passed test." We thought the Bulletin a good place to present the other side and accordingly, asked a member of our harassed civilian inspection staff to state a case. We present his unvarnished account.)

At the commencement of the present war, the Inspection Division of A.S.E. (then H.M. Signal School) comprised a staff of 40 people. The annual expenditure on Radio Equipment has increased to 50 times the pre-war expenditure, but the Inspecting Staff has increased by only 20 times. It is obvious, therefore, that inspection cannot be quite so thorough as it was in pre-war days.

Nevertheless, every effort is made to keep the standard of inspection as high as possible under the present difficult conditions, because it is fully appreciated that the safety and operational efficiency of the Fleet depends ever increasingly on the efficient working of its Radio Equipment.

We have our trials and tribulations, like any other Inspectorate. Just as the Fleet has, we have had to give up expecting "spit and polish" in the equipment and the poor finish of much of it caused many heartburnings amongst us, until it was borne in upon us that, in these days of diluted labour and hasty production, the theory that really matters is to get something that works fitted in the Fleet as early as possible.

On the one hand, the Progress party are continually pressing us to complete the inspection, while the Ship-fitting party are standing by to snatch up the equipment and get it fitted. However, the Ship-fitting party are responsible for final test after installation and, if the equipment we accept satisfies them, we feel that we have not done too badly. So far, the Ship-fitting and Inspection parties have maintained diplomatic relations !

Many of the contractors now making radio equipment for us never aspired, in pre-war days, to anything more intricate than house wiring. We have had to supply them with test equipment and train their personnel to build up their quality of workmanship to the required standard. In the majority of cases, this has been achieved, despite the dilution of labour and the shortage of Inspecting Staff.

We sometimes receive reports that articles are of poor workmanship and ought not to have been accepted by the Inspecting Officer. What is often not known is that the Inspecting Officer originally rejected these articles entirely, and that they have only been finally accepted after much rectification work has been carried out by the contractor. The Inspecting Officer knows that the contractor has done all that possibly can be done with the class of labour available and he accepts the articles if he considers they are up to a standard which will be satisfactory in service. On the following contract, the workpeople are reminded of the previous faults and usually succeed in turning out a superior article with less trouble.

We are at present dealing with some five million articles each month, of which 30,000 are major units requiring radio-frequency tests. We honestly believe that each major unit will have been tested before issue, but an occasional one is bound to slip through accidentally.

Apart from such accidents, Wren couriers have been known to collect from manufacturers and deliver to the ship, apparatus which could not wait to be accepted by the A.S.E. Inspector. Again, the story has been told - and not by us - of loose green "Accepted" labels lying around, being picked up and tied on to the nearest piece of equipment so that it can be issued for service. In fairness to another Department, we must express our incredulity that such a thing could happen in Admiralty circles. In dealing with millions of small components, however, it is obviously economically impossible to examine each one individually.

For certain types of components, the method of "Batch Sampling" is adopted. This is a means of "Quality Control", by which one endeavours to keep a watch on production in order to discover beforehand when a product is about to come outside the prescribed limits. At this stage, the machine is stopped and reset, thus avoiding the production of, perhaps, many hundreds before the fault is discovered.

This method cannot be fully relied upon for such components as resistances, condensers, etc., which need quantitative tests at some stage.

In respect of small resistance rods, it should be noted that their resistance varies with the current and ordinary "loggers" should not be used for measuring their resistance. A Bridge Megger is, however, suitable.

Talking of meters - do not place too much reliance on your "Avoimeter" which is not intended to be an instrument of very high accuracy, particularly when used on power supplies of varying frequencies and non-sinusoidal waveforms. Get your Avo checked against a reliable standard and then keep it in cotton wool! But bear in mind that it will be susceptible to changes of frequency and waveform.

In the past radio equipment has suffered a good deal from damage in transit. This aspect is now receiving attention at every stage from that of design to delivery on board. It is confidently hoped that the precautions now being taken will result in much less damage in transit in the future.

Reports of defective equipment are welcomed, because this is one of the main indications of the efficiency of the Inspectorate. Please, however, give the Serial number of the defective component, if there is one, as this is often the only means of tracking down the manufacturer and responsible inspector. The serial number of the receiver or transmitter should also be given.

Much detective work is done on these reports, and it helps tremendously if full information has been given.

In conclusion, all personnel in the Inspection Division have their attention drawn continually to the importance of ensuring that all radio and allied equipment issued to the Fleet is in good working order; and this is their constant aim.