

4904.—Aircraft Radio—Reporting of Defects in Radio-Communication and Radar Equipment

(A.C.R.D. 625/43.—14 Oct. 1943.)

C.A.F.O. 75/43 drew attention to the necessity for reporting all defects occurring in airborne radio communication and radar equipment and gave a summary of the official action taken to investigate the causes of them.

2. As certain airborne radio equipment is common to both the Royal Navy and the Royal Air Force, it has now been decided to institute a central organisation to deal with all reports of defects to this equipment. This organisation will act both as a filter and a clearing house on all matters relating to defective airborne radio apparatus. This organisation will be known as the Defects Central Statistical Section (D.C.S.S.) and will be under the control of the Director of Signals, Air Ministry.

3. In order to ensure that the work of D.C.S.S. is effective, the procedure for reporting defects in airborne radio equipment has been simplified and a new questionnaire, described in paragraph 10 and illustrated in the Appendix to this Order, has been introduced. The questionnaire calls for the minimum information essential for the speedy and thorough investigation of defects in airborne radio equipment.

4. To gain a proper perspective of the importance of a defect it is necessary, in most cases, to relate the number of defects experienced with a particular component to the total number of that component in service. In these cases the necessary evidence can only be collected over a period, and technical investigation will not normally be instituted on a defect until cumulative evidence shows this action to be warranted by its prevalence and seriousness. Units will be informed of the position in regard to defect reports rendered, but having regard to the foregoing they should not be discouraged if a particular defect reported happens to be among the first brought to notice and investigation action is considered unnecessary until a later stage. In other cases where it appears that a reported defect may impair operational efficiency and may be more widespread than defect reports indicate, action will be taken immediately to ascertain the extent of the defect and to introduce prompt remedial measures as necessary.

5. Form A.21 is no longer to be used for reporting defects in airborne radio equipment, and the new procedure described herein is to be introduced forthwith.

6. Defect reports are to be rendered whenever a failure or defect is attributable to :—

- (i) Weakness in design ;
- (ii) faulty material ;
- (iii) imperfect workmanship ; or
- (iv) faulty servicing resulting from inadequate or incorrect servicing instructions.

7. Defect reports are *not* required :—

- (i) When faulty servicing is the basis of disciplinary action against the servicing personnel responsible ;
- (ii) when the matter will be the subject of a complaint on the condition of an aircraft (some examples of the complaints referred to in this paragraph can be found in A.M.O. A.585/42) ;
- (iii) where the defects are manifestly attributable to the effects of transport, handling or storage. In these instances normal repair or replacement procedure will apply.

8. Defect reports from units of the Naval Air Arm stationed ashore in Great Britain and Northern Ireland are to be rendered by postagram giving the information required by paragraph 10 in the form shown in the Appendix to this Order. In very urgent cases where the defect has resulted in the grounding of an aircraft, the circumstances may be reported by telephone over the official network (public lines are not to be used for this purpose) to Air Ministry, Whitehall, Extension 5416. A report made by telephone must be confirmed by postagram. Units are to prepare four copies of the postagram, viz. :—

- (i) One copy to be retained by the Unit.
- (ii) One copy to be sent immediately to Air Ministry (D. of S.), Whitehall, London.
- (iii) One copy to Admiralty (D.A.C.R.).
- (iv) One copy to Flag Officer through Commanding Officer of ship or station.

9. Defect reports from units embarked in carriers or on shore overseas are to be rendered by the quickest means to the Flag Officer concerned, who may institute such local investigations as may be possible. The report, with any observations considered necessary, is to be transmitted to Air Ministry (D. of S.), Whitehall, London, and to Admiralty, D.A.C.R., by microgram or airgraph service, whichever is quicker. Units should, therefore, render reports in a form suitable for these means of transmission.

10. All radio equipment defect reports are to give information (as applicable) in reply to the following questionnaire :—

QUESTIONNAIRE

A.F.O. 4904/43 refers.

