

SECRET

A. D. I. (K) Report No. 362/1945

THE FOLLOWING INFORMATION HAS BEEN OBTAINED FROM P/W AS THE STATEMENTS HAVE NOT AS YET BEEN VERIFIED, NO MENTION OF THEM SHOULD BE MADE IN INTELLIGENCE SUMMARIES OF COMMANDS OR LOWER FORMATIONS, NOR SHOULD THEY BE ACCEPTED UNTIL COMMENTED ON AIR MINISTRY INTELLIGENCE SUMMARIES OR SPECIAL COMMUNICATIONS.

RADIO AND RADAR EQUIPMENT IN THE LUFTWAFFE - III.

ELECTRIC ALTIMETERS

1. This report is the third of the series dealing with radio and radar equipment in the Luftwaffe. As in the case of the previous two reports (A.D.I.(K) 343 and 357/1945), it is based on interrogation of General Nachrichtenführer MARTINI, Director General of G.A.F. Signals, and a few important members of his staff, and has been supported by a number of relevant documents of recent date which were in the possession of the General's Chief of Staff.

2. The development of electric altimeters was probably the only field of G.A.F. airborne radar technique in which the Germans approached Allied standards. The FuGe 101 had long been standard equipment and was an entirely satisfactory instrument apart from the fact that height readings were limited to a maximum of 750 meters.

3. Efforts were being made to produce improved and, in particular, more compact electric altimeters which would give readings up to great heights, and it was hoped that the FuGe 104, described below, would meet all current requirements.

FuGe 101A.

4. This standard sensitive altimeter which had a range scale of 0 - 150 meters or 0 - 750 meter, is already familiar. By the end of the war it was only built into aircraft flying by night and seems to have been used for checking heights in the approach.

FuGe 102.

5. The FuGe 102 was an improved electric altimeter giving height readings ranging from 100 to 15,000 meters. It was developed at Oberpfaffenhofen in 1942. Presentation was in the

form of a circular trace on a C.R. tube with the zero mark in the 12 o'clock position.

6. As the aircraft climbed, a break in the continuous trace occurred extending in a clockwise direction from the zero position, and this gave the height measurement. The end of the gap was not clear cut and in consequence accuracy was poor. The presentation unit was considered too bulky as it occupied too much space in the Ju.88 and similar twin-engined aircraft. Only a few were produced and used operationally, chiefly in the F.W.200's and He.177's.

FuGe 103.

7. One P/W, who had made test flights at Werneuchen in the spring of 1943 with the purpose of testing the FuGe 103, which was known under the code name "Jena", considered it a most successful and reliable instrument. It was designed and developed by Zeiss for use in the He.177 and was tested under the supervision of Stabs.Ing. Dr. KNOSKE. P/W understood that it was part of the standard equipment of the series-produced Ju.188's.

8. The indicator dial of the instrument was calibrated from 0 - 4,000 meters in a clockwise direction. Height was indicated by a fine blip about 1 cm long which appeared on the circumference of the tube, the forward blip being taken for the reading. The sharpness of the tip was such that height could be read to within 25 metres, although the tube was only calibrated to 50 metre intervals.

9. Heights over 4,000 and 8,000 metres were read on the second and third evolution of the blip, but no "hour-hand" was incorporated, so that the pilot could only distinguish between say 5,000, 9,000 or 13,000 metres by using his common sense.

10. The FuGe 103 indicator unit, although only 10 - 12 cm in diameter and about 35 cm long, was still too bulky and was never used operationally on a large scale.

FuGe 104.

11. The FuGe 104 was a scaled-down model of the FuGe 103 and went by the same code name "Jena" and had an identical type of display. It was to supersede the FuGe 102 in all aircraft equipped with the latter, as its accuracy and presentation were as good as the FuGe 103 and better than the FuGe 102, and it had the advantage of being smaller than either of them. It was hoped that it could be the final type of altimeter.

12. In the Signals Equipment Emergency Program reproduced as Appendix II to A.D.I. (K) 343 and 357/1945 it will be seen

that under the heading of "234, bombers" both the FuGe 102 and the FuGe 104 are shown. P/W thought that in the table there should either have been an arrow connecting these two sets to indicate that the FuGe 104 was to replace the FuGe 102, or alternatively that 102 was a misprint for FuGe 101A.

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Group Captain

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