- (i) (a) R.A.F. or R.N. station, formation, unit or ship in which the defect occurred
- (b) Type and Mark of aircraft (where applicable).....
- (ii) Aircraft radio installation type number (A.R.I. or T.R. number).....
- (iii) Nomenclature of unit (e.g. transmitter, receiver, modulator, etc.) :—
 - (a) Unit or panel
 - (b) Type number
 - (c) Stores reference number
 - (d) Serial number
- (iv) Nomenclature of defective component :—
 - (a) Component.....
 - (b) Type number
 - (c) Stores reference number
 - (d) Manufacturer (if known)
 - (e) Value, capacity or rating
 - (f) Reference to circuit diagram, or position of component in circuit.....
- (v) Date when defective unit or component (as applicable) :—
 - (a) Was issued to unit
 - (b) Was fitted.....
- (vi) Estimated total running hours
- (vii) Indication, failure of and effect on operational performance of the equipment
- (viii) Nature of failure
- (ix) Secondary failures resulting
- (x) Modifications to circuit previously made.....
- (xi) Remarks, including probable cause of failure.....
- (xii) If overseas, remarks of Staff Air Radio Officer

11. Flag Officers are not required to comment on the reports, except in the case of disagreement with the unit's remarks under question (xi), or where useful additional information can be given. Such observations should be forwarded to Air Ministry (D. of S.) and Admiralty (D.A.C.R.) within a few days of the despatch of the defect report to which they refer.

12. Defective components or items of radio equipment on which defect reports have been rendered are to be suitably labelled with the defect report reference number and date to facilitate identification, and are to be held by units of the Naval Air Arm stationed ashore in Great Britain and Northern Ireland until disposal instructions are issued by the Air Ministry. Units based in carriers or stationed ashore overseas will not be requested to return defective equipment.

13. On receipt of instructions to forward a defective item for investigation, home units are to ensure the prompt despatch of the item by the quickest means.

14. It is essential that defective items of equipment forwarded for investigation be clearly and securely labelled, and carefully packed to prevent further damage and defect occurring in transit. The inner label is to bear the following particulars :—

- (i) Sending unit.
- (ii) Description and stores reference number of the item.
- (iii) The special serial number and date of the instruction to forward.

The label is also to be prominently marked :—

“ Defect—For Investigation ”

and addressed to “ D.C.D./R.A.E./T.R.E.

For attention of

(The remainder of this clause will be given in the Air Ministry instructions to forward.)

15. The final results of an investigation into a defect will be communicated to the Flag Officers concerned as soon as the cause has been established. Instructions will also be given as to further reporting action (if any) required on future similar defects. Until such instructions are received, however, units are to continue to render defect reports as above on all failures.

16. If a component or item of equipment again becomes defective after remedial or modification action has been carried out as the result of previous defect reports, the defect is again to be reported following the above procedure.

APPENDIX

Originator's Ref. No.

POSTAGRAM

Date : 1st April, 1943.

To : Air Ministry (Director of Signals), Whitehall.

From : R.N. Air Station, Hatston.

A.F.O. 4904/43.

- (1) (a) 771 Squadron. (b) Swordfish.
- (2) General purpose.
- (3) (a) Receiver. (b) R.1116. (c) 10D/10310 (d) 1234.
- (4) (a) Resistance. (b) 103. (c) 10C/7956 (d) not known (e) 5,000 ohms
(f) A.P. 1186, Vol. I, Sect. 3, Chap. 8, Fig. 2-R.40.
- (5) (a) Received already installed in aircraft on 10th January, 1942.
(b) See (5) (a).
- (6) 100.
- (7) Sudden complete failure of reception and intercom.
- (8) Resistance apparently burnt out. Megger test shows no circuit through resistance.
- (9) Nil.
- (10) Nil.
- (11) Resistance shows no signs of overheating. Momentary severe crackling in telephones, followed immediately by failure of reception. Cause unknown.
- (12) Not applicable.

Originator's Signature :

Time of Origin :

(C.A.F.O. 75/43, A.F.Os. 5929/42, 2057/43.)